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QUACKERY

CREATIONISM

AURAS

WATER DIVINING

GHOST TOURS

EDUCATION

KNOWLEDGE

History

Language



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Matters for Concern

We cannot help but be confused by the mixed signals we receive regarding the status that 'alternative medicine' receives in our society. In this issue, we see the welcome news, reported by Cheryl Freeman, that a naturopath in NSW has been convicted and fined for using highly dubious techniques for diagnosing disease, while we also should be concerned by her report on the seeming indifference of the regulatory authorities to the proliferation of equally dubious methods of scanning for breast cancer.

We read Richard Lead's report that substantial amounts of taxpayers' money is being awarded to five alternative health associations to enable them to establish national registration systems. We hear of universities setting up research programmes to determine the validity of various "complimentary" methods, but we also read of universities offering degree courses to practitioners of those systems, *before* the results of the research are known.

If this money and research serves to winnow the wheat from the chaff of this contentious field, with the result that viable techniques and treatments become part of mainstream medicine while the remainder is consigned to the dustbin where it belongs, then these are worthwhile activities. But we are not at all confident, based on the current

uncritical political, public and media acceptance of preposterous claims made for much of alternative therapy, that this will be the outcome.

It is also curious that, while the media are full of stories about the imminent collapse of medical indemnity insurance schemes and the threat that poses to orthodox medical practice, we have heard nothing of any similar concern in the alternative field. Could this mean that alternative practitioners are better insurance risks than orthodox practitioners? Or could it mean that alternative practitioners are rarely covered against malpractice law suits, with the accompanying risk to anyone who has been maltreated, that they can never gain reasonable compensation? We have little doubt which is more likely to be the correct answer.

That there are unscrupulous charlatans peddling dangerous nostrums to the unwary can hardly be denied. Unfortunately, such is the status of official concern (or unconcern) about such practices, that we cannot be confident that anything will be done about them.

We recently received a letter (to the Skeptics web site) from a Queensland mother, Susan Malone, who had experienced just such dangerous advice from an unscrupulous practitioner, at a time when she was

extremely vulnerable to manipulation. Further, she recounts the pressures she felt to conform to societal expectations brought on by our uncritical acceptance of suspect claims. We reproduce her letter here with her gracious and courageous permission. We challenge anyone to be unmoved by her story.

Susan's letter

I have considered myself a skeptic ever since I can remember (Sunday school days), however I still could not avoid becoming a victim of the power of the guilt and trickery used by promoters of alternative cancer treatments.

My 12 month old son was diagnosed with a very rare form of adult liver tumour. We started the process of chemotherapy and operations that were available through the paediatric oncologists, even making use of the best liver transplant surgeon who happened to be in Brisbane at the time. These magnificent surgeons and specialists kept our son alive and improved his health for some time. The inevitable occurred of course, the tumours returned and I began my journey of accepting the approaching death of my son and learning to enjoy every moment of his life.

A little before this time I was approached by well-meaning friends and relatives about a 'naturopath' who, I was told, had 'cured many cancers'. Even though my skeptical mind didn't want to believe this, as a mother of sick child I was made to feel guilty that I wasn't trying everything possible. I thought I'd have nothing to lose, while at the same time keeping everyone around me happy and satisfied (apparently quite a common reaction of parents of terminally ill children) so I reluctantly and cautiously rang for an appointment. I was surprised that he practised from an office in among respectable Brisbane medical specialists 'on the Terrace'. I was suspicious when at first they said there was a four month waiting list, but then they suddenly had a cancellation the next day!

My suspicions were further confirmed when the naturopath held a silver rod against my leg to 'read the energy' from my son sitting on my lap through to my leg. He entered this information in a machine, then made up a potion for me to give to my son. He made a diagnosis of leukaemia (good guess I suppose, as that is the most common form of cancer in young children). When I informed him that he actually had a tumour, he replied that he had a tumour and leukaemia at the same time (silly oncologists to miss that!). After paying over \$150 in fees and potions, I didn't want to burden my son with more 'medicine' but I still felt guilty. Friends and family were so pleased that we had some extra hope. I still can't believe that I actually began to give my son doses of this potion.

I also remember now that he also told me that my son probably developed the cancer because I put his cot in the wrong area of the room (over some type of mineral/metal deposit in the earth below!). I think I was so embarrassed at the time that I had actually paid another human being to tell me this rubbish that I blocked it out of my mind. Reality finally

came upon me, so I decided to throw out the potion, but to continue to tell friends and family that I was giving him the doses. Why didn't I think of that idea before I parted with the \$150?

My son died, as expected, a few months later and it still makes me angry that quacks can so easily take money from people in vulnerable situations. Why does our Government let these practices continue? Surely anyone with even the smallest degree of intelligence can see through the validity (or lack) of these practices. I still wonder today if his young assistant really believed in what she was doing, but I'm sure the naturopath knew exactly what he was doing!

And another thing

We have heard much recently about stem cell research into finding treatments for various dangerous or debilitating diseases, and about the competing claims of embryonic v adult stem cells. This line of research, it is reasonable to suppose, holds out the promise of relief for many people who suffer from these ailments.

Not surprisingly, much attention has been focused on various moral and ethical considerations about the research, as well as the scientific issues. Again it is hardly surprising that much of the very vocal opposition to embryonic research has come from church groups, and pressure is being applied to Members of Parliament to support one or other of the sides in this debate in a conscience vote in the Parliament.

All of this is perfectly proper, because there *are* moral and ethical, as well as scientific issues involved in this research. It is also appropriate, in a democracy, for churches (or any other group or individual) to hold and state positions on these issues. What is improper is that the opinions of church groups on such matters should be seen as having some especially privileged position attached to them. Recent revelations

that the same church organisations have been involved in the covering up of criminal offences perpetrated by some of their clergy against children, means that their position in any debate on ethics must be in considerable doubt.

This is not to suggest that any organisation should be held to blame, morally, for the actions perpetrated by some of its members (though it might still attract legal sanctions). Paedophiles can be found in many different occupations and they are often expert in hiding their nature. Further the whole issue of child sexual abuse, which must horrify any decent person, is an area whose waters have been considerably muddied in recent times (as we predicted they would be in *the Skeptic*) by spurious claims, promoted by other interest groups, of repressed and recovered memories relying on now widely discredited techniques.

The issue here is not the fact of sexual abuse of children, horrible though it is, but the fact that complaints about members of the clergy engaging in it have been acknowledged by the churches involved; and that these churches have not only *not* done what they are legally required to do in reporting a crime, but have actively sought to cover-up the fact that the crime has been committed. Apart from the legality of concealing a crime, their practice of moving offending clerics from one area to another is simply neither an ethical nor a moral thing to do.

Yet these organisations would still ask us to believe that they have special insights into what is moral or ethical, and that they have the right to impose those views on everyone else. Given their own actions, this is an untenable position to hold and it would seem to me that any assumption of privilege by them in matters of morality and ethics is no longer valid (if it ever was).

By all means have a debate on the ethics and morality of stem cell research, but let us also strive to keep the humbug to a minimum.

Barry Williams

Worldwide Weirdness

Your taxes at work

Thanks to that “little treasure”, Richard Lead for this bad news: When the GST (Gouge & Screw Tax) was introduced in July 2000, every business which registered for the GST received a \$200 voucher. This was a sweetener to help defray the cost of establishing systems to account for the new tax.

Under the GST legislation, alternative health practitioners can provide GST-free services until 30 June 2003 without restriction. After that date, they must be ‘recognised professionals,’ otherwise their services attract GST. The Government has announced grants of \$100,000 each to five alternative-health associations to fund their establishment of national registration systems. This \$500,000 of our scarce public money will be paid to the National Herbalist Association of Australia, the Australian Traditional Medicine Society Limited, the Australian Natural Therapists Association Limited, the Federation of Natural and Traditional Therapists, and the Australian Acupuncture and Chinese Medicine Association Limited.

We can only speculate what their registration requirements will be. There is currently nothing to stop any of us from calling ourselves natural therapists and hanging up our shingle. If, however, as a result of this largesse these associations will require practitioners to produce scientific evidence that their methods work, then this \$500,000 will not have been squandered. We wouldn't bet the deficit on it, however.

A little knowledge...

A media barrage of largely uncritical reporting of a “miracle” water touted as being able to cure all manner of ailments and which led to unprecedented sales of bottles of the water, left us with the impression that in matters medical or scientific, media reports can be somewhat untrustworthy. If this needed any confirmation, then the reporting of studies first conducted by Swedish scientists, and later confirmed by a British study, into the effects of a substance known as acrylamide, should leave us in no doubt.

Laboratory studies have found evidence that “significant levels” of acrylamide in foodstuffs leads to vari-

ous cancers and other health effects in rats. Fine so far – that's why such studies are conducted. Then comes the clincher; the conjunction of the words “cancer” and “diet” is information that is bound to get journalistic knickers into a fine old twist indeed. Where are these dangerous chemicals found? According to a recent report in a well-known journal-of-record, in “fried, baked and processed foods, including bread, biscuits, chips and possibly meat”, and “scientists believe” it also occurs in “roasted, grilled and barbecued food”. According to the same report, there is “no safe dose” of this substance, and “alarmed health experts” are calling for further studies.

If this shocking information hasn't

caused the reader to suffer a cardiac infarction when she contemplates everything she has consumed throughout her life (with the possible exception of boiled dandelion roots) and she manages to read through the report, she will find less alarmist messages from other “health experts” advising her not to change her dietary habits just yet, as the “effects are long term and not acute”. Well, that's a comfort.

Not surprisingly, the news reports draw parallels with research into the ill-effects of smoking. No story about carcinogenic effects of anything is complete without references to smoking (or sometimes asbestos) because these are areas where research into health risks resulted in very well-founded concern indeed. But does eating a slice of bread pose the same risks as lighting up a fag or working in an asbestos mine? When we consider that baked bread is probably the oldest known processed food in human history, it seems pretty unlikely. No doubt the research is valuable, and anything we can do to reduce risk is worth doing, but overwritten health scares hardly seem like a responsible way to go about it.

In other matters of interest, such as politics, journalists appear to approach their responsibilities with a certain degree of care. No responsible reporter would write an alarmist story about the doings of a Prime Minister or a Premier without carrying out some basic research into whether or not it was true. Why then, when the subject is scientific or medical does the media ethos seem to be, in the words of the old Cole Porter standard, “Anything Goes”?

Street wise

Of course, some areas of the media are much better than that. We thank our editorial colleague, George Richards, Editor of "Column 8" in the *Sydney Morning Herald*, who heeded our distress call in the last issue for information about the improbable naming of a Sydney street. George reports:

The Liberator General San Martin Drive was named around 1950 by the then Attorney-General Clarrie Martin, for no apparent reason other than to perpetuate the Martin name. There was no particular connection at the time between Sydney and Argentina.

The signposts became items much valued. Prominent Sydney journalist, David McNicoll, and author, John Gunther, after a convivial (read drunken) dinner, drove out to Ku-ring-gai Chase and were sawing one down when apprehended by minions of the law.

I have some cuttings of their appearance in court. McNicoll at the time was writing his "Town Talk" column in the *Daily Telegraph*, Gunther was a well-known American author. I think McNicoll carried the can to get his visiting friend off the hook.

The police case included the irrefutable evidence that they were drunk – they were both wearing dinner suits.

Street mundane

And then there's this other street story (are we becoming obsessed?)

Regular readers, particularly those who live in Sydney, might have puzzled over the location of the Chatswood Club (venue of the regular NSW Skeptics Dinner Meetings) in Help St.

At Skeptics Central we have also often had our curiosity piqued by the odd name, but never quite enough to find out. We wallowed in fantasies that it could have been the site of a bush-ranger hold-up, commemorating the victims shouts for succour, or perhaps even the location of a charitable body renowned for its good works. Finally, our curiosity getting the better of us, we rang the Willoughby Library, where Caroline Russell kindly dug out the answer for us.

Help Street, Chatswood, was so named in the 1860s because it adjoined property owned by one William Help, an orderly at Government House.

What a let-down. Contrary to the oft-expressed Skeptics creed, sometimes it is much better **not** to know the truth.

Soccer mania

Our thanks go to Steve Cornelius, a Sydney subscriber and a bloke who likes to keep up with soccer doings in the UK, for the following stories.

It seems that Cardiff's Millennium Stadium (formerly a venue known – and feared – by visiting Rugby Teams as Cardiff Arms Park) has become a prime venue for British soccer matches, following the closure of Wembley Stadium in 2000. In the eight English Cup matches played at the Millennium between then and mid-March 2002, the team based in the South dressing room has never won.

Those whose knowledge of the round-ball game is as slight as that prevailing in Skeptics Central Office, might be forgiven for thinking that, as most soccer matches seem to result in draws, this hardly rates as a world-shattering coincidence. But it certainly seems to have caused some consternation among Millennium Stadium management and they have taken firm action to rectify the problem. They have called in a *feng shui* expert to end what is being called the 'South Stand Curse'.

It seems that his method consisted of having a horse galloping round the touchline, while the expert intoned a "Buddhist chant". (You can all see how that would be effective, can't you?)

He also suggested that fans of the team lodged in the southern dressing room might consider wearing a red ribbon on their right wrists, because "your right wrist is the centre of your body which sends important messages to others" (pardon?).

Presumably, when the first team from the South room actually wins a match (as, inevitably, they will), it will be trumpeted as a triumph for *feng*

shui (or horses, or Buddhist chants) regardless of any other considerations.

Soccer two (me)

The other soccer story concerns a formerly famous cutlery distorter, Mr U Geller, who, it seems, has been appointed joint-chairman of the English third-division football club, Exeter City, which, our informant points out, finished 16th out of 24 this season in the lowest division of the English Nationwide League. Mr Geller has assured fans that he will not be using his paranormal powers to influence events on the pitch, which must come as a great relief to them.

We have chronicled here in the past, Mr Geller's claims to be using his "powers" to help various football clubs in Britain, with notable lack of success, so we can only assume that his refusing to use them could hardly make things any worse for the club.

Fly me to the Moon

On a related matter, it is reported that Mr Michael Jackson (some sort of public entertainer, we understand) has evinced a desire to travel to the Moon. In furtherance of this ambition, Mr Jackson has turned to his good chum, the aforementioned Mr Geller, who is reported to have said, "We are training Michael now to have that certain mind power to be able to complete such a task".

We reckon that, with that plus a multi-billion dollar rocket programme, he just might make it.

Just thought we'd mention...

Should any reader be passing the leafy domain of Skeptics Central and notice a miasma of smug self-satisfaction oozing from the windows, here is the reason.

The editorial grandson, Nicholas Joyce, whose arrival on Earth was trumpeted in an "Open Letter" editorial in issue 10:2, has just been voted "class scientist" by his peers in Year 6 at his school.

Bunyip

Landmark Prosecution of Bogus Blood Tests

NSW Department of Fair Trading (DFT) is deserving of the highest commendation for its successful May 2002 landmark prosecution of a Live Blood Cell Analysis (LBCA) operator, finally putting on public record that the claims made by the alternative health and integrative medicine industry for these 'tests' are frauds. Unlike the ACCC, and unfortunately for public education, NSW DFT does not post prosecutions on its website.

Mr Jeffrey Dummett, formally of Lismore and now of Sydney, was fined \$34,000 on 25 charges of deceptive and misleading promotions. Described by the magistrate as like a "witchdoctor with modern technology" he claimed that he could look through a microscope at one drop of blood and diagnose numerous conditions, including cancer. His prosecution, and orders by DFT to close down his website and cease his 'blood tests', should send a strong warning to the entire Australian blood test industry, run mostly by 'qualified therapists', holistic doctors and nurses and promoted by their therapist training colleges, registration bodies and by health magazines and newspapers. These bodies, along with private health funds and professional indemnity insurance and government Austudy providers, should take careful note of this case and its legal implications for them. Clients of all LBCA clinics are now entitled to refunds and civil litigation for damages against both the referring practitioners and LBCA clinics.

The above bodies should be aware that Mr Dummett's claims and practices are not unique to him but are prevalent in this widespread industry. Like other LBCA operators, Mr Dummett was a qualified naturopath and member of a peak therapist registration body, advertising private health fund rebates on services including a national postal blood test service and boasting impressive use of LBCA tests on children.

In November 2001, the NSW Medical Board prosecuted Mr Dummett for his illegal use of the title of Dr and his illegal medical practices. Evidence was presented by clients diagnosed with cancer, one of whom believed he was at death's door. Dummett's fines amounted to around \$45,000 with a good behaviour bond for 12 months. Described by the magistrate as "a danger", he continued to conduct his LBCA business. In March 2002, national TV reported on the death (in February) of a 37 year old Sydney man with serious kidney disease, who died whilst in the residential care of Mr Dummett, undergoing special diet and treatment. His death is now the subject of a coronial inquiry. (Ref: <http://todaytonight.com.au/stories/147444.html>).

Despite numerous appeals over the years by myself and Prof John Dwyer (and articles in *the Skeptic*) to NSW state and to federal health authorities, particularly when submitting evidence in 2000-2001 on Mr Dummett's and another Sydney clinic's cancer-HIV promotions, no offi-

cial public health warnings have ever been issued.

Another thing

In the new security conscious world post September 2001, innovative security/identification systems such as iris scanning are being widely used to confirm that we are who we say we are. Scientific experts claim that each iris contains a unique "eye print", just as each finger contains unique fingerprints, strongly suggesting that, throughout our lives, our iris print does not change substantially.

In the 2000 edition of *Good Medicine-Alternative Therapies Guide*, readers were told that an iridologist can detect body cancers by examining the iris. The basic tenet of iridology (the most widely practised 'diagnostic' technique in the alternative health industry) holds that our iris constantly changes to reveal the past, current and future state of our health.

Body organ problems are said to be revealed as changes in certain zones and show up as white or dark spots. We can therefore assume that removal of certain organs shows up as a spot on the iris (organ transplants must pose curious problems).

Logically, both claims cannot be true. It would be instructive to see what research and evidence supports each of them. Our money would be on the security application.

Cheryl Freeman

Crisis in Healthcare - Update

TRD-CRT Breast Screen

A follow-up on previously exposed dubious practices.

I can now confirm that the qualified naturopath and prominent promoter of the Computerised Regulation Thermography (CRT) machine in my 2001 report (*the Skeptic* 21:2) is also a national distributor of the device. This conjunction of 'therapeutic' and commercial interests raises serious concerns about the promotional claims made by this person, and those who have purchased a CRT, seeking to give it and the distributor publicity.

This distributor uses the credentials Med.Tech, MD (MA), DipNsc, DipMH and RN, "specialising in oncology, haematology, radiotherapy, and palliative care", and is variously promoted by supporters in AltMed circles as 'a scientist', a 'Dr' and 'blood pathologist'. She claims membership of Independent Medical Research, World Cancer Congress, International Cancer Association Network and the Cancer Information and Support Society, none of which is recognised by orthodox medicine or Australian cancer societies. Videos and slides of breast cancer cases and their CRT and 'blood test' results have been presented at health-cancer seminars by the Sydney clinic/distributor.

It is now apparent why the Sydney distributor's clinic chose to identify the CRT in its promotional mate-

rial as 'Thermo Regulation Diagnosis' (TRD). This clinic also advertises CRT- Clot Retraction Tests associated with the medically and legally condemned Live Blood Cell Analysis (LBCA) (See preceding story, 'Landmark Prosecution of Bogus Blood Tests'). To avoid confusion (between two CRTs), a new name had to be chosen but specifically why was the word 'Diagnosis' chosen? The name TRD does not appear on the German manufacturer's website, nor is it used by a Western Australian CRT clinic and national distributor, who advertises "CRT and Regulation Thermography". The use of the term "Diagnosis" in the name of a device for which no diagnostic capacity has been demonstrated, is potentially very harmful indeed.

More publicity

Ironically, at the time our *Skeptic* report was published, another report on the CRT appeared in the July 2001 edition of *Nature & Health* magazine. This item, disturbingly titled, 'Breast Cancer Options' focused, as the title suggests, solely on breast screening, despite claims for a long list of other serious medical conditions being cited in the CRT promotions. The report, by a Queensland qualified therapist, was in fact an excerpt from her book, *Take Con-*



Cheryl Freeman, a former nurse, is an indefatigable exposé of pseudo-medical gadgetry.

trol of Your Health, Chapter 4, “Breast Health”, in which she enthuses about the CRT’s scanning abilities, that:

may be as valuable as MRIs and X-rays truly offers the possibility of early detection even before degeneration such as malignancy is manifested.’

She directs readers to, *The Townsend Letters to Doctors and Patients*, Jan 2000 report, *Thermography Vs Mammography* which, she says, describes the CRT as:

a valuable new diagnostic tool ... a marked improvement on previous technologies.

She adds:

Dr Beilin brought it to the FDA for marketing approval and testified to a Congressional Committee with NIH and NCI.

This appears to be exceptional endorsements from what we can assume to be the USA’s premier regulatory and professional bodies, the Food and Drug Authority, National Institute of Health and National Cancer Institute

The author named the Sydney clinic-national CRT distributor, her USA contact and clinics in VIC and WA then enthusiastically advised readers to:

... nag our health professionals to invest in them.

This can only be described as another free plug for the Sydney distributor. The article’s author listed the Sydney and other state clinics in her book’s “Resources” section under, “Thermography Breast Diagnosis” (again I emphasise choice of the word Diagnosis) adding:

These non-radiating machines are described in Chapter 4.

She noted women’s awareness of the dangers of X-Rays and seeks to explain:

... why this technology has proven to be a popular way to avoid radiation and still get a correct diagnosis ..

This sends a very seductive message to women made fearful of mammograms, and note again the use of “diagnosis”. She says further:

Over 1500 doctors in Germany and Europe and top health professionals in the USA use the CRT.

The *Nature & Health* magazine also contained a full page advertisement for the columnist’s book listing among the contents, ‘You Will Learn Why: Mammograms contribute to cancer.’ This columnist-author-qualified therapist also runs the Hippocrates Foundation at www.hippocrates.com.au, ‘a tax deductible charity for placing natural health books and tapes in libraries around Australia’. Perhaps she might, one day, care to explain:

how she came to write such an extraordinarily glowing report on the CRT when she admits to only learning about it sometime in 2000, after being referred (by the USA author of the *Townsend Letter* article) to the Sydney clinic director;

what time elapsed between first learning of the device and the publication of her book (also in 2000);

why she focused only on the CRT and breast screening -breast cancer;

what research she conducted to verify claims made for the CRT; and who were the sources of her explicit CRT-’diagnostic -breast’ claims.

In December 2001 *New Idea* added to the national free publicity for the CRT promoting book, *Take Control of Your Health*, by profiling the author and her book in a feature report.

Natural Therapies Upskills Day

Several weeks after the June 16, 2001, Natural Therapies Upskills Day for health professionals, sponsored by the Royal Hospital for Women at the UNSW, the Sydney clinic operator distributed a circular in an attempt to “redress adverse comments made by a medical expert” by offering “some accurate information on the clinic’s tests”. For the first time she publicly identified the

CRT 2000 as being from EIDAM in Germany. The circular mixed comments about legitimate scientific/medical techniques/technologies such as Infra-red photography, liquid crystal thermometers, measurement of blood flow in various pathological conditions with thermography as reported in the scientific/medical literature, with claims for the CRT, including:

... detecting problems, abnormalities and disease in organs and body parts by measuring temperature changes at distant specific points on the teeth, face, neck and body.”

This latest attempt to confuse blood flow-heat pictures from medical thermal imaging (also called thermogram or thermography) with the nonsense claimed for CRT, is a re-run of the confused ‘medical thermogram’ report in *The Australian* of Nov 16, 2000 in which she was interviewed. Do I detect a trend here? Perhaps this is how the CRT distributor is trying to gain respectability and validity for the CRT by confusing it with medical thermogram machines.

The circular also stated:

The equipment is the EIDAM CRT 2000 regulation contact thermography unit, with the European EC Mark and in America has Food and Drug Authority (FDA) approval for use as Adjunctive Diagnosis of:
**various neoplastic, inflammatory and musculoskeletal conditions*

**abnormalities of the female breast and thyroid gland*

**as a adjunct breast screen*

**extra cranial cerebral, facial, peripheral vascular disease.*

The CRT 2000 has Australian TGA approval-ARTG NUMBER L65044. The CRT is not intended to serve as a sole diagnostic screening procedure.

This final claim is in stark contrast to those made in the Sydney clinic’s TRD-CRT brochure and specifically:

[it] is **ADVANCED TECHNOLOGY**

Breast Scans

[n bold red print]... *without the patient being subjected to any strain from X-Rays, diagnostic operations, biopsies, contrast mediums etc.*

In Aug 2001 the TGA re-confirmed what I had previously reported, that the CRT had been **removed** from the ARTG-AUSTL list in mid-2000. It is my understanding that it is a violation of the Therapeutic Goods Act Advertising Code to claim a listed product is “approved” by the TGA, as it is to claim that a de-listed device is listed, or approved by a foreign authority, or to make diagnostic claims in relation to serious conditions like neoplasms.

WA clinic-distributor

This clinic is also run by a high-profile qualified therapist who operates a distributorship in Australia and South-East Asia, marketing not only the CRT as the, “ECG for naturopathic physicians” but several other bogus diagnostic/treatment devices including the SUPER MORA – EAV – INTERRO – DARK FIELD MICROSCOPY (which the literature claims “is great for children with chronic infections”). The CRT clinic is listed on the EIDAM website and in *Take Control of Your Health* under Thermography Breast Diagnosis, with its website featuring numerous references to cancer, breast cancer with the impressive and reassuring claim of “FDA Approval No 510K”. Another WA CRT clinic listed in the same book, advertises, “Biological Medicine Specialists” conducting “Thermographic Scanning”.

Authorities

All the above data has been submitted to the relevant authorities: NSW Health, TGA and ACCC. As at March 1, 2002 Australian Skeptics remains hopeful that decisive legal action will now be taken by investigating authorities. We also assert our belief that as a result of the extensive, reckless, explicit and unsubstantiated promotions of the TRD-CRT in Australia, primarily as a “breast screen- diagnostic machine with the major focus on breast cancer” and the fact that the promotional mate-

rial and claims remain in the public domain, together with the fact that the EIDAM-CRT website continues inclusion of “breast cancer case studies, claims for malignancy, neoplastic, cancer and other serious medical conditions” - and that Australian authorities endowed with a duty of care and protection of health consumers should now ban the further importation of the CRT and close down existing clinics.

We further believe that it is critically important to report publicly the full extent of the promotions for the CRT, so that consumers and all health, medical, consumer, legal authorities, politicians and the media have access to this information, to ensure an honest and in depth public evaluation of these issues.

Another Breast Screen

From the USA *Mercola Health News* website, under the bold heading: “FDA Approves Electricity Test for Breast Cancer”, the fine print reveals a device, the T-SCAN 2000, that:

... uses electricity to create a map of the breast: ... by delivering a 1V shot of electricity into the hand via a probe, that travels up the arm to the breast where a hand-held probe is moved over the breast measuring the electrical conductivity of breast cells. Cancer cells conduct much less electricity than healthy cells - so the probe flashes its findings onto a computer screen ... possible tumors show up as bright white spots.

The test is for:

... women with ambiguous mammograms, improves diagnostic accuracy and lowers unnecessary biopsies by about 20%.

The Health News doctor concludes:

It seems to be a nifty application using bioelectricity ... cost \$100.

To me, “It seems to be” hardly sounds like a universal peer reviewed scientific medical assessment.

I have not seen any breast cancer

experts in Australia reporting on the credibility of what ‘seems to be a nifty test for breast cancer’....yet under our current legislation, health clinics could import his device, set-up clinics and promote it according to the USA website and FDA approval claim and promotional material and do so for years, aided by the irresponsible alternative health media ... all unknown to our health authorities – precisely how it happened with the TRD-CRT industry.

Personal experiences

In dealing with these breast scan issues I am constantly reminded of a terribly misled, 40 something, women I met several years ago. She had cancelled her partial mastectomy and radiation therapy after being ‘tested’ by a qualified therapist/iridologist and told she did not have cancer, only a blocked lymph gland, bordering on cancer, a fine line of malignancy, that he could cure the gentle way. Others with advanced secondaries from breast and other cancers had their tumours diagnosed as ‘calcium deposits’ and told they were cured, in attempts to deter them from having chemotherapy and radiation therapy. Last year a 50 something woman told me that she and another woman had suspended their breast cancer treatments and were using a \$4000 electronic-mat (similar to the Giraffe mat prosecuted by the ACCC in 1999). The qualified therapist/mat agent bragged that “most of my customers were cancer sufferers and we have seen some miracles and others are doing well”.

I cannot hide my concerns. We as a society cannot continue to take the risks imposed on health consumers by the bogus health devices industry.

Refs

“TGA’s New ‘Medical’ Devices Regulations. Proposals for Health Devices Regulations” - *the Skeptic* 21:4 and at www.skeptics.com.au

Take Control of Your Health, 2000 - Empowerment Press International and at www.hippocrates.com.au



A Dutiful Mind:

Religion, Faith and Skepticism

Religious faith undergoes a forensic examination



My learned friend, Martin Hadley, is both a barrister and a Vice President of the NSW Skeptics, if it please the court.

For we walk by faith, not by sight. (II Corinthians 5.7)

Faith is not something you would generally expect a skeptic to lay claim to. We might use the word colloquially, as in “I have faith that Richard Lead will behave himself at tonight’s dinner.” But this is not faith in the religious sense. It is truly an exercise in inductive reasoning, based on observations of past behaviour and the probability of that being repeated. (Maybe not such a good example on second thoughts.)

Faith in the religious sense, described by the OED as “spiritual apprehension of divine truth, apart from proof; system of religious belief” is inimical to the skeptic’s need for evidence. For the religious believer, faith is a valued and constant companion. The sacred texts are full of references to faith. Followers are urged to have faith and are told their faith will be tested, something I suspect many look forward to with discreet relish.

Faith can be tested at different levels. Does any sort of god exist at all? For many people this almost goes without saying. The bigger the ques-

tion, the easier the answer. Of course we have a soul. Of course it can persist after death. Of course there is a God.

I have the impression that the most common reason why people believe in some god is that it explains how the universe got here. That may give some comfort but then there is the problem of understanding why this god allows so many unpleasant things to happen. The faithful have agonised over the centuries in search of an explanation. Perhaps god is not omnipotent, or perhaps he turns his back on us from time to time. The idea of punishment is often mentioned. It even got a guernsey after 9/11 despite the obvious human involvement.

Punishment for what?

When a child is born with terrible deformities, so that it will hardly understand what is happening during its short life, this is justified as being done to inspire love in the rest of us. For me, the hardest things to explain are the big natural disasters in which thousands die miserably, like earthquakes or the tsunami that hit PNG a

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few years ago. Babies, who cannot in any meaningful sense have done anything 'wrong' in their lives, perish alongside the sinful or are left orphaned.

There is so little correlation between the doing of evil and receiving what might be divine punishment, that the punishment theory seems to require a very capricious and high-handed deity. God will not forsake you, so long as you have a very broad definition of the concept of not being forsaken. In what sense have you not been forsaken if you are about to be shoved into a gas chamber? One answer is to cop out of the whole argument by characterising the disaster as good fortune. The babies killed in the earthquake go straight to heaven!

It is trite to point out that you **can** make sense of the world without having a god to create it or keep it ticking over. The person who does not believe in any god, but simply that there has always been something, and there will always be something, is freed from the burden that believers have, of devising an explanation for why their god chooses to run the world in just the same way that the world would run if no god existed. "Shit happens" is a more compelling explanation for a natural disaster than anything I have heard that contemplates the deliberate act of an omnipotent god.

Decisions, decisions

If you have faith in a supreme being of some sort, you then have to decide between the many interpretations of god. The realisation that there are *many* different gods around the world can lead to doubts about whether there are *any*.

We see things that are constant around the world. Gravity is gravity, more or less. Water boils at the same temperature for a given air pressure etc. The idea of god is far from constant. There are significant variations from place to place and time to time. This tells me that god has been invented by humanity, not discovered. The constant thing is the human desire to believe in a god, perhaps in several.

The faithful have a different explanation for the proliferation of gods. Our faith is the true faith; the others are not. Those lacking the true faith are branded as infidels and usually regarded as deeply inferior, sometimes to the extent that they should be put to death.

Atheists commit crimes but how many atheists would urge violence against someone holding a different philosophical position? An atheist would not kick a dog over such a thing let alone kill a human. Of course if you are attacked you have to fight back, but if I am mugged by a Catholic, I will thump them because they are mugging me, not because of their religion. On the other hand, the faithful have throughout history justified killing the opposition because of different beliefs and in the absence of a physical threat.

God as universal fall-guy

The god that justifies such killing is described with words like 'vengeful'. It is interesting that gods turn out to have such human qualities. I suggest this is because they are made responsible for a world truly run by humans. Since the gods are in control they must approve of such behaviour. Polytheistic religions have gods treating each other in very human ways. The stories of the Greek and Roman gods have a quotient of violence, drinking and shagging that might trouble a sensitive Hell's Angel.

The zealot's wish to put infidels to death seems a very human thing, arising from insecurity and xenophobia. I do not see that a true god would be pleased to see people burned alive for heresy, as I might once have been for writing the likes of this. Blood is spilt every day in conflicts that are driven by religious differences. Even within the general Christian interpretation there has been plenty of controversy and killing over points of theology.

A useful copout for the murderous zealot is to characterise the execution as doing the witch or heretic a favour by delivering their soul to god. General Schwartzkopf was said to echo such a sentiment by stating that it

was for God to forgive the organisers of the 9/11 attacks, adding sardonically "Our job is to arrange a meeting."

The status of Jesus

If a person has selected the Christian interpretation of god, then their faith will be tested about the status of Jesus. He was at least a charismatic person who made many commendable ethical pronouncements. You do not need faith to accept that much. But faith is required to see him as the son of God who rose from the dead after being crucified.

Jesus arrived here on earth in the usual manner. You might find the stories about the shepherds and the wise men convincing and you have what is said of Jesus' conception. For the latter, you do not need much imagination to come up with two everyday explanations: Joseph as an impatient fiancé; or another paramour. (I have wondered whether Mary might have had a fling with a soldier or official from Rome. That would explain why Jesus looks so Italian in the pictures.)

We do not know much about Jesus' childhood and adolescence. It was unremarkable apart from some precocious debating about scripture in the Temple. It seems to have taken him a long time to realise he was the son of God, sent to save mankind.

The events of his arrest, trial and crucifixion have a forlornly human ring to them. It looks like Pilate tried to give him a fair hearing but Jesus was enigmatic and uncooperative. Pilate asked him if he was the King of the Jews and he replied: "That's what you say."

You might think such an answer was hardly likely to secure an acquittal, but Pilate, with typical Roman sensibility, was all for letting Jesus go, albeit after a bit of a whipping to satisfy the mob. As anyone who has read their Bible or seen *The Life of Brian* knows, the mob could choose a prisoner to be released, and they did not choose Jesus. Still, Pilate did not want him killed but he relented under pressure from the Pharisees and the mob.

Jesus then endured some mistreatment in a human enough way. He had to carry the horizontal beam of his cross, and he stumbled a few times. The crucifixion went off conventionally enough, except perhaps for some bad weather. At this crucial (!) time, there was no demonstration of divine sponsorship or intervention. Instead of cheating death, or disappearing from the cross or ascending to heaven in full view of the crowd, Jesus died slowly like a man and then hung there wretchedly until taken down. He showed enough stoicism to impress the centurion. He also made some mysterious comments when close to death. They have been much debated. You might find them more redolent of a suffering human than the son of God about to return to his presence.

Much is made of the disappearance of the body from the guarded tomb. This is cited as the big miracle. The body was placed in the tomb by a follower and it is not clear whether the guard was there from the beginning or was stationed later. Either way, carelessness or bribery are obvious possibilities. Does the person exist who has such faith in police or soldiers to be able to exclude these explanations? With respect, it is feeble to suggest, as do some believers, that the guards would not have connived in the theft of the body because they would have been punished.

Why kill him?

Many faithful simply take the divine status of Jesus as read (from the pulpit). Those who wish to investigate for themselves will turn to the gospels where they find passages like *John 3:16*:

For God so loved the world, that he gave his only begotten Son, that whosoever believeth in him should not perish, but have everlasting life.

This verse is one of the Top 40 you will see quoted on Church billboards and like places. It can be interpreted in various ways. It looks like one of the many references to the idea of Jesus being a type of sacrifice. The faithful accept that this was necessary

to replace the arrangement described in the Old Testament, involving the sacrifice of many hapless animals. (Next time you are feeling frustrated while trying to follow the instructions for assembling furniture or persuading a new appliance to function, try reading the first three chapters of *Leviticus*.)

Why a god would have to make a sacrifice of his own son, in order to confer eternal life, which presumably he could do in whatever way he chose, has never made sense to me. I consulted a religious friend about this interpretation of *John 3:16*. I concluded with the simple question (uttered in the weary and mystified tone of Blackadder addressing Baldrick after some foolish act) "Why?" The answer came smilingly: "So that we could have the Catholic Church." I have never heard a better explanation.

If Jesus was a necessary sacrifice, then the mob that was demanding his death and the Pharisees who were manipulating them, were doing God's will. History has given them little thanks. My religious friend, now 50, recalls sermons during which the priest referred to them as those 'perfidious Jews'.

By that interpretation, *John 3:16* is a comment on why Jesus died. However the context shows that the quote is attributed to Jesus during a polite chat with an amiable Pharisee who began the discussion by noting that Jesus must have been sent by God, in view of the miracles. *John 3:16* is Jesus speaking about himself, well before his death.

The context therefore suggests an interpretation whereby God 'gave' his son, in the sense of putting him on earth to communicate the opportunity to believe in him and receive eternal life. When you consider how old Jesus was when he got going spreading his message, you could feel that the process of communication began in a very leisurely way. You might expect something more graphic from a god; and something more widespread. What of those people over the ages who have gone through their lives without ever hearing of Jesus, let alone receiving a coherent summary of the choice they could make?

Nature of miracles?

It appears that there are two reasons why the faithful treat Jesus as more than human. He performed numerous miracles; and he made a number of statements about his special status, which were accepted and repeated by his followers. Those topics account for much of the content of the four gospels. Whether or not you view the miracles with skepticism, they create some conundrums. Most of the miracles concern healing the sick. The Pharisees were sticklers for formalities such as observing the Sabbath. Jesus got onto arguments with them about healing the sick on the Sabbath. He argued on one occasion that if your daughter fell down a well on the Sabbath, you would not wait until the next day to rescue her. (Jesus was very adept at argument and analogy – a good way to make enemies.)

Medical work could be done on the Sabbath if it was urgently necessary. Jesus' argument shows that he felt that the need to heal that particular person at that time was urgent and overrode other considerations. Even though the condition had been long standing, Jesus apparently wanted it cured straight away, instead of returning a day later.

This suggests that the miracles were more than PR to show divine endorsement. They were directed at the welfare of each patient. From the gospels it appears a few hundred sufferers were healed. What about those who Jesus did not have time for? Who was there after the crucifixion? Some miracles are attributed to followers. If you are a Catholic, you will also have some saints getting on the scoreboard, but it is a meagre batting average compared to Jesus in his prime. How much love has God been showing to the unhealed masses over the years?

Are the Gospels gospel?

The faithful, when beset by such ruminations, like to think that they have in the gospels, a reasonably accurate record of what Jesus did. My Sunday school teacher suggested that you would not find four newspapers

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telling the same story with the same details, but lo, the four gospels are all the same. Since we kiddliwinks didn't read one newspaper let alone four, this was a safe enough argument. We accepted that the gospels recorded what the writer had seen.

I was no skeptic prodigy. I never wondered about how they wrote the passages that describe Jesus doing something when he was entirely alone, and when there is no description of him telling anyone later. I recently asked my Catholic friend about this. "Oh, we never worry about things like that!" I suggested that it was assumed that Jesus must have told someone. "Yes, yes, either that; or they just made it up."

There is a general consistency between the gospels but they cannot be compared realistically to newspapers. Taking the small part of our press that purports to be news, some is witnessed directly by the journalist. Much of the rest reports what an eyewitness to some event has seen. Events are typically described within 24 hours and there are often photos. By way of dipping a toe in the water, there is much debate among scholars about fairly basic matters concerning the gospels, such as:

- When were they written? (The earliest suggested date for the earliest gospel is 45 AD)
- Who wrote them? (The gospel according to X was not necessarily written by X.)
- In what order were they written?
- What was the source material?
- Which events were seen first hand by the author?

Competing theories

There are various theories about the relationship between the first three gospels. Bear in mind, this controversy is not due to mischievous skeptic stirrers. The conflict is between scholars who are mostly believers.

Theory 1: There was an oral tradition which each author used separately.

Theory 2: Matthew wrote first; Luke

was influenced by him; and Mark was influenced by both of them.

Theory 3: Mark wrote first. Luke borrowed from him and also from a lost source, which the scholars term 'Q'. Matthew also borrowed from Q and from Mark but not from Luke.

Theory 4: As for 3, but Luke also used a smidgin of Matthew .

Theory 5: Mark wrote first. Matthew was influenced by him; and Luke was influenced by both of them (like theory 2 with the names changed).

Historians often tell us that there are several competing versions of what happened or why. They try to weigh up the evidence supporting each alternative. The gospels are not written as if by an historian. Each writer presents only one version of events. There is no consideration of other accounts. There is no discussion of the reliability of sources. There are differences between the gospels, but each author writes as if there is only one version, known with certainty.

Many think the gospel authors were among the disciples. Mark and Luke never met Jesus and did not witness any of the events they describe. Mark may have met one or two of the disciples. Query whether Mark or Luke ever met a person who had been healed by one of the miracles. Mark and Luke were true believers. Their writing does not get more direct than setting down an account of someone else, also a true believer, who describes events, that both witness and interviewer wanted to believe did occur. Matthew and John do not distinguish between what they observed directly and what they obtained from other sources. Each author believed they had a duty to persuade readers to accept Jesus as the son of god.

Most Christians, from the pious seniors to youthful happy-clappers, would hardly be worried by the sort of matters I have raised. But, like me, they would have reservations about those who insist that our every waking moment must be governed by the inflexible dictates of the supposed literal meaning of this stuff.

When reality conflicts with the

text, this fundamentalist minority will consider only one sort of argument. It is the argument to which Galileo was forced to retreat, to minimise the extent of his persecution: since it is the word of God, it cannot be wrong; so there must be an interpretation which squares with what we know of the real world. Galileo (a believer as far as we can tell) was not permitted to say: "I believe in God; but the Bible has been written, copied, translated and edited by humans; and parts of it may be wrong".

Whither skeptics

So what has all this got to do with skeptics? The faithful, and especially those who insist on the literal perfection of the Bible, have a tendency, I suggest, to regard themselves as having something valuable compared to skeptics who are looked down upon as 'materialist', 'closed minded' or 'blind'. How fair is this?

Think of three thirsty people in the middle of a desert. In the distance is a shimmering lake, or is it a mirage? The first person is literally blind and sees nothing. The second person is certain they can see a lake. If they move towards it, they will need increasing faith to sustain their initial belief. Rather than abandon their belief, the supposed location of the lake may be put progressively further away, like the second coming. The third person in this desert is better informed and suspects a mirage. They defer a conclusion while they look for other evidence, such as the lie of the land, the position of the sun or where the birds are flying.

A weakness in that example is that there is some visual evidence to support the second person's conclusion, whereas many religious beliefs have no more support than inner conviction and group pressure.

Perhaps the second person is the happiest of the three, at least initially. We each have to decide in whose shoes we would prefer to be.



Ghost Tour *sans* Ghost

Report of a tour that's long on history, though short on mystery

Following an 1830 outbreak of cholera in Europe, Governor Darling established a quarantine station at Spring Cove on the North Head of Sydney Harbour in 1832. For the next 152 years the North Head Quarantine Station in Manly would protect Sydneysiders from the influx of infectious diseases that appeared aboard immigrant ships. The Station closed for quarantining in 1984 and was granted to the Sydney Harbour National Parks and Wildlife Service.

The grounds have since served as a heritage site, occasionally as emergency accommodation for refugees and victims of natural disasters and more recently as a centre for business conventions and wedding receptions. The site serves as a reminder of this country's struggle against the epidemic diseases of the past and of the difficulties suffered by early immigrants. The grounds offer a magnificent panoramic view of Sydney Harbour and abound with native wildlife and bushland.

The environment and history of the Station provide a fertile atmosphere for the emergence of ghost stories and legend. The Quarantine Station is reputedly Australia's most haunted site (this title is also claimed by the South Australian town of Kapunda and NSW's

Parramatta Gaol) – with 'thousands' of ghostly sightings and 'paranormal' experiences reported.

On Saturday November 3, 2001, a handful of members from the NSW Committee attended the Quarantine Station's Ghost Tour. Richards Lead and Saunders, Martin Hadley, Helen Vnuk and myself braved the experience. For \$27.50 we were given a three-hour tour of the premises by a park ranger who relayed to us some of the reputed paranormal experiences and stories of residents, employees and visitors to the site. I also independently attended the Day Tour where for \$11 you can be given the same tour but from a historical perspective of the Station's buildings, people and purpose. What follows will be an account of the ghost tour, some historical information about the site and some of the anecdotal ghost stories and tales that form the image of the Quarantine Station.

Taking the tour

On arrival we gathered around the tour guide, park ranger Adam, who told us to prepare ourselves for an evening of information, fun and the possibility of a supernatural experience. To rouse a spooky atmosphere we were given kerosene lamps to



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Ghost Tour

light our way. Adam advised us to be as receptive as possible to the site; a paranormal experience could manifest itself as a sight, a smell, a sound, or a sensation. Skeptics are converted to believers on these tours, we were informed, and the site's resident spectres enjoy taking issue with skeptics by making their presence felt, often comically or violently. Accepting this ironic warning (how could the guide know that he was standing before some of Sydney's most outspoken Skeptics?) we commenced the tour by viewing the Station Doctor's residence and Superintendent's building, both built in 1886. Adam told us of Charles, one of the Station's resident Medical Officer's during the early 1900s. The ghost of this 6ft 8" tall gentleman is reputed to stand on the balcony of the sandstone building, wistfully staring out at the harbour view. When he is in a friskier mood he runs up and down the side of the building or even calls out to passers-by. None of us saw him but were assured that he was probably watching us, unnoticed, from the inside of the building.

Below these buildings is the Station's Post Office, originally built in 1917 as a billiard room, where in a fashion reminiscent of our recent anthrax scare, incoming letters were fumigated and dipped into vinegar to purify them from any diseases they may have carried. Rarely would the ink survive this onslaught and many suspicious letters would be burnt upon receipt at the office.

A touch of class

Further down along the road lies the First Class quarters of the Station's temporary visitors, built in 1876. Just as the immigrants travelled by 1st, 2nd and Steerage classes on the ships that brought them to Sydney, they were allocated accommodation according to their on board status. The Government financed the costs involved in quarantining people and

obviously felt it only fair to attribute lodgings to visitors that were appropriate to the style (or lack of style) to which they were accustomed. The first Class quarters feature a saloon and smoking room for the gentlemen and a sewing room for the ladies. These visitors enjoyed luxurious



Helen, the Lady of the Lantern, and Karen

accommodation, a tennis court and the country's first and only 24-hour pub!

Our guide relayed to us the story of a 'strange happening' in the dining hall of the First Class Quarters. One of the Station's park rangers, no name was supplied, was working on the site one night when he heard the sounds of a party coming from the hall. He was perplexed as there was no party booked at the Station for that evening nor were parties normally held on that part of the grounds. On approaching the hall he thought he could see soft lighting from within as the sounds emanating from the room became louder. He described the sounds as "people laughing, singing and talking animatedly and the clinking of glasses." The ranger could also hear music coming from the hall which he described as "old sounding" and "scratchy", like the sound of Bakelite records that would have once played on the hall's gramophone. The ranger hastened towards the hall that now appeared dark and boldly

knocked on the closed door of the room. The noises immediately ceased. Upon unlocking the door, a complicated task as the hall was heavily locked, bolted and fitted with an alarm, the ranger discovered that the hall was empty and nothing appeared disturbed. Had the Quarantine Station's visitors from another era returned to haunt the grounds and relive a pleasant experience from their enforced stay?

Grave tales

Below the Accommodation quarters on the slope of a hill lies the original Quarantine Station cemetery, one of four. In times where contagious diseases such as cholera ran rampant the mortality tolls would be high and the deceased had to be buried quickly. Fighting against nature, the cemetery rests on sandstone land which is not

conductive to digging burial plots. Bodies were frequently buried in shallow graves, often interred at a level of a mere 30 centimetres. Furthermore, this cemetery lies over the Station's water supply. From an aesthetic perspective, stark white crucifixes and ornamental tombstones once peppered the hill, serving as a grim and foreboding sight greeting new ships and prospective inmates.

The cemetery lay "just below the healthy station and is so conspicuous that parties cannot go out to take the fresh air without being reminded of the mortality of so many placed in similar circumstances to themselves," commented a visitor in 1848. The tombstones were removed for such reasons of low morale.

Large-scale work programmes during the 1850s led to the creation of new cemetery sites and years later, when the health risks were identified, the Station's first cemetery was closed, the bodies were relocated and the ground was sealed with lime and then clay capped. Apparently cholera bacteria can last in

the ground for up to 300 years and the Station's infected corpses lay perilously close to the gradually weathering surface of the hill.

Cleanliness is next to ...

Down from the cemetery and beside Quarantine Beach lie the Station's laundry room, autoclave, inhalation chamber and showers. We were told that the phantom sounds of people disembarking from ships can quite often be heard from the nearby wharf. At the turn of the twentieth century Pneumonic Influenza killed over 20 million people worldwide and Australia was not immune to it.

Ships carried the epidemic into Sydney along with soldiers returning from World War I and in an effort to curb the spread of the notorious 'Spanish Influenza' a gas chamber was built near the harbour entrance to the Station. To sterilise the incoming crowds both their clothes and their bodies were treated. Groups would be herded into the Inhalation chamber to be exposed to sulphur gas followed by a Phenol shower in the shower block that would strip off the top layer of their skin and possibly render them more susceptible to illness. Meanwhile their clothes would be treated to a wash with Phenol and steam cleaned in the autoclave. These measures, aside from the autoclave, served as no preventative to disease but are a testament to the desperation in which Station employees attempted to thwart the virulent epidemics and also the trends and developments in medicine at that time.

The Shower block is a very eerie and sinister looking building and it is easy to imagine the trepidation with which the Station's visitors approached their Phenol shower. The room, built in 1913, is replete with narrow corrugated iron shower cubicles and change rooms painted a

nauseating pastel green. As we entered the building the guide warned us that we may sense a 'cold spot' in the last shower at the rear of the left hand side of the room. Given the concrete floor, the cool iron shower cubicles and the fact that it was



Karen and Nick, hospital visitors

about 10.30pm the entire building was cold! When we departed the building the guide asked us if anybody sensed anything in the infamous spot, Richard Lead quipped "the toilet was out of service!"

Other tales of the shower block include reports of lights inexplicably switching on and off, light bulbs exploding during the tours, doors slamming shut, showers 'turning themselves on' unexpectedly, the sounds of screams coming from the rear of the building and tour visitors feeling an insistent tap upon their shoulder only to spin around and find no one nearby. It is told that an incident of sexual abuse may have taken place in the shower block and the 'paranormal' occurrences are attributed to this.

Hospital...ity

We then proceeded to walk up a steep path that led to the Hospital wards and nurses quarters. The path is lined with craggy rocks featuring elaborate carvings created by previous inmates of the station. They frequently depict the insignia of the

ship that brought them to the new country and most are in an immaculate condition. At the end of the path lay another of the station's cemeteries. The graves are now unmarked here save for a large tombstone and grave surrounded by a high iron fence. Adam told us that a few years ago a film crew were filming a television series at night in the cemetery. An actress, dressed in period clothes, claimed to have looked up at one point to see a little girl who was not part of the crew, also wearing Victorian style clothes. The actress, in the style traditional for these tales, looked away to coax her companions to see the girl. When she looked back the child was gone.

This same little girl features in a number

of the Station's ghost tales. It is reputed that she often joins the groups on that part of the tour, only to disappear when she is noticed.

We proceeded to the wards and nurses quarters which were built between 1883 and 1912. The diverse and frightening range of diseases recorded in the Station included smallpox, bubonic plague, enteric fever, tuberculosis, measles, scarlet fever, whooping cough, cholera, diphtheria, typhoid fever, yellow fever and influenza. More than 500 people died of disease at the station. Several medical advances were devised and trialed in these halls too. During the outbreak of Pneumonic Influenza a Dr Arnold Dean discovered a vaccine for the disease and treated over 200 people meanwhile preventing the further spread of the menace. Dr Dean was presented with a 'traveling suitcase' for his troubles.

Upon entering the wards our guide warned us that we may feel a sense of uneasiness in the wards, sense cold spots or even smell a mustiness in the air. Certainly, the room did smell very musty but this is eas-

Ghost Tour

ily attributable to the fact that the wards are mostly closed and consequently there is no proper ventilation in the rooms.

The most infamous story about the hospital wing speaks of an erstwhile Matron who lingers in the wards and is fastidious about the cleanliness of the rooms. According to the tour guide, an outspoken

'skeptical young man' entered the wards and rudely commented that "Matron doesn't keep a very clean hospital, does she?" and as if on cue, he felt a terrific blow to his stomach and felt compelled to rush outside and vomit copiously into the nearby bushes. Such was the violence of Matron's reprimand! The fellow decided to continue the tour and was later walking towards another destination on the walk when he felt and heard heavy breathing at his ear before hearing the words "Bet you believe now!" repeated several times each time with greater volume. He spun around and saw nobody nearby. The lad was so frightened that he began running away from the area and had the tour guide chase after him to calm him.

Of course, Richard Lead was the larrikin in our skeptical group to loudly proclaim that "Matron doesn't keep a very clean hospital, does she?" He wasn't overcome with gastroenteritis nor was he struck down by lightning... but I do think he tripped over a tree stump somewhere along the walk...

Sleep-overs are occasionally conducted in the Hospital wing and from these nights many stories have evolved. Various overnight visitors claim to have witnessed the sight of ghostly nuns and nurses or of seeing the sick and frail forms of patients lying upon the beds only to look away temporarily to alert their companions and when they look again

the images have disappeared. Some visitors report awakening during the night to find a glowing white figure standing over them at their bedside or give accounts of the constant sound of footsteps or a tea trolley being wheeled around the room with no apparent source. One lady recounted the tale of awakening to the



Helen, Richard and Martin ignoring a hideous apparition

sensation of someone unseen stroking her face and hair before climbing into bed with her!

It is in the Hospital wards that a billboard displays photographs and testimonials from ghost tour visitors who claim to have seen, felt or heard paranormal activity. The worthless testimonials list nothing more significant than "My camera refused to work properly", "I felt uncomfortable on the tour" or "I felt depressed in the Hospital wards". The disappointing array of images on display, mainly of the believer's favourite 'orbs', were typically explainable as the result of double exposures, dark room manipulation or light contaminated film.

That's morgue like it

After escaping the Hospital wards unscathed we strolled to the Station's laboratory and morgue. These rooms seem to have more hygiene complaints than paranormal tales with the drainage lines on the autopsy slab draining blood and bodily fluids down the pipes to the nearby beach where the healthy inmates would swim in blissful ignorance!

As a gimmick the rangers have a swaddled mannequin lying on the

autopsy bed and it is rumoured that as a prank this figure was once replaced by a live person to frighten the proverbial out of the tour guide! The smell of Phenol is also maintained for effect. The guide proceeded to tell us the story of a 'spiritualist' who recently visited the Station's morgue and was petrified

to see the ghost of a 47 year old man appear upon the slab, lying there with his eyes closed. To her horror he opened his eyes and cried out "Look what they've done to me! Look what they've done to me!" before exposing a long incision from his neck to his navel. How she could so precisely

identify his age is the real mystery to me. Other second-hand stories include the supposed appearance of a sailor's face at the window of the morgue and the sight of an Aboriginal man slumped in a corner of the room, and whose face also appears in the window.

The laboratory is kept locked as the "door tends to open and slam" of its own volition. On a previous tour I had been informed of a 'seven foot tall black man' who had died of mysterious circumstances and was brought into the morgue for an autopsy. When the time came for his burial a suitable coffin could not be found, given the man's height. To solve this problem the morgue attendant amputated the feet of the corpse and the truncated body was placed into a standard sized coffin, sans the feet. From the man's burial onwards his ghost is reputed to haunt the laboratory, his corpse hovering above the ground, minus his feet.

Close to the morgue and laboratory are the isolation wards which were used to accommodate disease contacts. They are charming little cottages that are currently sought after by park rangers wanting care-

taker roles. These rooms, which are not open for inspection, feature in many ghost stories.

In October of 1990 an Acting Foreman, 'Amanda', moved into the premises and requested to reside in one of the isolation wards. Apparently, she was a gifted flautist and sought the privacy of these rooms. On a daily basis Amanda would play her flute in the front room of her cottage and occasionally a 'phantom nurse' would appear on the veranda to listen to her flute playing. Soon this nurse was joined by a 'phantom soldier' who would also appear to hear her play her flute. Amanda was unperturbed by her ghostly audience and the three of them lived a relatively peaceful coexistence until one day when she was viewing the harbour scenes from a nearby cliff, 'Old Man's Hat', and felt a violent push that toppled her precariously close to the cliff's edge. She grabbed onto a tiny shrub growing nearby so forcefully that she ripped it out of the ground. Swinging around with the shrub as an implement to strike her attacker she found no one around at all. Amanda was convinced that she was pushed by the ghost of the Station grave digger. Petrified, she immediately left the Station, refusing to ever return; her family arrived the following day to collect her belongings.

Another tale concerning the isolation wards involves an Oliver Bennett who died during an outbreak of Bubonic Plague in 1900. Oliver was isolated when he became ill, unfortunately he died soon thereafter. The Station officials panicked, believing that Oliver had died of the plague when in fact he had died resultant of head injuries suffered when some wayward children threw rocks at him. It is claimed that Oliver's irate ghost appears to children who stray from their parents on the tour – or is this a cleverly concocted tale to scare kids from wandering around the grounds unsupervised? Perish the thought.

(Note. The Station also conducts 'kids' ghost tours').

Alas poor Arthur

Located above the isolation wards atop a hill is a quaint little cottage painted a striking shade of blue, conspicuous against the sandstone and natural hues of the other buildings. This was the home of the Station's resident grave digger and was built in 1870.

During the 1920s a drunken man stumbled onto the Station's grounds one night and was found asleep in the hospital the next morning. As an epidemic bout of cholera was raging through the Station, the man, Arthur, was obliged to remain on the premises and was soon granted the job of grave digger and paid with lodgings, food and a bottle of rum per grave that he dug. Nor was Arthur's cottage always blue. Drinking heavily each night, the grave digger would never recognise his cottage so it was painted blue for ease of recognition. One night, in his usual drunken state, the grave digger accidentally fell off the cliff to his death at Old Man's Hat - legend has it that Arthur had dug an extra grave by mistake that day too...

The final buildings we visited were the third class quarters, located on the outskirts of the grounds. These rooms were built in 1881 and were often referred to as the 'Asiatic' section, housing Asian immigrants and the poorest passengers. These rooms were sparsely decorated and nowadays act as a museum for abandoned tombstones from the Station's cemeteries. Meals were not prepared for the inhabitants of these halls and a small open air kitchen still exists as a testament to the class disparities of the age and the Station itself.

These quarters are reputed to have their own spectral inhabitant, a 'man of Asian appearance' with a silken gown and a long plait down his back. Park rangers state that he 'dislikes' being disturbed by the hordes of visitors to the site and shows his disapproval by appearing to the rangers as they leave the grounds at night. One ranger claims that she was storing the kerosene lamps in a shed near the 3rd class quarters when the figure appeared

before her. Wearing a menacing expression he stared angrily at her. Unnerved, she jumped into her nearby car and as she turned the key in the ignition she looked up and saw the apparition standing in front of the vehicle. Petrified, the ranger proceeded to drive right through the figure! As with most of the other tales spread by the tour guides, this tale is apocryphal and vague in detail. None of our entourage encountered a ghost or anything remotely paranormal but perhaps that famous 'negative energy' transmitted by Skeptics warded off any potential sightings!

The tour is concluded with a supper of damper and tea in the gentlemen's smoking room where visitors discuss the ghostly legends of the old Station rather than having experienced their own encounters. Accounts state that tourists and staff members have reported witnessing smoky white apparitions floating across the front of their cars at night when driving home along the long, dark road that leads out of the Station gates. I too saw this obvious fog on the trip home along with the numerous possums and wild rabbits that reside with the reputed ghosts of the historical Quarantine Station.

Post Script

A month prior to our ghost tour a fire gutted part of the 3rd class quarters in an arson attack, causing an estimated \$1 million damage. Three months after our tour, on February 7, 2002, the 120 year old hospital block was destroyed by fire, leaving just four large chimneys and a small alcove. An inquiry is currently being conducted into the fire although it is believed that an electrical fault was the cause of the blaze. The historical material within the building is irreplaceable. These events mark a devastating loss of two vital pieces of Australia's colonial history.

Apology

In the last issue we incorrectly spelt Karen Stollznow's name in her article. We apologise to Karen for this.



Playing the man:

diffusionism, racism and the dreaded Bradshaws

A look at how accusations of prejudice can irrationally colour debate



Mark Newbrook, linguistics consultant to the Skeptic, claims that as a Melbourne-based Rugby League fan, he is unfairly discriminated against.

It is alarmingly common for the proponents of 'isolationist' and 'diffusionist' accounts of ancient societies to accuse each other of being motivated and influenced by what we modernists would regard as irrelevant prejudices. Especially in the last decade or so, 'isolationists' have often levelled accusations of racism at diffusionists (many of whom are nowadays to be found on the fringe). The diffusionist belief that long and influential intercontinental voyages were frequent – and that in consequence some ancient societies can surprisingly be identified as offshoots or associates of others – is supposed to involve the overt or covert assumption that only certain ethnic groups, notably Europeans, are capable of real innovation. On this view, many groups could not have made the observed or inferred innovations without a push or jolt from outsiders with more highly developed skills and knowledge.

In turn, diffusionists have always accused isolationists (whose ideas are more salient in the modern scholarly mainstream) of dogmatic adherence to a comfortable view of

the ancient world which involves little complicating interaction between areas remote from each other on the globe but achieves this only by seriously understating the navigational and organizational capacities of (some) early civilisations. Such accusations were often made even when extreme diffusionism was temporarily part of the mainstream, as in the case of the early-C20 'Manchester School' in archaeology.

A familiar theme among diffusionists is that arrogant mainstream isolationists ignore vast amounts of evidence which demonstrates that the links which their own side posits are real. But, as many readers will be aware, even the linguistic evidence for such links, which is often the most specific and concrete, is typically much weaker than amateurs untrained in the discipline imagine. The number of cases where shared genetic origin or heavy borrowing between apparently unconnected languages – and hence the reality of early, influential cultural links – can really be demonstrated is a very small proportion indeed of the overall total of such cases. And

much the same applies to the bulk of the non-linguistic evidence.

Where political issues arise, the name-calling directed at those with unpopular views can become especially bitter. One recent case where this has occurred involves the 'Bradshaw' paintings of the Kimberley in Western Australia. These paintings are in a style not otherwise encountered in Australia; their dates have been heavily debated but may be very early; and some Aboriginal people report local myths suggesting that the paintings are not regarded as Aboriginal work (or even as human in origin). In the mid-90s, Walsh, following up some earlier work, argued that they represent the work of a pre-Aboriginal group who were in the area as long ago as 75,000 BP. He went on to speculate as to where such a group might have originated, likening the art itself to certain African forms but more seriously suggesting that a negrito group such as those found on some Indian Ocean islands might have been involved (arriving via Indonesia). Such a group would later have been assimilated into the Aboriginal population but would originally have been genetically distinct; and Walsh held that there was some evidence (skeletal, mythological, etc) pointing in this direction.

Any such suggestion that Aboriginal people were not alone in being the first inhabitants of Australia is obviously a political hot potato of major proportions!

Such views have also been adopted by various fringe thinkers, some of whom appear to have anti-Aboriginal axes to grind (as noted, prejudice works both ways!). It also has to be said that some of those who agree with Walsh do not help their own case by accusing other scholars of bias in a manner rather reminiscent of fringe attacks on the 'blinkered' mainstream. And even as presented by Walsh this idea has not found favour, partly for the legitimate rational reasons that (a) there is no archaeological evidence of such a pre-Aboriginal culture in the area and (b) even the very oldest

human remains found in Australia are all clearly Australoid.

Accusations of racism

In attacking Walsh, Rosenfeld made the former of these very points. But she also prominently identified Walsh's position as 'informed by racist perceptions of what Aboriginal people are capable of'. Even if Walsh is deemed clearly mistaken in his views, this particular comment seems to involve something of an extrapolation in respect of his meaning. To describe a style as markedly different and indeed as unexpectedly 'exquisite' is not to damn the producers of work in other styles as inherently inferior. In context, Rosenfeld's statement serves mainly to blacken Walsh and undermine his credibility. Now, if the latter is indeed low, this can be shown without resort to such accusations of racism. However, such loose reading of the words of opposing scholars is in fact almost routine in work of this kind, particularly where 'political correctness' is a factor.

So too is loose argumentation, presented as clearly sound. McNiven & Russell, who also criticise Walsh, provide a very useful summary of many earlier interpretations of Aboriginal and other non-Eurasian artefacts, many of which were indeed racist after the manner of their time (this includes the Manchester School's comments on Australian material). On the other hand, when they turn to Walsh's much more recent academic work, their most important criticism involves his use of a '19th century diffusionist framework', which they seem to identify – without evidence – as his main reason for coming to his views. *Framework* is a key word in this kind of writing; it is a marker of the incursion into traditionally empirical domains of a degree of postmodernism (not to say self-confounding relativism) considerably in excess of the useful message that one must always be alert to group prejudices when engaged in theoretical and descriptive work in such domains. The implication is that only a com-

mentator who had become thoroughly biased through adopting an ideological stance of this kind could take this view. (What of their **own** biases, then?!)

McNiven & Russell's worries about the actual evidence for Walsh's ideas (which are genuinely serious, if perhaps not altogether decisive) come later. Later still they quote Walsh as predicting that many would prefer his theory not to become widely known even if it were correct, because it would damage the 'Aboriginal industry' involving land claims, etc. They clearly object to this comment; but, if Walsh were shown to be right, this prediction would appear likely to be accurate. In New Zealand, where the 'indigenous' population is of no great antiquity, attempts have even been made to invent a more remote past so as to strengthen the cases of some Maori activists (see my earlier reports). And surely it **would** be reasonable to re-assess any public program to the extent that it did come to appear to be based on false historical claims.

McNiven & Russell go on to label Walsh's ideas 'colonialist'; and they claim that it is simply illegitimate even to suggest that relatively abrupt changes in the material culture might involve diffusion from neighbouring areas unless similar material, suitably dated, is available from those neighbouring areas – which, as noted, is currently not the case. They are right in implying that a diffusionist interpretation of the Bradshaws would be on very much firmer ground if this were otherwise. But they do not seem even to countenance such a possibility, preferring to impugn the motives – and thus the scholarship – of those who offer such suggestions, while not overtly questioning their own. Their argumentation appears at best no sounder than Walsh's.

Some diffusionists claim that not only the words but also the actions of their opponents are often excessive. For instance, it is alleged that Brazilian officials and thinkers are determined to conceal any evidence of

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European contact before 1500, such as some possibly Roman artefacts; and that the New Zealand authorities take a similar line on putatively pre-Maori remains. However, these conspiracy stories often prove to be exaggerated or to involve misinterpretation.

Cultural development

Of course, it is in fact quite clear that some aspects of each culture develop in isolation, while other aspects may diffuse from others. In other words, processes of both kinds are always possible; neither extreme position is likely to tell the whole story. The often dogmatic focus on polarised interpretations has diverted the attention of some writers from appreciation of the mixed patterns of origin which often prevail.

This is not to deny that even more moderate versions of diffusionism may be dangerously wrong if too readily adopted. Human beings are clever inventors, and similar good ideas can arise independently. Shared human experiences and psychological patterns are also quite capable of accounting for many superficial similarities between cultures.

Indeed, the onus is clearly upon those who proclaim (rather than suggest) diffusion as an explanation of similarities to justify their positions in stronger terms than they

usually offer. This is especially where a link appears otherwise unlikely on historical and/or geographical grounds, as in the alleged cases of ancient Egyptians and Phoenicians in New Zealand or of the Dark-Age Welsh in the higher reaches of the Mississippi. Ockham's Razor will normally favour a non-diffusionist explanation.

Now some (by no means all) diffusionists are indeed inclined towards racism, or at least towards nationalism and assumptions about the inherent cultural superiority of certain groups. (There is, of course, nothing controversial about the idea that as a matter of contingent fact some groups developed certain ideas and techniques earlier than other groups and were then in a position to influence these other groups if they came into contact with them; this is obviously true and sheds no discredit on the influenced groups, who may have had other preoccupations.) And some mainstream 'isolationists' are indeed unwilling to consider *prima facie* evidence (not implausible) for unrecognised links between early cultures. However, many thinkers surely adopt positions of either kind simply because these positions reflect how they interpret the evidence, in the process (hopefully) being as objective as they can. Of course, some of these thinkers are bound to be wrong if others are

right; some may even be stupidly wrong, or at any rate may be too ignorant to develop worthwhile positions on the matters involved (and should not have become involved until they had learned more). But being wrong or ignorant is not the same thing at all as being prejudiced.

I suggest that all thinkers should pay less attention to the possible prejudices which may have led others to views on such matters which differ radically from their own. (They might all do well, however, to assess their **own** thought from this perspective; such self-examination, as Aristotle famously noted, is a large part of being human!) For modernists who still believe in the possibility of a useful degree of objectivity and in rationality more generally, what really matters is the strength of the evidence and argumentation for and against each theory. Even if our opponent does believe something because she is a racist (etc), her belief may still be correct. And if she is wrong, the best way to show that will be to advance the relevant evidence and argumentation, not to describe her (even accurately) as a racist. Her racism and the equivalent prejudices of others are rather more relevant to the history of the debate (where they are indeed important) than to the resolution of current disagreements.



Odd Notes

Thanks to SA Skeptic and oenophile Brian Miller for this intelligence:

In France a flying saucer is a Cigare Volante or "Flying Cigar", and for this comment from a French wine site:

...The name (of the wine, Cigare Volante) incidentally, comes from a 1954 ordinance by the town of Chateauneuf-du-Pape prohibiting flying saucers of flying cigars from landing within its region.

It obviously worked 'because no cigar or saucer has ever landed there..

The Skeptics esteemed Treasurer, Richard "Pb82" Lead, has proved that the gene for accountancy is recessive by producing a son (isotope?), Stephen, who has eschewed the family trade by becoming a scientist. This wisdom is from Stephen's lab:

There are 10 different kinds of people: Those who understand binary notation, and those who don't.

Seen while browsing through the web.

Does anyone know anything about the modern Luddite philosophy and activism? Webpages or books?

um . . . Luddite Web pages ? Isn't that a lot like recipes for Kosher bacon dishes?

Psychology's Crackpot- Geniuses

A look into the minds of those who studied minds.

Sigmund Freud, John B. Watson, and B. F. Skinner each made major contributions to the field of psychology. Each also publicised a number of crackpot ideas that have never been accepted by scientists or the public.

Freud

Freud, for instance, contributed the idea of unconscious forces, such as those that lead to hysterical blindness in people who have seen something horrible. Soldiers who become "blind" after seeing a comrade killed in battle provide examples in support of the power of unconscious influences.

Freud also proposed several stunning ideas that have never been accepted by scientists because they lack evidence. These crackpot ideas include that as a normal part of development boys fear that their father will castrate them, girls feel bad about their body because they lack a

penis, and females develop less of a conscience than males because they lack a penis. Although Freud may have feared that his father would castrate him, most boys do not have a similar fear. Critics suggest that girls envy the social power of males, not male sexual organs, and that neither history nor scientific research shows that females have a conscience inferior to that of males.

Watson

Watson contributed the idea that observable behaviour should be the focus of psychology. He also showed that human behaviour can be conditioned (learned). Remember Little Albert? He was the unfortunate toddler who Watson conditioned to fear white, furry objects by pairing a white rabbit and a very loud, surprising bang of a hammer on a steel bar. The child liked the rabbit before the conditioning, but withdrew in distress when the rabbit or a similar



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Crackpot Geniuses

object appeared after the conditioning.

Watson also wrote advice books and articles for parents. These materials had some memorable crackpot ideas. For instance, Watson stated very strongly that parents should never hug or kiss their children or let them sit in a parent's lap. Because this simple rule seemed too hard for most parents to follow, Watson later recommended that children live with their parents no longer than a few weeks.

In his classic book on behaviourism, Watson wrote:

Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in and I'll guarantee to take any one at random and train him to become any type of specialist I might select – doctor, lawyer, artist, merchant-chief and, yes, even beggar-man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors.

Watson never lived up to his boast. His own children varied widely in their life paths. One, to Watson's consternation, became a psychoanalyst (a Freudian therapist). Another child committed suicide as an adult.

Skinner

Skinner contributed to psychology the concept of operant conditioning, which occurs when an individual does something more often or less often depending on past consequences for the behaviour. Skinner showed that animals can be conditioned with rewards to do a new behaviour, such as pressing a bar, at a high rate. Subsequent research showed that similar conditioning methods can be used to teach or control a wide range of important types of human behaviour as well.

Skinner also had some less successful notions. Like Watson, Skinner promoted ideas about better parenting practices. He created the concept of keeping a baby in a box. This baby box was closed on all sides, with sound-absorbing materials in the walls but had openings where warm, moist, filtered air entered. It had a picture window on one side so that the baby and parents could at times see each other, while not being able to touch each other or hear each other well. He used it with his second daughter, and coincidentally or not, the girl developed cognitively more slowly than her older sister. Skinner worked hard for years to sell the baby box commercially but never made any substantial money from it.

Skinner had one other famous idea that never took off: using pigeons to guide missiles to targets. He received grants from the US Army to do research on Project Pigeon during WWII, and Skinner worked diligently for years on the concept. However, the Army ended the funding before Skinner had a chance to field-test his system of missile guidance by pigeon pecking. Army officials doubted that the system would work and were reluctant to send pigeons on suicide missions!

How could such great thinkers in the development of psychology promote such seemingly nonsense ideas? Easily. Freud, Watson, and Skinner wanted to contribute, to be giants. To do so, one needs to think differently from others. To have a truly different idea is difficult; to have a truly different idea that is good happens only rarely, even to geniuses. The best protection the rest of us have against crackpot ideas coming from a genius is placing the burden of proof on the proponent of a new idea, whether the person is a genius or not.

Other Crackpot-Geniuses:

The phenomenon of the same person promoting both great ideas and duds occurs not just in psychology.

Isaac Newton: After advancing mathematics and physics tremendously with his development of calculus and his work on gravity and the laws of motion, Isaac Newton spent decades trying to change other metals to gold. Nothing came of his alchemy research, and his million words of writings on the subject never had any scientific value.

Linus Pauling: After winning a Nobel prize in chemistry in 1954 for his work on the nature of chemical bonds and winning a Nobel prize in peace for his efforts to ban nuclear testing, Pauling spent years trying to convince the world that huge doses of Vitamin C prevent colds and cancer. The evidence has never supported his claims.

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2002 National Convention, Melbourne

The Null Hypothesis

A clear explanation of an often misunderstood factor in statistical analysis.



Ludwig Krippahl is the president of the Portuguese Skeptics Association. He's a biochemistry PhD student and works in molecular modeling research.

Though often unappreciated, the null hypothesis has a crucial role in statistical analysis. I'll try to illustrate this with an example. Imagine we flip a coin ten times and get ten tails. This is suspicious, so we propose the following hypothesis:

H1- There is something wrong with this coin.

Now we need some way to evaluate our hypothesis. At first sight we would like a hypothesis that is likely to be true, and we could try to evaluate the probability of this hypothesis being true given the results we obtained.

But if we think about it it's evidently a bad idea. It makes no sense to consider the hypothesis as something that flips from true to false with a given probability depending on the observation, and furthermore we have no way to measure these probabilities.

Since we want the hypothesis to explain the observation, it's best to do it the other way around and ask, "If our hypothesis is true, how likely is this observation?" Now all we have to do is to calculate the probability of getting so many tails assuming that there is something wrong with this coin.

The problem is that we can't. We could do this if we knew exactly what was wrong with the coin and

how it affected the probability of heads or tails results, but we have no data on that so we can't calculate the effect.

However, if the coin were perfectly straight and balanced things would be easy. In this case the probability of heads would be the same as of tails, 1 in 2, and we could calculate everything. So let's consider two hypotheses instead of only one:

H1- There is something wrong with this coin.

H0- There is nothing wrong with this coin.

These two cover all the possibilities as far as the coin is concerned, and only one can be true. And though we can't measure directly how well our hypothesis (H1) explains the observations, we can measure how badly the other hypothesis (H0) does.

H0 is, of course, the null hypothesis.

If H0 is true the probability of heads is 1/2 per throw. For 10 throws we just have to multiply 1/2 by itself ten times, which is 1/1024, approximately 0.1%, and we can reject H0 with 99.9% confidence. As we saw above, this doesn't mean that H0 is 99.9% false, but that if H0 were true 99.9% of the results would be closer to the expected (half heads, half tails) than the results we got. Re-

Null Hypothesis

member that we don't measure the probability of the hypothesis, but the probability of the results if the hypothesis were true.

In this case this probability is quite low, so we are justified in suspecting that there is something wrong with the coin. In short, the null hypothesis is that nothing special is happening, allowing us to calculate the likelihood of getting our results by chance. If these are too unlikely we can reject the null hypothesis and conclude that something is going on.

Limitations

Although very useful, this method has some important limitations. For one thing, rejecting the null hypothesis does not mean necessarily that our initial hypothesis is correct. In our coin example, we implicitly assumed that any problem was with the coin and not with the way it was tossed, how long it fell, where it fell, or other possibilities.

If the effect is strong it's easy to control the conditions so that other factors can be ignored. Our coin example would work well even in practice and not just as a thought experiment. We can see that the effect is strong because we get very significant results even with a small sample of 10 throws.

ESP or Astrology studies, for example, suffer from this problem. Statistical significance in these cases comes only with very large data sets, indicating that the effect is very small. A single marked card in 52 increases the odds of guessing correctly by nearly 2%, and often the reported effects are much smaller than this. Such small effects are very hard to control, so the null hypothesis may easily be rejected because of a problem with the experiment.

Another thing to consider is that even unlikely results eventually crop up if we try long enough. If the null hypothesis is true and is tested in 100 independent experiments we can expect 5 to reject it with 95% confidence and one of them with 99% confidence on chance alone.

The File Cabinet Effect

This would not be a problem if we knew about all 100 experiments. Since this outcome is also predicted by the null hypothesis a global analysis would lead us to the right conclusion. However, the few experiments that rejected the null hypothesis are more likely to be published than the many that didn't. This is called the "file cabinet effect", as the uninteresting majority will end up stored somewhere and never be published. This bias in favour of positive

results makes it necessary to have independent confirmation before we can conclude the null hypothesis is wrong.

In conclusion, we should be suspicious of small effects that can only be detected in very large samples. Even if the null hypothesis can be confidently rejected, this may only reflect a small problem with the experiment.

We should also look for independent confirmation. After all, a published positive result doesn't tell us how many negative results are left in the file cabinet, and a confirmatory experiment is interesting and likely to be published whether it confirms or refutes the initial results.

Finally, we should be especially wary of meta-analyses, where surveys of published results are used to reject the null hypothesis. Without access to the multitude of file cabinets where all the negative results are hidden, the sample is too biased for a reliable conclusion.

Note: I made no distinction between two-tailed and one-tailed tests. This is important in practice because it affects the probability values, but it's not necessary to understand the process. 

Poesy

Diviner's Intervention

*The gang turned up, armed with wire and wood,
to locate the water wherever they could,
by reading vibrations that come from the ground,
which show where the water was sure to be found.*

*They came to win money at the dowsers' convention,
with prayers of hope for divine intervention,
to help them to sense the old aitch two oh,
then one by one, they all had a go.*

*Chance predicted, the success they would face,
as they searched for the water all over the place,
at the Muster in the hills up Mitta Mitta way,
and with the loot on the line they were ready to play.*

*Walking in a circle or in a criss cross line,
with the weight of belief in the autumn sunshine,
making sweat on their brows as they tried to tell,
which was just sand, and where was the well.*

*Then the sun went down on the Muster at Mitta,
and the sweet taste of victory had turned a bit bitter,
for the dowsers and diviners had failed to find water,
maybe their rods should've been longer, or shorter.*

*The contestants blamed static and streams and fences,
that disturbed the waves and twiddled their senses,
but the Skeptics went home with their booty intact,
because none could prove that dowsing's a fact.*

Jim Wilshire

Two wins for the good guys

Some good news on the regulatory front



Richard Lead, a treasure of a Treasurer, knows more about taxation than is good for anyone.

Woody Allen once famously defined a stockbroker as a person who invests your money for you until it is all gone.

In September 1997 Fijian investor Rahmat Ali established an account with listed Perth-based stockbroker Hartley Poyton. He invested some \$236,000, and advised Hartley Poyton he was investing to build a 'nest egg' for his retirement.

Hartley Poyton stockbroker Chris Martin told Ali he could make him compound returns of between 15% and 20% per week by investing in blue-chip shares.

By November 1998 Ali's account was not just empty – he owed Hartley Poyton \$67,000 in unpaid brokerage! It seems the initial \$236,000 investment had generated over \$30 million in share trades in little more than twelve months. The technical term for this is churning, and this churning generated Chris Martin \$134,061.32 in commissions.

Ali sounds like a feisty chap, and he sued Hartley Poyton for the recovery of his losses. I am staggered

this matter made it to court – stockbrokers are obliged to have systems in place to detect churning, and where those systems fail, the ethical thing to do is to refund the investor his losses. In April this year the Supreme Court of Victoria described Ali as an unsophisticated man who lived in a Fijian village, and ordered Hartley Poyton to pay him a total of \$1.3 million compensation, including punitive damages. Amazingly, the trial lasted ten months, with the judgement coming three years after the commencement of proceedings.

Not all get-rich-quick merchants operate on late-night television or lurk in expensive advertisements in the press. Sometimes the big end of town can relieve the unsceptical of their money just as quickly, and with the same business ethics.

Disharmony

One of my daily chores is to dial up the website of the Federal Court of Australia to see if any judgements on income tax matters have been handed down. This can be a

time-wasting pastime, as on most days there are some interesting cases decided by the Court, and being a stickybeak, it is easy to lose an hour or more delving into them. And some days I hit a jackpot.

On April 9, the Federal Court handed down its contempt-of-court decision on the *Australian Competition & Consumer Commission v Purple Harmony Plates Pty Limited*. This company is well known to the Australian Skeptics. About three years ago Bob Bruce of the Queensland Skeptics and I met with two representatives of this company at the Gold Coast. It was an afternoon to remember, and I doubt I will ever cross the paths of such bumbling scamsters again. But they were obviously doing well, operating out of commercial offices, and employing staff.

Bob subsequently met with the ACCC and complained about the ludicrous products marketed by this company, and it is a nice feeling knowing the Australian Skeptics once again has been the catalyst for bringing rip-off merchants to justice.

The various products marketed by this company were summarised by the Federal Court in its August 2001 decision to restrain the company from further marketing and sales. It is worth quoting from that judgment in detail to show just how gullible consumers can be:

The first respondent be restrained, whether by itself, its servants or agents or any of them or otherwise howsoever, from publishing, distributing, transmitting, displaying or broadcasting material which contains representations:

(a) in relation to the product known and described as the **large Purple Harmony plate** that:

(i) the plate has an energy field of approximately 2.5 metres around it that negates the effects of the electrified and frequency toxic environment and treats the sub-particles of electromagnetic and other frequencies, reducing the effect on human bodies, thereby lowering bodily stress and fatigue levels;

(ii) placing the plate beneath a computer monitor counters the effects of Electromagnetic Radiation ('EMR') and reduces fatigue;

(iii) the plate will negate the effects of re-radiated and electromagnetic frequencies;

(iv) the plate will clear and energise fruit and vegetables, restoring their natural vitality;

(v) the plate will calm people, making them more receptive to treatment by health practitioners;

(vi) the plate has a beneficial effect on health, accelerates healing and lessens or cures pain;

(vii) the plate creates a positive energy field around it that is very beneficial to all life, plant, animal or human;

(viii) the plate raises personal energy levels and protects against EMR in the environment and from EMR producing equipment, such as computers, televisions, mobile phones;

(b) in relation to the product known and described as the **small Purple Harmony plate** that:

(i) the plate has an energy field of approximately 50 centimetres around it that negates the effects of the electrified and frequency toxic environment and treats the sub-particles of electromagnetic and other frequencies, reducing the effect on human bodies, thereby lowering bodily stress and fatigue levels;

(ii) the plate will negate the effects of re-radiated and electromagnetic frequencies;

(iii) the plate has a beneficial effect on health, accelerates healing and lessens or cures pain;

(iv) the plate creates a positive energy field around it that is very beneficial to all life, plant, animal or human;

(v) the plate raises personal energy levels and protects against EMR in the environment and from EMR producing equipment, such as computers, televisions, mobile phones;

(c) in relation to the product known

and described as the **Purple Harmony disk** that:

(i) wearing the purple harmony disk over the thymus gland directly helps to strengthen the immune system;

(ii) the disk enables the human body to cope better with the electrified and toxic environment;

(iii) the disk will increase a person's general health;

(iv) the disk will cause aches, pains, niggly coughs and colds to be less severe;

(v) the disk can be used to treat cuts, burns, aches and pains, water, foods and all the things that Purple Harmony plates can be used for;

(vi) the disk reduces the effects of harmful electromagnetic and other frequencies on human bodies;

(vii) the disk will decrease stress levels on the human body and strengthen the immune system;

(viii) the disk will negate the effects of re-radiated and electromagnetic frequencies;

(d) in relation to the product known and described as the **Purple Harmony angel** that:

(i) the angel will strengthen the immune system;

(ii) the angel can be used to treat cuts, burns, aches and pains, water, goods and all the things that Purple Harmony plates can be used for;

(e) in relation to the product known and described as the **Purple Harmony mobile phone disk** that placing a mobile phone disk to the area nearest to the antenna will reduce all uncomfortable sensations from using a mobile phone, such as 'hot spots', jaw and/or teeth problems, headaches and/or earaches, tinnitus or nausea;

(f) in relation to the product known and described as the **Purple Harmony green thumb** that:

(i) holding one or two green thumbs for twenty minutes a day will energise your body system;

(ii) the green thumb will re-oxygenate water, giving it more life force energy to benefit all living organisms;

(iii) use of the green thumb will result in plants growing with vim and vigour;

(iv) by placing the green thumbs in a bucket or jug of water, the green thumbs will treat water, whereby the water will taste, smell and feel, and be so much better for the user;

(v) attaching three green thumbs to any power cord will treat the electromagnetic frequencies emanating from gadgets and result in reduced stress levels;

(g) that the product known and described as the **fuel ionizer system**:

(i) ionizes the fuel cars use;

(ii) creates more power from complete burning of fuel;

(iii) produces cleaner engines and injectors;

(iv) reduces emissions;

(v) gives better mileage and reduces fuel consumption;

(vi) enables quicker starting of engines;

(vii) will lead to less shifting of gears with heavy loads;

(viii) produces useable energy;

(h) that the products known and described as the **Hunza water ionizer system/Hunza living-energy water system - gold Hunza and blue Hunza products**:

(i) re-oxygenate water;

(ii) energise water;

(iii) improve water quality;

(iv) free water of odour and chlorine; and that the Blue Hunza will last indefinitely;

(i) that the product known and described as the **Hunza swimming pool ionizer**:

(i) has similar beneficial effects to the Hunza water ionizer, however, it is much more powerful;

(ii) reduces the use of chemicals re-

quired to maintain correct pool pH;

(iii) decreases the effect of those chemicals on hair, skin and eyes;

(j) that the product known and described as the **Purple Harmony fridge freshener**:

(i) lowers the refrigerator temperature;

(ii) makes food last between two to four times longer than usual;

(iii) removes odours;

(iv) reduces energy costs;

(v) reduces the running costs of a refrigerator;

(vi) saves energy;

(vii) is a long lasting product;

(viii) eliminates the effects of EMR from computers;

(ix) reduces stress and fatigue;

The Court fined the company \$20,000 and its two directors, Neil Lyster and Helen Glover, were also each fined \$10,000 for engaging in false and misleading conduct. They were ordered to write to all customers who had purchased any of the above products and offer them a full refund. They also had to amend their website.

The company did not comply with the Federal Court order, so were held in contempt, with the contempt order handed down in April. The company was fined a further \$20,000 and the directors a further \$10,000 each.

Lyster and Glover represented themselves before the Court, and presented some novel legal arguments as to why they should not be held in contempt. Again quoting from the judgment (and if you are reading this on public transport, try to stifle your giggles):

The respondents did not challenge the evidence led by the Commission as to their failure to comply with the order, nor did the personal respondents challenge the submission that it was within their power to comply with the order. Although the order

was not the subject of an appeal, the respondents relied upon a number of Acts of the English Parliament going back to the Magna Carta of 1297 and a number of biblical references in support of their submissions, which included the following:

** the order was unconstitutional, null and void and an act of treason;*

** the order contravened the laws, customs and constitution of the Commonwealth because it purported to deprive the respondents of their livelihood and their means of production without due process of law;*

** the laws of god and the natural law prohibited a court of law depriving a person of his or her livelihood or means of production;*

** by the order, the Federal Court committed an act of war against the Commonwealth. The respondents submitted that my judgment dispensed with Article 29 of the Magna Carta of 1297 and Article 12 of the Bill of Rights of 1688 and it was an act of treason for a judge to commit an act of war against a statute by dispensing with that statute;*

** the Court was not competent to hear and determine the charges made by the Commission as the Crown and Government of the Commonwealth had abdicated government and had been stripped of all legislative, executive and judicial powers by operation of law;*

** the respondents had seceded from the assumed or usurped jurisdiction of the defunct Government of the Commonwealth of Australia;*

** the Commission's notice of motion and statements of charge petitioned the Court to commit further contraventions of the laws, customs and constitution of the Commonwealth and further acts of war against the Commonwealth.*

Bumbling scamsters, with delusions of grandeur indeed. Well done, ACCC.



Words of Confusion

**Further explorations along
the wilder reaches of
linguistic crankery**



Mark Newbrook, a linguist at Monash University, is the linguistics consultant to the Skeptic.

Real Reverse Speech in Indonesia?

The RS saga grinds on! Jane Curtain and I continue to be asked for our advice and challenged to defend the papers in which we effectively debunked David Oates. But has fact been imitating fiction?

It is reported that a linguistic phenomenon called *bahasa walikan* exists in Malang, Indonesia, where people often pronounce certain Indonesian words in the reverse of their normal phonological order. For example, *sehat* ('healthy') becomes *tahes*, and *tidak* ('no', 'not') becomes *kadit*. Such a phenomenon would be very unusual in adult speech (as opposed to children's language games such as Pig Latin). A student at Monash hopes to investigate.

More amateur comparative linguistics: the Hungarian connection

In various books and email circulars, Zoltan Simon argues for a historical Atlantis in western Atlantic waters, and for a catastrophist and otherwise revisionist account of early human history; he makes or implies forthright statements about a wide range of matters. Many of these are highly controversial and doubtful; others are apparently founded in

inadequate knowledge of the subjects in question.

ZS identifies his own approach as 'scientific', in contrast with mainstream methods; but this comparison does not hold up. This is well illustrated in his treatment of linguistic matters, which involves alleged ancient links (genetic or involving contact) between languages considered by mainstream historical linguists and historians to have been isolated from each other. As usual, ZS relies upon unsystematic comparison of superficial similarities, which yields mainly pseudo-cognates rather than genuine cognates. ZS is especially liable to fall into this trap because of his obsession with vocabulary rather than with the more systematic aspects of linguistic structure (not only here; he has also tried to reform dialectology and reclassify the dialects of England). Language relationships involve grammar and phonology more centrally than vocabulary.

In addition, ZS uses the implausible and largely unsupported ideas of fringe or near-fringe linguists and epigraphists such as Fell, Gordon and the truly 'far-out' Cohane. He also makes many specific errors, for instance where he treats three manifestations of the same Greek word as

independent cognates. And he rejects reconstructed proto-languages such as Proto-Indo-European, assessing the evidence for such entities in thoroughly confused terms and grossly undervaluing it. This is partly because he wishes to propose alternative genetic and other links between languages, on the weak grounds mentioned above.

Furthermore, ZS does not deal seriously with the scholarly consensus that Plato's story of Atlantis is fictional. (More generally, he seems reluctant to identify older texts as fictional or even as honestly mistaken.) Of course, there have been many attempts to suggest locations for a real Atlantis, but most of these cannot be taken seriously and ZS' version appears similar. In his revisions of early history, ZS makes too much use of the implausible and largely unsupported ideas of fringe writers such as Donnelly, Fix, von Daniken etc. He believes that the cases for (a) catastrophist interpretations of early history, (b) the early discovery (and subsequent loss) of advanced technology, and (c) extra-terrestrial intervention in that period are much more persuasive than they are. ZS also treats myth in a dubious manner, equating characters from different myth cycles – and identifying them as real persons – without sufficient attention to the associated problems. Like many such writers, ZS believes in academic conspiracies which exclude non-mainstream ideas such as his own and 'excommunicate' their authors.

There also appears to be a nationalistic element in ZS' thinking. This is, of course, a familiar element of amateur attempts to overturn ideas about ancient history and language relationships. ZS is one of several independent fringers who exaggerate the influence of Hungarian and the Hungarians on linguistic differentiation and world history. He finds pseudo-cognates and grammatical parallels between Hungarian and English, reads the mysterious runic Yarmouth Stone (Nova Scotia) as Hungarian (while others read it in various other ways, in one case also

in Hungarian but in the opposite direction and with an utterly different meaning!), and appears offended by suggestions that Hungarian borrowed from another language rather than *vice versa*.

Roman ships crossing the Atlantic? Berber inscriptions in Utah?

I have a fruitful if irregular emailing relationship with David Eccott, the British representative of the more sober, less fringe group of American diffusionists (Egyptians, 'Celts' etc in the Americas before the Vikings). One of this group, Romeo Hristov, has written several papers on the possibility of Roman ships having made occasional Atlantic crossings. His main evidence is out-of-place artefacts, but there are also several wreck-sites which some identify as probably Roman and which perhaps call for examination.

Such crossings would have been technologically feasible (if risky), and if the crossings were accidental and mostly one-way the lack of any literary reference to such events would be less of a surprise than one would otherwise think. There are still just enough genuinely provocative artefacts to keep the diffusionist argument alive as far as Atlantic crossings are concerned – although a few Roman shipwrecks with no cultural consequences for the locals would hardly satisfy a Fell or a Farley! And there are other bodies of data that may just possibly indicate some contact with the Americas, from east or west, at historic dates which would surprise the academic mainstream. But it is often possible to develop alternative accounts of how the few genuinely anomalous artefacts came to be where they were found; and Ockham's Razor will usually favour non-diffusionist scenarios.

More dubious is Eccott's advocacy of an Egyptian reading for a set of petroglyphs at a 'Fremont Culture' site at Rochester Creek, Utah, dated around 500-700 CE; and more dubious still is an attempt to read an 'inscription' at another Utah site (Dry Canyon) as a bilingual text in

Berber (in Numidian/Libyan script) and Egyptian. Eccott's colleague Leonard found a Numidian scholar who stated that the characters in the former set 'looked Numidian' but that he was unable to determine the correct reading order (hardly the strongest endorsement!). Leonard and Eccott were undeterred and eventually decided that the ductus was from lower left to upper right (roughly!), and that the individual characters had been 'randomly rotated' (shades of Viewzone!). On this basis they propose (still with some guesswork and allowance for missing items) a reading which might make some sense. But of course this reading is very speculative, especially when the script in question is not otherwise found written in such a chaotic manner. Indeed, once one allows oneself to read each member of this very short series of (mostly simple) marks from any angle (not the same angle for each), and to read the whole series in whatever order will fit best, the 'text' can be seen as representing a huge range of possible sequences; it is no surprise that one such sequence can be made to read as Berber. The 'parallel Egyptian text' is also very short and the Leonard-Eccott reading is again merely speculative.

Of course, many such 'texts' are not really texts, or inscriptions, or even artefacts. This material is better than that; but those who think we should accept it as good evidence of early intercontinental voyages are going well beyond the evidence.

Recent linguistics books: more extremism in the academy!

The creationist linguist Mark Baker recently published a book called *Atoms Of Language*, an attempt to explain the huge diversity of grammars around the world in terms of a small number of 'parameters'. This analysis could be used to support a non-evolutionary analysis of the origins and diversification of human language in 'intelligent design' terms, and of course Baker advocates such an analysis (although he

is careful to leave this factor in the background here).

But the book has been heavily criticised in reviews. While Larry Trask and John McWhorter – both academic linguists, although the latter was writing in a Christian magazine (!) – agree with Baker (against some postmodernist socio-linguists) that only a small amount of grammatical diversity involves social and cultural factors, they also point out that these matters are more complex than Baker suggests and that the evidence for Baker's parameters is highly dubious. Trask in particular points out that Baker ignores the possibility of other non-social explanations for the systematic features found in the observed data, extrapolates beyond the evidence, and makes too many errors about the facts of languages in which he himself is not expert.

Interestingly, McWhorter includes in his review some rather strange and over-the-top criticisms of his own discipline. Indeed, when I began reading it I thought the reviewer must be a non-linguist with a smattering of amateur familiarity with the subject; then I realised that he knew more than this, and finally I came to his name at the end! His unusual stance may relate to the fact that he himself has recently published a somewhat radical book entitled *The Power Of Babel*. This is one of the crop of books released in the last decade or so which seek to undermine the caution that has become normal in deep-time historical reconstruction – and in the process to go beyond the already controversial claims about super-families such as Nostratic, on into **really** deep time. Some of these books are by linguists who – like the rather similar earlier scholars Swadesh and Landsberg – have become rather marginal to the mainstream or have 'gone feral'; the best-known modern example is Ruhlen.

McWhorter himself is an unusual academic linguist. He has his own rather odd ideas about the relative complexity of different languages (he holds that they vary in this respect

more than most of us would allow) and about the links between these differences and the extent to which the relevant populations are isolated from others. (On the other hand, he does accept the current view that pidgins – which really are much less complex than other languages – are quite likely to display some features of very early human languages.) In addition, he not only complains about mainstream linguistics but also criticises (even if not very forcefully) ideas such as those of the Nostraticists – along mainstream lines! And all the time he himself is making specific claims that many mainstreamers would regard as even less well supported by the evidence than the Nostratic theory. By way of example, he believes that the ancestor of all known human languages was obviously (?) spoken in East Africa, because modern humans emerged there. Of course, this does not actually follow; there are various other possible scenarios.

McWhorter does not claim that we can reconstruct Proto-World in detail, and his ideas are thus not as extreme as those of Landsberg, who tried to start a new trend in historical linguistics in the 1970s. This involved the view that by relaxing one's methodological requirements one can work all the way back through large, ancient language super-families to the very origins of human language, and can actually reconstruct parts of Proto-World, spoken perhaps 150,000 years ago. (This assumes, of course, that there **was** just one 'Proto-World', which is not certain.)

Landsberg's ideas seeded some fringe and semi-fringe work, eg, that of Stopa on alleged links between Indo-European and the Khoisan languages of Namibia ('Bushman', as in the well-known movie *The Gods Must Be Crazy*), and also material by Brunner and other members of Fell's American diffusionist 'epigraphic' school. In more recent times, Ruhlen has had a similar range of fringe and semi-fringe followers; several collections of their papers have been published as scholarly-looking books.

But neither set of claims has caught on in the mainstream – because the evidence for them has remained seriously inadequate. Indeed, Landsberg is unknown to most contemporary historical linguists. Down the track, Ruhlen and even McWhorter may suffer the same fate (unless McWhorter can invoke stronger evidence for his own more general claims).

New ideas are, of course, crucial in linguistics – as in all sciences. But one might be concerned that some academic linguists are so radical that they publish books containing claims so sweeping and so inadequately supported that an alert reviewer can easily debunk them – or at least show that there is no good reason to accept them without much better evidence. Indeed, one of the two linguists reviewed here has cast serious doubt on the ideas of the other, while himself appearing just as liable to debunking. I suppose that one advantage of this kind of thing is that it demolishes any suggestion from the amateur fringe that we pro linguists are so hidebound that we do not countenance novel ideas!

Help with English for schoolchildren: a concerned amateur's fearfully muddled advice

In 2001 Lyn Magree, a parent concerned about the struggles of children with what are perhaps their two most important school subjects, self-published a small book called *The Pocket Basics for English and Maths*, designed to give intelligible and accurate advice at the relevant level. The book came to my attention when it was featured on Channel Nine's *A Current Affair* on 4/4/02. In some respects it does indeed give useful and clear advice; but it also contains many errors and misleading or confusing statements about English, which can hardly help students and could harm them. Indeed, a student who had learned everything in the book would have learned a fair number of false 'facts' and analyses.

Magree knows far too little about

the structure of English to write such a book unaided. She is also naïve about both language acquisition and sociolinguistics. For instance: she accepts folk-linguistic myths about the relationship between speech and written language; she believes that explicit knowledge of grammar (and even the learning of lists of unexemplified terms for parts of speech) is needed by young native speakers, and is of much more use to them than it really is; and she makes heavily negative prescriptive comments about features of children's non-standard varieties which she wishes (not necessarily unreasonably) to discourage in the school context.

Furthermore, although she stresses the need for 'correct' (standard) punctuation, much of her own punctuation is non-standard. There is also some non-standard grammar and indeed some odd vocabulary selection. Obviously, Magree should have consulted linguists with expertise in English before publishing. (**Why** do people think that anyone can be an expert on linguistics without having any training – sometimes without even knowing the subject exists?! Just try it in physics!)

I approached Channel Nine, but as usual they were of little help, making only a vague offer to see if a 10-second disclaimer might be made on air (and if this ever occurred they did not tip me off as promised). I also wrote to the author/publisher with a five-page list of her errors and brief explanations, offering to work with her on a revised version.

Eventually I heard from one Shona Martyn of Harper-Collins Publishers; they had taken over the book and received my letter. Shona reported that they had quickly identified a number of errors in both the English and the Maths sections and after several months' work were about to print a revised edition taking in corrections from linguistics experts and also from a Maths lecturer at Macquarie Uni. They had double-checked my own list of concerns against the substantial correc-

tions already in place to ensure nothing was missed.

I at once replied offering further help if required and asking to see the new edition in due course or at least to receive publication details. They said they would indeed consult me if necessary and kindly undertook to send me a copy of the completed work. Some of the problems with the book are very basic indeed and I wonder if even the new edition will be satisfactory; but watch this space! (Do **not** try to use the existing version of the book!)

No, not Basque: Hebrew!

Isaac Mozeson has a site rather like Nyland's (see last instalment), claiming that virtually all the words of all languages derive from 'Edenic', which is basically early Hebrew + some (Proto-)Semitic roots not attested in Hebrew itself. This is the not the first such proposal that I have mentioned in these pages; but it is a rather dramatic one.

Mozeson is a Jewish creationist and believes in the literal reality of a sudden neurolinguistic event at the Tower of Babel – perhaps rather like what the fringe psychologist Jaynes proposed, but this time orchestrated by God! I examined his proposals and samples of his treatment of individual words, focusing not on the religious and biological issues that arise here but rather on the linguistic evidence and associated argumentation.

Here, the main problem with is the outdated comparative methods adopted, which are now used only by fringe amateurs. Mozeson states that the probability of pairs of superficially similar words in apparently unrelated languages having very similar or the same senses by chance is tiny, but as we know he is quite wrong here. His own 'correspondences' are unsystematic and arbitrary. In addition: (a) in many of the cases cited, other etymologies are already known or proposed with good evidence; (b) the proposal contradicts a large amount of well-grounded information about the genetic relationships of languages;

(c) the analysis ignores the fact that genetic relatedness (as opposed to influential contact) always involves specific elements of grammar and that either genetic relatedness or contact involves phonology, as well as shared vocabulary. Mozeson's sweeping claims about the derivation of all other languages from Hebrew or 'Edenic' are simply invalid.

When I sent Mozeson a list of queries etc, I received an abusive reply including the sentence "The only hominids I can concede were evolved by accident from the apes were evolutionists and linguists"! I forgave him for his insults and later he was more polite, but he still lapsed into abuse at times and remained altogether unwilling to accept that his methods might be flawed. He also kept threatening to stop interacting with me unless I behaved differently, and eventually acted on this threat.

Presumably he wanted me to ignore his failure to respond to my objections and accept that his 'theory' was at least arguable as it stands (it is not); but at times he talked like a postmodernist relativist, which would not sit well with his fervent advocacy of his own 'theory' as superior to conventional ideas (but many fringers combine such claims, with no regard for the gross inconsistency involved!). I did my best throughout to e-talk rationally with him despite his intermittent abuse, his obsession with races and racism and his odd ideas about what is a reasonable argument; but for all his knowledge of facts he just does not think like a genuine scholar. I would still like to know more about his ideas on some points, and I suppose I may get his book in due course (2nd-hand!); but that may not be enough, as – so far from answering my questions – he will not even give me any references. I reviewed the material on *Amazon* and posted a version to *Psychoceramics*.

I also discovered that only one of the various scholars who Mozeson cites in his support has any background at all in the subject. Also, several of his supporters talk as if mainstream linguists equate

Proto-Indo-European with Proto-World. This is a convenient error, since it makes us sound like Eurocentric (anti-Jewish?) racists.

Another fairly similar project is that of 'Britam', an American/British-Israelite group; but in place of Mozeson's global view this mob (naturally enough) focuses on alleged linguistic parallels between Hebrew and Celtic languages specifically. The parallels presented again lack conviction, for the usual reasons (methods badly outdated, etc). In this case the choice of method appears to be associated with heavy reliance on old sources, in particular a 1675 book that long pre-dates the development of scientific historical linguistics.

In recent times, Vennemann and (at a much more 'popular' level) Ali & Ali have actually argued quite seriously for Semitic substrata in Celtic (and in English, by way of further transfer). Vennemann is a professional linguist, and he in particular has adduced stronger and more appropriate evidence for his theories. Such theories are by no means historically implausible. Even so, most other historical linguists are by no means convinced by the linguistic evidence presented by Vennemann, which appears marginal at best. He himself argues that the fact that his reportedly very sceptical wife is convinced is significant! (Of course, Semitic influence, even if genuine, might involve languages other than Hebrew.)

The Britam writers also make various factual errors. But they ignored my approach to them. I am not sure which is preferable: being insulted or being ignored.

A somewhat more serious proposal is that of Terry Blodgett, a Utah-based lecturer on German and Hebrew who earned an American PhD for a thesis arguing that Hebrew exerted major influence on Germanic in antiquity through the dispersion of the 'lost' (scattered) tribes of Israel into central Europe. He knows some historical linguistics (although I would not have passed his thesis as it stands: there are several undergrad level errors which are quite damaging). But even his case for this relatively modest revision of history – though much better than that of Mozeson *et al.* for theirs – is simply not strong enough, in linguistic terms at any rate.

NLP

An item in *The Bulletin* (14/5/02) dealt with several alternative medicine practitioners, including Glenda Anderson, who uses Neuro-Linguistic Programming. The mag was not endorsing the claims of these practitioners, but no skeptical voice was heard. At least three skeptical letters were submitted in response, but the only one printed (28/5) was very short and did not refer to Anderson. My own letter did not appear. As a linguist, I pointed out that NLP does **not** involve linguistics as normally practised (there is very little overlap) or neurology, and that NLP claims are not endorsed by those with suitable backgrounds in psychology.

It is difficult to measure the 'success' of programs such as NLP (reports of client satisfaction are too subjective and involve too many factors); but, even if some people ap-

pear to derive some benefit from this approach, there is no good reason to accept the theory.

As a skeptical scholar more generally, I observed that no-one has ever demonstrated the ability to see auras (as Anderson claims to do) or indeed the existence of auras, and that only those with minds that are **too** open are likely to accept some of the other techniques discussed in the article, such as iridology and reflexology.

Drastic measures!

My friend Gary in Washington, DC, forwarded this item from the *Los Angeles Times* of 31/3/02 via the *News of the Weird* mailing list:

South Korea's baby-boomer parents in increasing numbers recently are sending their preschool youngsters for outpatient mouth surgery to snip the tissue under the tongue because they believe more tongue freedom will permit the children to pronounce the difficult [l] and [r] sounds that have long stigmatized many Asians when speaking English.

"Learning English is almost the national religion" in South Korea, according to one educator quoted in a March Los Angeles Times report, but many authorities in South Korea say Asians' pronunciation trouble is purely cultural and that only a very few people are born with tight-enough tongues to be helped by these frenectomies'.

Er, yes!



Annual National Convention Melbourne November 9-10

Ready for Battle

Taking the Skeptical message abroad



Richard Saunders, a member of the NSW Committee, is the perpetrator of the Great Skeptic CD, among other accomplishments.

This is an abridged transcript of a talk given by Richard Saunders at the Third International Rationalist Conference held at Gandhi Peace Foundation in New Delhi, India from 8 to 12 February 2002.

In this talk, I'll outline some of the experiences I've had when dealing with people in informal situations who discover that I belong to a group of Skeptics. First of all, what is a skeptic? Or maybe more importantly, what do people think a skeptic is? Over the last few weeks, I've put this question to various people. Their answers include:

- They're those men who don't believe anything.
- Old men who don't think anything is possible... (you're not one of them are you? You're too young!)
- You mean there is a group of people who don't believe?
- People who debunk UFOs.
- A skeptic says it can't be done. I think they close their minds to all possibilities
- I'm skeptical about Skeptics!
We hear the last line all the time!

As you can see, there is a certain level of ignorance when it comes to the meaning of the word 'skeptic'. I sometimes think we should be called the Australian Rationalists! The word 'skeptic' in Australia has unfortunately come to mean 'cynic'.

The best definition of the word skeptic I've heard came from a famous debate held in the Blue Mountains west of Sydney. My colleague Richard Lead told the audience that "A skeptic is one who bases his or her beliefs and opinions on the evidence. I cannot imagine living any other way". I have since adopted that as my stock reply.

Sowing the seeds of Doubt

Now, to a few my own experiences.

A friend of mine who I had not seen for a few years had a baby. When we meet, the talk turned to how she was taking care of her new daughter and herself. "I was taking homoeopathic medicine every day before the baby came," she said. At once my sister and my wife, who were in the room, glared at me as if to say, "Oh no ... don't you say a word Richard". The new mother seemed puzzled and asked why the funny looks. "Do you know what it is, how

Ready for Battle

it's made?" I asked. "Yes," she said "It's all natural".

I gave her a brief explanation of Homoeopathy and how none of the original substance is actually in the so-called medicine. This information was hitherto unknown to her. Although I left a seed of doubt in her mind, the last thing I wanted to do was to get into an argument; after all she was my friend with a new baby. I shut my mouth.

At another time, during a dinner party, a woman tried to convince me that the alternative therapies she was undergoing were just as valid as 'western medicine'. "Western medicine only treats the symptoms, not the illness," she told me. I think there is a strongly romantic notion attached to anything to do with healing from an exotic place or culture. I explained to her that there is medicine, it does not matter where it comes from; it could come New York, New England, New South Wales or New Delhi. Upon hearing this explanation, she actually thought I was right and that what I'd said made sense. Now this took me by surprise! I went on to say that people in Australia were in better health and living longer than at anytime in our history thanks to scientific medicine. A moment passed as the message slowly sank in. I left the discussion at that point, not wishing to push my luck. A seed of doubt was sown and to continue could have had the effect of turning me into a bore.

On the air

Other situations arose when I was being interviewed on netFM, an Internet radio station based in Sydney. (By the way, be sure to tune into *The Skeptic Tank* at www.netFM.net, Thursdays, 6pm Sydney time.) The topic of the show was iridology, and we talked at length about how silly this pseudoscience is. As you know,

iridology is the ridiculous belief that the pattern of the iris reflects the well-being of various organs in the body. The interviewer asked me, "The iris is just a muscle, isn't it?" I was stuck. I had no idea as I, in my research, did not find out just what the iris is. It was better to say 'I don't know' then to carry on with incorrect information. To me, saying

cles that dilate (widen) and constrict (narrow) the pupil size. The sphincter muscle lies around the very edge of the pupil. In bright light, the sphincter contracts, causing the pupil to constrict. The dilator muscle runs through the iris, like spokes on a wheel. This muscle dilates the eye in dim lighting.



The author outside the Convention venue.

"I don't know" ranks up there in importance with another three letter sentence. "I love you". I have found that people from 'the other side' tend to make up things on the spot rather than admit to ignorance. I have since done my homework. Turning to the Internet I found www.stlukeseye.com. Why anyone would be interested in St Luke's eyes is beyond me. (At the conference the joke flopped, not even a chuckle).

The coloured part of the eye is called the iris. It controls light levels inside the eye similar to the aperture on a camera. The round opening in the centre of the iris is called the pupil. The iris is embedded with tiny mus-

The iris is flat and divides the front of the eye from the back of the eye. Its colour comes from microscopic pigment cells called melanin. The colour, texture, and patterns of each person's iris are as unique as a fingerprint. The iris begins to develop at week 11 and is functioning by week 31.

I wonder how many iridologists know that? The point is, I should have known this myself. However, I was able to use this knowledge a few weeks later as I discussed iridology with a 'believer'. After hearing this explanation, the believer was somewhat stranded for a reply. She had never bothered to find out what the iris is or does. I also mentioned the fact that Australian Skeptics offers \$100,000 for proof of the claims of iridology. "Why hasn't someone claimed the money?" she asked. "Why indeed?" was my answer. Again, I left a seed of doubt.

Back in the radio studio, we had just finished our talk and were leaving. The following show was about Neuro-Linguistic Programming (NLP for short). Now I knew from my reading of *the Skeptic* that NLP is a pseudo-science, but that was all I knew. I was not then and indeed even now, in the good position to comment on the subject, let alone enter into an argument. So as the NLP programmers made their way into the studio, a polite smile and a gracefully exit were the order of the day, even though I longed to attack.

Personal notes

Another reaction I get when people hear that I am a Skeptic, is that they rush over to me and say something like: "How do you explain the fact that my father took so and so herbs and lived to 80, even though the doctors said he would not live past 70?" or other similar stories ranging from success at water diving to encounters with UFOs. Many seem to relish the chance to convert me to

course this usually gives the impression that you, the doctors and modern science have lost. There are many times when you will get nowhere.

My arguments on the Internet with dowsers show that even though you might hold all the aces, you have no chance of winning. (At this point I produced a bent wire coat-hanger, told the audience I was looking for someone with 'Delhi-Belly', walked along the stage where other speak-

the test, your words fall on deaf ears. Many people will not accept your point of view, but also *cannot* accept your point of view. They will perform mental gymnastics in order to preserve their belief system. Anything you do, any point you make will simply not make sense to them.

After over a year of these arguments, I left the Internet group as I was receiving threats. In conclusion, I think that the most important thing you can do, especially in an



Richard and Richard with their Delhi taxi driver

their way of thinking. Now what can you say here? You don't know the medical history of the father, you have no idea what the doctors said or why they said it or IF in fact they said it at all! I have found it best to say is, "I can't explain it. I don't have all the facts. You may well be right, but without knowing all aspects of the situation, I can not say one way or the other." It's almost the answer of a politician, but it's honest. Of

ers were seated and sure enough, the coat-hanger moved as if by magic over the one speaker who was unwell. At last I heard a chuckle! Now I know that's an amusing demonstration, but that would be enough to convince some that dowsing really works. No matter how logical you are or what evidence you have or the fact that you can cite many examples of the failure of dowsing when put to

informal situation, is not to 'push it'. You are not there to make enemies, you are not there to convert anyone over night because you won't. It just can't happen. All you can do is hopefully give people a different point of view and let them do the rest. As for the dowsers and their ilk, you're probably not going to win anyway. But you might change the minds of others.



Dowsing for Dowsers II

Results of the 2002 Mighty Mitta Muster Water Divining Test

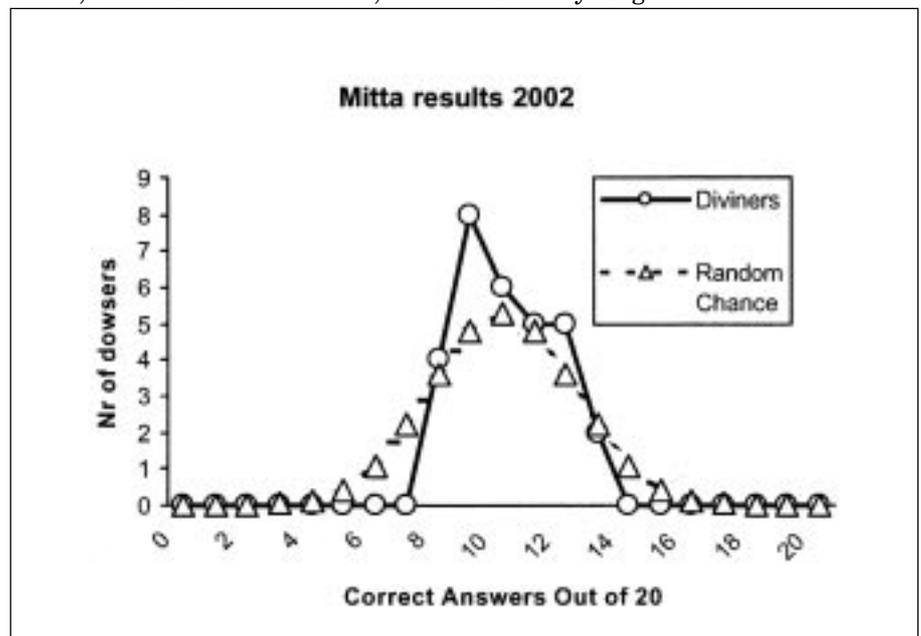
For the second successive year, the Australian Skeptics turned out in force at the Mighty Mitta Muster one-day country show in the north-eastern Victorian town of Mitta Mitta, to conduct a test of water divining ability. The outcome of the test was an impressively good fit to the theoretical shape of the bell curve for a test of this type, in which 30 contestants were required to dowse 20 target bottles for either water or sand. Overall, the results tended slightly towards failure, as on these numbers, with results due to chance alone, we would have expected one score with 14 correct answers, and two with 13. In fact, no-

body scored 14 correct, but two achieved 13, both of whom were professional water diviners. However these apparently below-average results were not quite as negative as they appear, because there was an unexpectedly high number of results with 9 correct answers instead of 8 or fewer. The average number of correct answers for all entrants was 10.2. Based on these numbers, we can confidently say that in tests conducted so far, we have found no evidence for the alleged ability to divine for water.

The Muster was held on Sunday, March 10, coinciding with the Labour Day long weekend in Victoria.



Rosemary Sceats is Treasurer of Vic Skeptics and has frequently been seen in the company of accountants



Skeptics who conducted the test were Bruce Burton, Kelvin and Ann Ford, Russell Kelly, Tony Norton and Laurie Smith of the Borderline Skeptics; Rob Brown, Peter Hogan, Emil Holaj, Jenny Hunter and Rosemary Sceats of the Victorian Skeptics; and Richard Saunders from the NSW Branch, who videotaped the event.

The Test Set-up

Considerable thought and effort were expended on formulating the improved test protocol, incorporating several refinements on last year's set-up, which had elicited a few complaints from some contestants, particularly regarding interference from underground streams. (Last year's test was conducted on the Mitta

Mitta putting green, which is probably the best watered area of grass in the whole district. However, none of the candidates seemed to notice that they were working on the soggiest patch of land for 50 kilometers in any direction.) Some people offered helpful comments and suggestions, and these were taken into account. Most entrants were friendly and cooperative, and all agreed that the test was fair, except for one professional water diviner and the most troublesome complainant from last year, who began to complain when he realised that he had not fully understood the test protocol that he had agreed to and signed off on when completing his registration form.

This year the test was set up on the concrete paved, fenced tennis court, with a border of grass surrounding the concrete. The test used a total of 25 sample bottles, each a 2-litre plastic milk or juice bottle, filled with either water or dry sand. The sand was purchased from a plant nursery and thoroughly dried before use.

An innovation for this test was that, although there was a total of 25

N/20	Score	Exp.score	Obs-Exp	(O-E)**2/E
0	0	0.00	0.00	0.00
1	0	0.00	0.00	0.00
2	0	0.01	-0.01	0.01
3	0	0.03	-0.03	0.03
4	0	0.14	-0.14	0.14
5	0	0.44	-0.44	0.44
6	0	1.11	-1.11	1.11
7	0	2.22	-2.22	2.22
8	4	3.60	0.40	0.04
9	8	4.81	3.19	2.12
10	6	5.29	0.71	0.10
11	5	4.81	0.19	0.01
12	5	3.60	1.40	0.54
13	2	2.22	-0.22	0.02
14	0	1.11	-1.11	1.11
15	0	0.44	-0.44	0.44
16	0	0.14	-0.14	0.14
17	0	0.03	-0.03	0.03
18	0	0.01	-0.01	0.01
19	0	0.00	0.00	0.00
20	0	0.00	0.00	0.00
TOTAL	30	30		
Chi sq				8.51
One tail prob				0.98

sample bottles, entrants would be scored on only 20 targets selected by them. They were instructed to eliminate the 5 targets that they felt least comfortable with from their score sheets, eg if they detected an underground stream under any sample, or could not "get a reading" on one, they should cross that one out if they preferred not to include it in their 20 chosen targets.

Preparation of the Targets

A set of 25 sturdy cardboard squares was prepared and numbered clearly from 1 to 25, using a thick black marker pen. These served several purposes. Firstly, the numbers from 5 to 15 were placed in a hat then shaken up, and one was drawn out at random to determine the number of bottles to be filled with dry sand. (This number was 10.)

The second use for the numbered pieces of cardboard was to serially label each filled bottle for placement at the test site. The filled bottles were lined up, first sand, then water. The target number for each bottle was determined by placing the whole 25 cardboard squares in the hat and

shaking them up, then randomly removing them one at a time until they were all used up. The lined up bottles were labelled in turn with the number blindly pulled from the hat. The bottles were then arranged in ascending numerical order at the test site.

The third use for the numbered cardboard squares was to determine which targets to eliminate if any contestant failed to discard 5 targets from their score sheets. In such a situation, we would use the hat and numbers to randomly select the samples to be eliminated to bring their scorable targets down to 20. Also, if any contestant was seen touching a bottle in any way, they were required to count that target as one of their 5 discards.

After the bottles were filled, the water targets were thoroughly dried with a terry towelling cloth, and each bottle was carefully wrapped first in two layers of newspaper, and then in a plastic supermarket bag with the serial number clearly marked with black marker on two sides. In addition, a strip of masking tape clearly marked with the serial number was applied to the top of each plastic bag, so that when the bottles were stood upright on the tennis court and arranged in sequence, the target number would be clearly visible. The labelled strips of masking tape were later applied to the bottle lids when the targets were unwrapped in situ at the conclusion of the test. All contestants were able to observe this process clearly from outside the tennis court fence, and individually verify the correct "answers" if they chose to do so, which many subsequently did.

The 25 sample bottles were placed in a continuous "snake" arrangement, spaced evenly on the concrete floor of the tennis court and well away from the grass border, which may have been damp. A pair of clearly labelled targets, one of water

Dowsing for Dowzers

and the other of sand, was placed just inside the tennis court gate, for use in calibrating contestants' dowsing implements prior to commencing the course. Up to three contestants were allowed to complete the course at a time, as evenly separated as was feasible in the circumstances, and each was watched carefully by a member of the Skeptics test team to ensure that no sample bottles were touched or interfered with in any way.

It had been widely publicised well before the event that this test would be a preliminary one for the \$110,000 Skeptics' Challenge Prize to be awarded for a positive demonstration of psychic or paranormal ability. If any competitor scored 17 or more correct answers out of 20, the Skeptics would work with her/him to agree on a time, place and test protocol for them to be tested for the \$110,000 Prize.

A handout for contestants and spectators was prepared by Peter Hogan, explaining in layman's terms the mathematics of chance and expected scores in a test situation such as this, using the example of tossing a coin 20 times. The handout also included two sample histograms showing the expected results for 30 people with 50% (no dowsing ability) and 75% (some dowsing ability) success rates respectively. I would like to take this opportunity to nominate Peter for an honorary award of the Skeptics' Prize for his ability to foretell the future, because the number of contestants who participated was exactly 30.

The Event

The proceedings kicked off with Laurie Smith of the Borderline Skeptics giving the assembled contestants (many of them chafing at the bit) an initial briefing on test protocol.

"George", the major complainant after last year's event, (he of the 13 bottles of water, when 13 were sand, but he insisted he had a perfect score and threatened to sue us for the money) then did a circuit of the grass perimeter of the tennis court to divine for the presence of underground water, and declared that there was



Test sample and dowsing rods on the court

none. At this announcement, we all heaved a huge sigh of relief. George ensured that he would get first crack at the spoils by arriving early and being the first to complete the registration form. As it transpired, George came equal first in the contest, along with another professional water diviner, with each of them achieving the highest (loosely translated as "least worst") score of 13 correct answers. He was much more satisfied with this year's result, and went away looking like a happy man. However 13 was once again an unlucky number for George, since his result fell well within the range expected from chance alone.

Another memorable entrant from last year returned to try his luck again. If my memory served me correctly, he was the one who complained last year that one bottle contained brackish water and another had an orange juice stain, and that he was therefore put off fixing these particular targets. This year he came equipped again with his tried and

trusted, spectacularly violent reaction to finding water. A battered, twisted piece of wire with a loop in the middle would rotate violently and take his hands and arms along with it on its jerky, jagged journey. It worked on the calibration sample, and on his correctly identified targets, but not on the ones he got wrong (obviously!). On finding that he did not get a perfect score, he declared that there was something wrong with some of our samples. He was sure that they contained rainwater rather than river water from Russell Kelly's garden hose. One sample gave a half-hearted reaction, and he was certain that we had used half rainwater and half hose water for this one. When we vehemently denied this, he came up with a new explanation: it was so long (a few hours) since the water had stopped flowing, that it had lost its static elec-

tric charge that accumulates in running water and allows it to be dowsed. When it was pointed out that his technique worked on some water samples but not on others, and that they had all been filled at the same time, he demanded an explanation.

The explanation proffered, that his technique was fallible, was totally unacceptable – there just **had** to be something wrong with our water samples or the bottles they were in. He finally invented the ultimate excuse (which I have dubbed "the new physics"): if you shake the bottles of water that his technique failed on, they would get recharged with static electricity, and then it would work, which, of course, it did! He even produced his own bottle of rainwater that he had brought with him, and demonstrated that this produced no reaction from his dowsing implement. He then gave it a good shake, and lo and behold – the wire went berserk. What more proof is required that high school physics

textbooks will have to be rewritten? Next year we'll shake all the bottles in situ before the first contestant commences the course. (It's amazing to see what lengths diviners will go to in order to defend and maintain their belief system.)

The other interesting and noteworthy contestants were a teacher and pupil, each of whom took a seemingly interminable time to complete the course. They were last year's highest scorer, the complete novice who borrowed Bob Nixon's dowsing rod and scored 14 out of 20, and "Erick", a professional water diviner from whom last year's winner took dowsing lessons after her surprise win last year. Both teacher and pupil had brought their own samples of bottled water for use as controls at each target. Erick came equipped with an impressive canvas "quiver" containing an array of half a dozen or so dowsing implements, as well as four controls: two filled bottles, one partially filled and one empty. The pupil, however, was more abstemious with her dowsing equipment and the number of control samples, but took much longer to complete the course, agonising over every sample. Her painfully drawn out assault on the test set-up held up proceedings until quite late in the afternoon. When their score sheets were marked, it was found that the pro got 12 correct answers, and the pupil 9. Both of these results are singularly unimpressive, each being only slightly removed from 10/20. This was a good result for the Skeptics, at least.

Although George had pronounced that there was no underground water on the tennis court, another diviner found an underground stream in one corner. Once the suggestion had been planted, several other people found it too. The "star of the show", the very professional-looking Erick, even found a stream under the concrete, running right under one of the targets. I suggested that he count this sample as one of his 5 discards.

When calibrating his dowsing implements prior to undertaking the

test, Erick also claimed that the sample bottle of sand contained some water, and that even a tea-spoon of water could be detected. Fortunately, Peter Hogan was able to show him some of the leftover sand and convince him that it was completely dry.

One contestant had a novel method of "divining" for water: he got down on the ground and carefully inspected each sample for signs of condensation inside the top of the plastic bag. This particular entrant did confess to me that he didn't believe in water divining, but was using a common sense, scientific approach to the identification exercise. He found condensed water inside the plastic wrapper of bottle 6. However as far as I could see, he kept mum about it and told me on the quiet. At the first opportunity, and as casually and surreptitiously as possible, I opened the top of the bag a little. It was such a hot day (30° plus) that the water soon evaporated. Next year we'll leave the top of the bag open a little on all samples, rather than tying a tight knot in the top.

It is interesting to note that bottle 6 was the one with the highest number of correct answers: 19. The next highest were bottle 8 with 18 correct answers, and bottle 2 with 17, but both of these contained sand.

One entrant made two attempts at the test. His scores were 8/20 and 12/20 respectively, the average of these being spot on chance at 10/20.

Finally, another entrant complained long and loud, giving us much grief about there being different types of water used in the calibration sample and some of the targets. The water samples that his technique did not work on **must have** been a different type of water. Emil Holaj (a Victorian committee member) offered to have one of each type of sample (3 in all: the calibration sample, a disputed target and a "normal" target) chemically analysed. There then followed a formal exchange of water bottles (the complainant had a few of his own), with every bottle signed on the outside by both parties, and a labelled specimen

of each type taken away by both him and us for independent analysis and subsequent comparison of results. (This is getting really serious, folks.) Russell Kelly told the interviewer in a Monday morning ABC radio interview that we expected both sets of chemical analyses to reveal that all samples contained both hydrogen and oxygen atoms, in the ratio of 2:1.

By far the most entertaining performer of the day was one of the proprietors of the nearby Dartmouth Motel, who was intrigued by the conversation about water divining and the upcoming test, which we had with him when we picked up the key to our rented house from the motel office on arrival the day before. He turned up in costume – a big bear hat with floppy ears ("to make himself bearable") and a small hooter, consisting of a metal horn and a rubber squeeze bag, which he used as his dowsing instrument, "shooting" it several times at each target. I don't know whether his result was pure chance, beginner's luck, or a scientifically-based interpretation of echoes reflected off the targets, but he scored a respectable (for a rank amateur) 12/20, equal to Erick's.

Next Year

Although unfortunately I did not personally encounter her (being busy at the time observing my own charges), among the contestants was a woman who claims to be psychic. Russell Kelly will make an effort to include her and several other psychics among next year's contestants, and ask for her input into the test procedure. When producing the registration form next time, should we include a question about their psychic abilities, as well as the one about their professional status as a diviner? And will the psychics do any better than the professional diviners? Only time will tell. I'm not making any predictions, because I am definitely not psychic.



Reminders

or

a la recherche du aides memoire perdu

A remembrance of renewal notices past

It is an unfortunate fact of the publishing life that from time-to-time we are forced to dun our subscribers for money. Would that it were no so, but as our creditors insist on being paid, we have little choice. This regrettable necessity has taxed the brains of our staff to produce creative letters of demand that might help alleviate the pain of money extraction with a modicum of humour (it can also, regrettably, lead to precious subtitles such as the one above, inserted by an editor with pretensions to literacy). That it works is attested by the various compliments we have received from subscribers for the tenor of our annual Renewal and Reminder Notices.

As many of our current subscribers will not have seen some of the past notices, for their delectation we have put together a selection of a few of those we found most successful.

This reminder greeted dilatory subscribers in mid-1992:

Love Story

Her heart fluttering like a caged bird in her maidenly bosom, the breath catching in her alabaster throat, Selina gazed across the reception room at the chiselled profile of Gyles de Staverly, the dashing society quantity surveyor. "Oh! If only he would speak to me" she murmured in a fine contralto undertone as she crowded her way delicately through the crowd until, by his side, her pink shell-like ears caught the words he

addressed to his companion. "Yes, I am a Capricorn but my numerologist told me that I am the reincarnation of Napoleon. I have just returned from searching for Noah's Ark, stopping along the way to recharge my energies at the Great Pyramid. I have a circle on my back lawn, left by the Pleiadians who abducted me for sexual experiments."

*With a blinding flash, the scales fell from Selina's cornflower blue eyes - the man was a blithering idiot. To think that she could have fallen for a man who thought the world was created on October 23, 4004 BC and that crystals could cure dropsy. With a sigh of relief at her lucky escape, she resolved to renew her subscription to the Skeptic without delay.**

Don't let this happen to you!

** This notice will soon be made into a major Hollywood film, starring Michael Douglas and Nicole Kidman.*

The final issue for 1993 contained this stirring appeal:

Here is an address from the Subscription Manager

My fellow Australian,

I am speaking to you from the Cabinet room at Skeptics Central, and the thing I wish to speak to you about tonight, is the parlous state of your subscription to the Skeptic.

"Why", I hear you cry, "is he speaking



Sir Jim R Wallaby, doyen emeritus of ratbags everywhere. (Not a recent photo.)

to me like this? Did he not promise me a light on the hill? A Cadillac in every garage? A chicken in every pot? No new taxes? Did he not prevail upon me to watch his lips? Would we not walk, arm in arm together, into the broad, sunlit uplands? Did he not claim that it was time? Did he not aver that he would turn on the lights?"

Well, no, actually, I didn't. You must have me confused with some other chaps. I made no such dubious promises and I make none now. All I wished to say was that your subscription to the finest magazine of its kind in the known universe, has run out - ceased to be - been terminated - rung down the curtain and joined the choir invisibile - it's an ex-subscription. That's all.

The only safe way to ensure that you do not miss any of the outstanding articles that will appear in the 1994 issues, is to tear off the attached slip, fill it in, and send it, with the appropriate emolument, to the address below. Come on. You know it makes sense.

In 1996 we struck a different note with this renewal notice:

A Cautionary Tale

The blood red sun was sinking towards the mesa tops as the tall, gaunt, stranger rode up to the hitching rail of the Last Chance Saloon in the town of (insert yore town or suburb). Steel grey eyes glinting behind the mask covering the upper part of his face, he dismounted his palomino and thrust his way through the batwing doors into the gloomy interior.

Leaning against the bar, a shot of Red-Eye clasped in hand, stood Dangerous (insert yore name), last survivor of the Hole in the Wall Gang. Hearing the stranger enter, (yore name) turned, a curse escaping unbidden as the glass dropped to the floor, spilling its noxious contents into the sawdust. In a blur scarcely detectable to the untrained eye a hand dropped to the butt of the Remington .44 (11.176mm) tied low

on the thigh. Dangerous (yore name) was fast, very fast, but the stranger was faster still; a wisp of smoke curled from barrel of his pearl handled Colt .45 (11.43mm), as a shot rang out, sending the Remington spinning from the numbed fingers of Dangerous (yore name).

"There's a reckonin' due here, Dangerous (yore name)," spoke the stranger, in quiet, cultured tones "Yore subscription ain't yet been renewed."

"Goldarn it! The' consarned dawg et my Renewal Notice," mumbled the cowed outlaw, hastily scrabbling in the pockets of his Levi's. "Here, take yore \$30 and git away from me."

Pocketing the money without another word the stranger turned and left the saloon, mounted his thoroughbred and cantered off into the sunset.

From beside the horse trough, little Timmy Mendham, his mouth all agog, turned to kindly 'Doc' Gordon and asked, "Who was that masked man?"

"Why sonny," cackled the amiable medico "That there was the Lone Subscription Manager, a man dedicated to spreading Truth, Justice and the Skeptical Way throughout this here lawless land."

Don't leave yourself bereft of Skeptical comment in these dangerous times. Please remit your subscription by the fastest Pony Express to ensure that you get the next issue hot from the presses. If your renewal has crossed this notice in the post, please disregard the danged thing.

While the imminent advent of 1998 saw us waxing biblical:

Epistle of Renewal

In the beginning was the Word, and the Word was Subscription, and the Manager of the Subscriptions looked upon the Word and it was Good, and Peace reigned in the Land of the Skeptics.

But, in time, the Manager of the Subscriptions became sore troubled,

for the Days of the End had come, and much wailing and rending of garments was heard in the House of the Manager of Subscriptions.

And it came to pass that the people of the Land of the Skeptics heard the cries of the Manager and were afraid, and they sayeth unto themselves, "The Manager is sore troubled and we are afraid. For it is written that a troubled Manager is a wrathful Manager, and he must be appeased lest he sendeth the Archtreasurer among us to smite us, or lest he write many epistles unto us demanding that we make sacrifice unto him. Howfore then shall we render unto him a tribute that shall maketh him glad?"

Then the people of the Land of the Skeptics did gather each unto themselves three times ten talents of silver, and they didst summon an Angel of the Post of Australia and they didst say unto him "Takest thou this tribute unto the Manager of the Subscriptions and maketh him glad".

And the Angel of the Post of Australia sayeth unto them, "Only if thou putteth on a Stamp shall I delivereth it unto the Manager of Subscriptions at the Sacrificial Box in the Village of Roses, which numbereth two times two, and two times six, for such is the Number of the Manager."

And it was so. And the People of the Land of the Skeptics did make tribute unto the Manager of the Subscriptions, and his heart was gladdened and he did say unto the Archeditor Barry, "Produceth thou the next issue, and let the Word of the Skeptic flow like milk and honey unto the People of the Land of the Skeptics, for they are Renewed again, and they are good in my sight and I am glad."

Here endeth the Parable of the Renewal of the Subscription.

If we receive any encouragement we will run a few more in future issues – if we receive money in a brown paper bag, we won't.



Barking up the Wrong Tree

A reliable technique for dating old artifacts that gives the lie to false creationist claims.

When members of the public listen to the arguments launched by creationists in support of a young Earth, it is hardly surprising that many people are likely to be impressed by the unfounded criticism of radiometric dates. The mechanics and reliability of dating techniques, for which many will have little or no experience, can be difficult to grasp. When creationists make “scientific noises” in their efforts to discredit the accuracy of absolute dating techniques, the lay person might well be unable to differentiate between real science and the creationist’s non-science.

One dating technique which should be more readily understood by the general public is dendrochronology or tree-ring dating. After all, many people have seen cross-sections from various trees and they might appreciate that one tree-ring is likely to be equivalent to one year of tree growth. What might not be widely appreciated by the public at large, is that dendrochronology has developed into a precise science over the last few

decades with the capacity to accurately date timbers back over 11,000 years. Creationists take note.

Dendrochronology

Dendrochronology is an absolute dating technique which has been used by archaeologists for most of the last century, with artefacts now being dated back beyond 9,000 BC. Corroboration has been forthcoming from firm historical records and this has given added credibility to the technique. In contrast to radiometric dating, dendrochronology can provide dates that are accurate to within a year. If, for instance, bark is present as part of a sample of timber, the exact year in which the tree was felled can be determined. Because of its reliability, dendrochronology has been used to monitor and compare the accuracy of some radiometric techniques.

Dendrochronology is the science of dating both historical events and environmental change by comparison of annual growth rings in living trees and ancient timbers. Growth rings are typically made up of

Apology

We have had this informative article in our files for quite some time and have refrained from using it only because of our embarrassment at having mislaid the identity of the author. However, it is far too valuable not to use, so we appeal to the writer to let us know his/her identity, we will make amends in the next issue.

thin-walled cells which are produced in the early part of the growing season with thicker-walled cells appearing later in the growing season. However, growth ring development can be influenced by a number of other factors and these will be considered later in this article.

Pioneering work of Andrew Douglass

In 1901, Andrew Douglass, an astronomer at the Lowell Observatory in Flagstaff, Arizona, first studied tree rings to see if these could be correlated with solar cycles. At the time he suspected that solar flares influenced climate on Earth and flare episodes might be reflected in tree-ring growth patterns. His research took him to a number of timber yards in Arizona where he used a ruler and magnifying glass to measure the widths of numerous tree rings. He was able to clearly demonstrate that the width of tree rings varied with annual rainfall and Douglass went on to publish the first journal article on dendrochronology in the 1909 issue of *Monthly Weather Review*.

Douglass proceeded to collect a substantial amount of data from local pine trees which enabled him to produce a 450 year chronology. Later, in collaboration with Clark Wissler, he was able to examine timbers from prehistoric buildings in Arizona and New Mexico, dating some of these back to 800 years before the historic voyage of Columbus. Initially, Douglass and Wissler were frustrated by a gap which existed between the chronology from living trees and the archaeological tree-ring data. Fortunately, they chanced upon an old beam from a ruin in Show Low, Arizona. This piece of timber provided a vital tree ring pattern which bridged the gap between the living and the archaeological tree-ring chronologies. Douglass and Wissler were able to use these new data to accurately establish the construction dates of many Puebloan ruins. From that historic moment, the applied science of dendrochronology was firmly established.

Dendrochronologists today proceed along similar lines to those established by Douglass, although core samples are now extracted from the trunk of old, living trees, using a coring device (increment borer) with a diameter less than 0.5 cm and data are processed with computers, specific software and statistical power. Samples can then be compared with core samples from trees of unknown age. When ring sequences are seen to match or overlap, the chronology is taken back in time and, when an even older tree provides a core which gives more overlap, the chronology is taken further back still. The overlap of ring patterns can start with living trees and then traced back to existing building timbers and wood from archaeological sites. It is also possible to date old wood found in peat bogs where samples have been preserved in anaerobic conditions for very long periods of time.

Factors affecting tree-ring growth

Trees add a new layer of wood to both trunk and branches every year to provide an annual ring between the old wood and the bark. Generally, when moisture is abundant, new, large growth cells are produced with their size diminishing through summer until growth stops altogether in autumn. The difference between the older, smaller cells and the younger, larger cells establishes one ring. Douglass noticed how certain species of tree produced wide rings during wet years and narrow rings during dry years, although it should be pointed out here that dendrochronology is not simply ring counting based solely on rainfall.

In addition to rainfall, a range of other climatic factors can influence tree-ring development and Fritts (1976) proposed a *Principle of Limiting Factors* which states that growth rings cannot develop faster than is allowed by the most limiting factor. Annual growth rings can vary through the influence of annual precipitation (rain and/or snow), sun-hours, temperature range and wind exposure. Environmental factors, such as soil type, surface slope, and

water table proximity can also influence growth ring development, while biological factors, such as disease or insect attack, can defoliate trees and reduce ring growth.

The Principle of Aggregate Tree Growth states that tree-ring growth, for any specific year, is a function of an aggregate of factors, both natural and human-induced. Because different factors can influence tree-ring development, a number of related research areas (I will resist the temptation to say branches) now use tree-ring data to study the histories of climate change, (dendroclimatology); forest fire, (dendropyrochronology); pollution, (dendrochemistry); mass movement, such as avalanches, (dendrogeomorphology); water level fluctuation and flooding, (dendrohydrology) and snowfall and glaciation, (dendroglaciology).

Dendrochronologists can select sites which will typify the environmental conditions under investigation, bearing in mind *The Principle of Ecological Amplitude* which states that a certain species of tree is likely to be more sensitive to environmental factors which operate at latitudes and altitudes at the limits of the tree's natural range. For instance, trees growing close to the limits of arid forest are most likely to be affected by drought conditions. Similarly, trees growing close to the limits of high elevation forests are most likely to be affected by low temperatures.

Dendrochronologists generally select sites that will tend to emphasise a particular environmental factor under investigation and this is referred to as *The Principle of Site Selection*. For instance, trees which respond significantly to drought are often located in areas of restricted rainfall and not in low-lying wet areas.

Workers have observed how trees from temperate zones tend to generate relatively narrow annual growth-rings during more dry years, compared with wider rings during years of higher rainfall. This trend continues during the tree's life-span,

Barking up the Wrong Tree

leaving a detailed climatic record which can be matched with trees growing in the same area and experiencing the same climatic regime.

Pronounced climatic fluctuations can produce a definite pattern within a tree-ring data set and extended chronologies can be utilised to provide valuable information about past climate change. Today it is possible to supplement ring-width examination with X-ray densitometric techniques which provide further information about past environmental conditions.

Kaennel and Schweingruber (1995) refer to *The Principle of Crossdating* which enables the dendrochronologist to identify the exact year in which specific tree rings form by matching ring width patterns and ring densities. In general, ring widths can only be cross-dated if at least one environmental factor is limiting for a long period of time while operating over a wide geographic area, resulting in similar ring development in a number of trees.

What is known as intra-tree variability is reduced by taking more than one core sample from each tree while sampling from more than one tree in the area. This is also referred to as *The Principle of Replication*. The dendrochronologist feels more confident when working with samples having long sequences of more than 100 rings. Additionally, it is important to obtain as many samples as possible from a site since a solitary piece of timber might have been recycled from a previous building or used to repair some of the older construction material.

Trees which grow between 25 and 65 degrees latitude (temperate species) generally produce readable tree rings. Crossdating is usually possible using spruce, pine, oak, fir, juniper, yew, boxwood and chestnut while some trees, such as poplar, willow, cypress and olive trees are generally unusable, for various reasons. For instance, the Alaskan black spruce produces unreadable compact rings as a result of its slow growth rate while some fruit trees may display

large growth rings because of the loving care they have received from horticulturists rather than the rings reflecting climatic variation.

Tree-ring data bases

Collaborative archaeological, climatological and palaeo-climatological work is now conducted by dendrochronologists around the world and they increasingly draw on data from master tree-ring data bases, which are constantly being extended back in time.

The bristlecone pine has proved useful as both a source of building material in North America and as a provider of dendrochronological index information, since these trees can live for more than 4,000 years. Matching growth patterns from bristlecone pines have established chronologies extending back around 9,000 years.

The International Tree-Ring Data Bank, formed in 1974, in Boulder, Colorado, acts as a central store for tree-ring data collected from around the world. This data bank can provide information on growth ring measurements and chronologies from a wide variety of international sites and the development of specific computer programs allows efficient cross-dating of tree-ring data.

In Scandinavia and other parts of Europe, oak, pine and spruce have been important building material for thousands of years, providing timbers for farmhouses, shelters, church buildings and boats. The Dendrochronology Laboratory in Sheffield, houses tree-ring data for England which extends back approximately 7,000 years. Additionally, there is a European oak and pine chronology which goes back more than 11,000 years.

Many chronologies have been assembled from places such as South America, China, Russia, Egypt, Bulgaria and Yugoslavia while the Aegean Dendrochronology Project, at Cornell University, is constructing a master tree-ring chronology for the Aegean and Near East. This starts with tree-rings from living trees collected from a range of countries,

including Greece, Lebanon, Italy, Turkey and Cyprus. Tree-ring data are being accumulated from timbers which will take chronologies back at least 9,000 years, accurate to within a year. One of their oldest sites has provided "readable" Neolithic charcoal from about 9,000 BC.

Dendrochronology is an absolute dating technique which is not intended to probe the vast depths of geological time, since the range of dates obtained by this method will always be restricted by the vulnerability of wood to fire and biological processes. Despite such constraints, the number of firm dates that have been returned from timber older than 10,000 years, again seriously brings into question the dogmatic stance of creationists who stubbornly cling to Ussher's 1640 pronouncement that the Earth was created in 4,004 BC.

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Perception of Auras

A common New Age belief comes under scrutiny

According to occultists, every human being is surrounded by a paranormal field known as an aura - a phenomenon that is described and accounted for in the following way:

Emanation said to surround human beings, chiefly encircling the head, and supposed to proceed from the nervous system. It is described as a cloud of light suffused with various colours. This is seen clairvoyantly, being imperceptible to the physical sight. (L. Spence: The Encyclopedia of the Occult, p 50.)

What evidence is there that humans possess an aura that can be seen by gifted persons? I shall now address this question.

Evidence From Art?

Some proponents of the occult claim that evidence for auras can be found in Christian and Eastern art, where saints and divinities are often portrayed with a circle of light surrounding their heads, or even their entire bodies. According to occultists, the spiritual purity of these beings causes a highly luminous aura that is, in this instance, perceptible to physical sight, and is the reason why they have been portrayed in this manner.

Unfortunately, this assumption is not supported by our knowledge of

ancient artistic conventions. The use of halos and aureoles (where a cloud of light surrounds the entire body) in Eastern and Western art is purely symbolic – light is often associated with virtue, truth and goodness, whereas darkness is equated with the exact opposite: “God is light and in him there is no darkness” (I John 1:5.) Naturally, the most obvious source of light is the Sun which has often been worshipped as a god, or used as a symbol of divine attributes:

The halo denotes the sunbeams, the luminosity, radiating from divine or holy persons. Gods might be depicted with a halo as well as emperors and other outstanding men such as poets and philosophers. There are examples from classical times of Homer and Virgil with haloes. From the 4th century Christian artists began to show Jesus with a halo and later Mary and the apostles; in time, the halo – in the form of a surrounding nimbus or aureole – became the distinctive sign of a saint. Sometimes the beams radiated not from the head but from the whole body, which was enclosed by an aureole. This is familiar in images of Buddha and Mohammed, and in Christianity it became a special attribute of Mary, the Mother of God. (S.T. Achen: Symbols Around Us, p 20.)

Kirk Straughen, an occasional contributor, is an administrative officer from Queensland. If he sends us a photograph with his next contribution we will refrain from making tasteless jokes about “faceless bureaucrats.”

Bioelectric Auras

Is it possible for an organism to be surrounded by an emanation that arises from physiological processes? In certain cases it is, for example, the African knife-fish *Gymnarchus niloticus* possesses an electric organ that produces between three and ten volts of pulsed direct current at a rate of three hundred pulses per second, thus enveloping its body in a spherical electric field.

As objects enter this field they distort the lines of force, causing them to diverge in the case of a poor conductor, or converge in the case of a good conductor. In addition to its electric organ, *Gymnarchus* also has an arrangement of sensory pores over its skin, and these organs enable it to detect extremely small changes in current density (0.04 millionths of an ampere per square centimetre), and it is from the way in which these lines of force deviate, and the accompanying changes in current density, that enables *Gymnarchus* to sense the position and nature of objects in its environment.

I have cited the example of *Gymnarchus* in order to show what would be required in order for an organism to be surrounded by an 'aura'. Human beings, however, do not possess organs that can generate electric fields of this nature, nor do we have receptors that can sense them, and although it is possible to detect the electrical activity generated by our bodies using specialised equipment, this activity does not radiate beyond our skin, and therefore would not be detectable from a distance even if we were equipped with the appropriate receptors.

Some believers might claim that the existence of auras is proven by Kirlian Photography – where objects photographed in a high-frequency electric field display halos. This effect, however, is of no significance because its primary cause is moisture:

The Kirlian aura is already discredited as a trivial thing, of no more significance than static electricity, that depends mainly on the moisture

in the object 'photographed'. The human aura is supposed to change dramatically according to physical and mental state: experiments showed that the full range of possible 'auras' could be produced from any one object by altering the gap between it and the electrode, the strength and frequency of the field, the moistness of the object itself, and so on; if all these things were kept constant, no differences could be detected between the auras of ordinary people, psychic 'mediums' and lunatics. (P. Nicholls, Ed: The Science in Science Fiction, p 168.)

The Third Eye

Occultists might claim that the aura is a manifestation of the soul or 'life force' and, being supernatural, is not detectable through natural channels of perception. Instead they claim that this paranormal manifestation is seen with the 'third eye':

For centuries the idea that human beings have a latent psychic centre with a physical analogue somewhere in the brain has fascinated all fans of the occult ... Man himself has one apparently functionless organ, the pineal gland in a frontal/central position, which Descartes thought must be the point of interaction between soul or mind and body. This is still often believed to be the psychic centre in the folklore of modern Spiritualism. (C. Evans: Cults of Unreason, p 248)

The existence of this psychic organ appeared to be confirmed by a Tibetan Lama – Dr T. Lobsang Rampa in his book *The Third Eye*, which became a best seller in twelve countries. In his book, the author claims that at eight years of age, when an apprentice Lama, he underwent a form of brain surgery that was designed to open the third eye, thereby enhancing his psychic perception. Details of this operation, which was performed without anaesthesia, are given in chapter seven of the book – a small hole was made in the frontal bone of the skull using "an instrument made of shining steel," and then:

... a very hard, very clean sliver of wood which had been treated by fire and herbs to make it as hard as steel, was inserted through the hole and into the brain. For a moment the pain was intense, like a searing white flame. It diminished, died, and was replaced by spirals of colour, and globules of incandescent smoke.

The Third Eye was now open, and it was a very strange experience to see these men apparently enveloped in golden flame. Not until later did I realise that their auras were golden because of the pure life they led, and that most people would look very different indeed.

The claims made in *The Third Eye* are incredible to say the least, and raised suspicions in the minds of some scholars who were familiar with Tibetan culture. As a result of these concerns Clifford Burgess, a Liverpool private investigator, was employed by them to gather information on Dr Rampa to confirm the biographical details contained in his book. Mr Burgess unearthed the following facts:

- (1) Dr Rampa's real name was Cyril Henry Hoskings;
- (2) He was from rural Plympton in Devon, not Tibet;
- (3) He was a certainly not a doctor.

It is quite clear from this investigation that the book, although containing a wealth of detail that lent authenticity to the account, was nothing more than sheer fantasy masquerading as fact.

Research has also shown that the pineal gland, rather than being connected with paranormal functions, secretes a chemical called melatonin. Although the exact function of this gland is unknown, it is thought to play a role in the regulation of body rhythms:

The function of melatonin and the pineal gland in humans, in contrast to several other animals, is uncertain. Its secretion is stimulated by sympathetic postganglionic neurons that constitute the last link in a

neuronal chain primarily triggered by receptors in the eyes responding to the prevailing light - dark environment. Melatonin secretion, therefore, undergoes a marked 24-hour cycle, being high at night and low during the day, and melatonin probably influences a variety of body rhythms. (M. Vander et al: Human Physiology,)

Psychological Explanations

To believe or claim that auras exist is **not** proof of their existence. Indeed, the only evidence we have is the word of the clairvoyant that they are seeing something and, unfortunately, their testimonies are inconsistent:

...not all clairvoyants describe the auras of similar objects or people in the same way. (F. Gettings: Encyclopedia of the Occult, p 33)

Seeing auras appears to be a subjective phenomenon, the result of the individual's own mental processes instead of the perception of a paranormal emanation.

The subjective nature of aural perception has been demonstrated by tests – if each person's aura carries a unique signature, then it should be possible to identify an individual solely by his or her aura. One such test is described by James Randi in his book *James Randi: Psychic Investigator*. The test was basically as follows – five people stood behind a translucent screen that was illuminated from the rear, causing them to appear as silhouettes when viewed from the front. This screen had been divided into five sections labelled A to E, with a single person occupying each section.

When the clairvoyant confirmed he could see their auras through the barrier, the lights were switched off and the volunteers were, in random order, asked to step from behind the screen. The clairvoyant's task was to use his aura reading ability to identify which section of the barrier the person had been standing behind. Unfortunately, the clairvoyant's third eye must have been somewhat myopic – his score was only two out of five, which is no better than chance alone.

What could lead a person to believe they can see auras? Those who sincerely believe they have this ability may have arrived at this conclusion due to the following factors:

Optical illusions, afterimages, hysterical hallucination, delusions, suggestion, wishful-thinking, trickery and invention are the sole explanations of 'aureole phenomena' in the case of sane individuals. Among psychotics, as might be expected, delusions and hallucinations of auras are not uncommon.

Experiments with hysterical subjects who claim to perceive auras quickly reveal their spurious character. Braid mentions one such subject, who whenever the idea was suggested, saw coruscating flames emanating from the poles of a magnet or wherever she imagined its influence to extend. Such cases were frequently reported in the psychological literature of the nineteenth century. Experiments showed, however, that the same 'effects' were produced when nonmetallic objects, disguised as magnets, were used. (D.H. Rawcliffe: Illusions and Delusions of the Supernatural and the Occult)

Conclusion

Firstly, from a physiological perspective, our nervous system is incapable of generating an aural field and, moreover, we have no sense organs that could conceivably detect such a field even if it did exist. Secondly, people who sincerely claim to see auras have failed to detect them when subjected to carefully controlled tests, which suggests their belief is due to psychological factors rather than the perception of an occult force. Unfortunately, there is no evidence to substantiate the claim that human beings are surrounded by a paranormal emanation that is perceptible to occult vision.

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Stephen Jay Gould

1942-2002

Australians in recent months have become somewhat inured to the passing from our stage of prominent people who seemed to have been around forever: the distinguished and gallant Sir Roden Cutler VC; the *grande dame* of thespians, Ruth Cracknell; former Prime Minister, Sir John Gorton; honorary Australian and original comic genius, Spike Milligan and, of course, in the person of Mr Alex Campbell, our last living link with Gallipoli. They have been mourned and celebrated for their contributions to our country, but we might derive some comfort from the fact that they had all had a “pretty good innings”.

But what possible comfort can a Skeptic find to alleviate the sadness of the untimely death, at 60, of Stephen Jay Gould, one of the titans of the worldwide skeptical movement?

Perhaps we might take some comfort from the fact that in the 1980s Gould was diagnosed as having mesothelioma and that he survived that diagnosis by more than 20 years. That length of survival is almost unheard of for that particularly virulent form of cancer – the cancer that killed him was of a different type.

We should be grateful for his immense literary skills and tireless output that offered the world such clear and enthusiastic testimonials to the excitement of science and the importance of skepticism to it. There are all too few scientists who have

the capacity both to expound with such clarity the notion of what scientists do and to communicate the excitement of the scientific enterprise.

Many of us would agree with CSICOP Chairman and founder of the world Skeptics movement, Paul Kurtz, who said in a moving tribute to Gould:

He played a unique role in the public square, for he was an eloquent exponent of the scientific outlook. His prolific writings and brilliant lectures at Harvard and universities far and wide on evolutionary palaeontology and biology and his forthright criticisms of creationism cast him as a powerful defender of science. At a time when pseudoscientific and fringe claims continue to grow, there are all too few scientists willing to enter into the fray.

Gould's death leaves a void; and it dramatises anew how important it is to have popularisers of science. This role was played by Carl Sagan and Isaac Asimov, CSICOP Fellows of the past. We need to encourage today new and daring defenders of science, gadflies in the name of critical inquiry; interpreters able to extend the public's understanding of science and its methods. All too few scientists and scholars today are willing to venture beyond their specialties in order to communicate with a wider audience.

Stephen Jay Gould held some controversial ideas regarding evolution, ideas which were sometimes misused by the enemies of science to push their own narrow and bigoted views. By doing so they simply underscored their own profound ignorance of what science is, and what Gould's position was. He had no doubts about the reality of evolution as a fact of biology, he simply had some different ideas about how it worked – he was certainly no ally of the obscurantists.

I have yet to see any reports of Gould's passing from any of these anti-scientists, but fully expect them to display the same sort of stinking mealy-mouthed hypocrisy that characterised their mention of the passing of Isaac Asimov – more than enough to sicken any decent person.

Although I never met Gould, one of his idiosyncrasies, a fanatical interest in the history, the minutiae, the statistics, the trivia of baseball, is something that resonates with me, with my own notorious devotion to cricket. It bears out my belief that well-rounded Skeptics need to have interests outside their immediate concerns.

I am sorry I never met Stephen Jay Gould. I think I would have liked him, and I mourn his loss.

Barry Williams

So Bad it's Very Good

**A new book that every
Skeptic should read.**

***Bad Astronomy: Misconceptions and Misuses Revealed, from Astrology to the Moon Landing "Hoax"*; Philip Plait. John Wiley & Sons, Inc; 2002 \$29.95**

Any number of books addressing specific topics, or giving a sound grounding in science for the non-specialist, could be regarded as indispensable foundations for the library of a Skeptic who hopes to intelligently counteract misinformation spread by anti-science activists in a wide range of fields. Prominent among them (in no particular order) are James Randi's *Flim Flam*, Richard Dawkins' *The Blind Watchmaker*, Martin Gardner's *Science: Good, Bad and Bogus*, and Carl Sagan's *Demon Haunted World*, but there are many others of equal value. You can now add another one to the list.

Bad Astronomy, which bears the sub-title *Misconceptions and Misuses Revealed, from Astrology to the Moon Landing "Hoax"*, emerged from Philip Plait's excellent web site of the same name
<www.badastronomy.com>.

It comprises five Parts, the first three of which, *Bad Astronomy Begins at Home*, *From the Earth to the Moon* and *Skies at Night Are Big and Bright* address common misconceptions about the world we inhabit and the skies above it. It replaces *bad* astronomy with some very *good* astronomy indeed (Philip Plait is a professional astronomer at Sonoma State University in California).

Questions answered

This well-researched and easily comprehensible information is not only useful for the Skeptic but also of immense value for any parent/grandparent who faces up to persistent questioning from the small-fry about such puzzles as "Why is the sky blue?" (If you think you know the answer, you are probably wrong – or, at best, only partly correct.)

Plait covers, with great good humour and wit, that much loved mythperception by North Americans regarding the Coriolis effect on bathtubs, along with the reasons for seasons, the phases of the moon, gravity and tidal effects, why stars twinkle,



Barry Williams, Editor and Remittance Man (Shouldn't that be Renaissance? No.) has often been described in the literature as a "global catastrophe".

So Bad it's Good

and the Big Bang. Along the way he disposes of some common (though false) beliefs, very often ones that are held by generally scientifically literate folk and indeed, sometimes still being written in school (and occasionally university) text books.

Among the claims exposed to critical scrutiny are some that are almost universally accepted. For example: "If you could look directly at the Sun at its zenith, what colour would it be?" As any child (and most adults) know full well, it is yellow – just look at a kid's drawing of a daytime scene. Alas, it's also not true – it would be white. Think not? Then why else would clouds be white, when they simply reflect sunlight? Or, if the Sun was yellow, the moon (reflecting sunlight) would appear yellow, would it not? It appears white because, while the Sun radiates all frequencies in the visible spectrum, the combination of these frequencies is what we know as white light. Which brings the question "Of all these frequencies radiated by the sun, which one is in greatest abundance?" The answer, surprisingly, is green. The book explains this in detail.

Big Moon

In one chapter Plait discusses at length, "The Big Moon Illusion". We have all experienced it, where the rising full moon sits on the horizon and looks positively huge when compared with the moon when it is high in the sky. A variety of widely accepted explanations have been offered, usually relying on some anomaly in physics, such as the thickness of the atmosphere through which the light passes at various positions. Plait argues (persuasively) they are all wrong; the answer lies quite clearly in psychology – the way

we think. We think we think of the sky as the inside of a hemisphere, but it appears we really see it as an inverted shallow bowl, with the zenith closer to us than the horizon.

The book even offers an experiment to show what we really see and

the term "mooning"? Probably not, but it is a seductive thought.)

Matters for Skeptics

All fascinating stuff, but Part IV (*Artificial Intelligence*) is where the book gets right into familiar Skeptics territory. Separate chapters cover such perennials as astrology, creation 'science', Ufology and Veliskovskian catastrophism, in which Plait targets some particular astronomical misrepresentations postulated by True Believers as being fundamental to their theses. He then proceeds to demolish these arguments with hard scientific evidence and critical analysis.

This might be best exemplified by his approach to the recent re-emergence of claims that we (NASA) never sent astronauts to the Moon. We are all familiar with this tale, which has been around since the echoes of Neil Armstrong's "One small step ..." had barely faded from the airwaves. It received a recent new lease of (Lease of what? Life is far too precise and mundane a word to describe it. Let's just settle for ...) pseudo-life, in a ludicrous Fox network load-of-tripe, *Conspiracy Theory: Did We Land on the*



what we think we see. Go outside and try to point at the halfway point of an imaginary line drawn from the zenith to the horizon (ie 45°). Plait asserts that most people will point much closer to 30° (to the ground) than to 45° (I did this experiment with a couple of friends, and their efforts supported the hypothesis). Another curiosity (unfortunately this reviewer is writing this at the wrong time of the lunar cycle to test it) is that if you turn your back on the rising full moon, bend down and look at it through your legs (Plait advises that you are alone when you do this) the illusion will disappear for most people. (Could this be the origin of

Moon, and has acted as Helen to whole fleets of web sites launched on the Net. Objections have been many and varied, but Philip Plait focuses on the main ones that seem to be common to every conspiracy theory related to this historic event.

Of these, the most common by far is one that doesn't need a great deal of astronomical expertise to demolish, yet it is one that even otherwise intelligent people frequently fall for: "No stars are visible in the sky in any of the photographs taken from the Lunar surface".

And, by golly, they are right. Try as you might, you won't find any stars in any of the photos taken on

the Lunar surface by any of the astronauts. However, contrary to what the conspiratologists would like us to believe, that is precisely what we should expect to see (or not to see). As with other popular beliefs this book exposes, there is more than a little psychology mixed in with the physics in this problem.

Consider some facts. On this planet, in the daytime, because we have sunlight and an atmosphere, we see a blue sky (Melbourne readers will have to take this on trust) and at night (with no sunlight) we see a black sky speckled with stars. By contrast, on the Moon, in the daytime, because there is sunlight (but no atmosphere), we would see a black sky, while at night we would see a black sky, speckled with stars. This is where the psychology comes in – if the sky is black we expect to see stars, but the reason we don't see stars in the daytime is not because of the atmosphere (which does have some effect, but a minor one), it is because of the sunlight.

Think about a camera. In earlier times (before cameras became all automatic) if you wanted to take a photograph, you had to set the aperture (f stop), the time and then focus the camera. In bright sunlight if you wanted to snap a picture of the spouse and kids standing by the family car, you set a pretty small aperture, a moderate speed, focused and went click. Look through the family albums and see just how many of these photos show stars. Don't bother, you have none. The stars were there all right, they were just too dim to be seen by your stopped-down eyes (or captured by the film). The camera was set to use the bright sunlight to capture the image of whatever you were aiming at. Same thing for the astronauts' cameras used on the Moon, not forgetting that the most recent of them was taken 30 years ago, long before automation took all the hard work out of photography. You can't see stars in the astronaut's photos for the same reason as you can't see them in your holiday snaps – the camera was set to take pictures of

his partner, the jalopy and the surroundings, not the stars in the sky. The fact that the Lunar sky was black had nothing to do with it. The fact that the Sun was up (all Lunar landings took place in the morning) had everything to do with it.

This book makes that point very clearly, and it treats the other fundamental objections (lack of wide-spread splash marks from the landing in the moon dust, etc) with precisely the same clarity.

Alignments

Those of us of a scientific bent recognise that at any given moment each of the nine major planets of our solar system has to be somewhere, and that no particular configuration has any particular "meaning". There are others, however, who see these mundane results of celestial mechanics as being ominous signs and portents of great disasters (or worse). Plait addresses this topic, and the prediction of some to read meanings into alignments, in some detail.

How could we forget, he asks, that the world came to an end on May 5, 2000? You didn't notice? Well, that was the thesis of a notorious book *5/5/2000 Ice: The Ultimate Disaster*, by Richard Noone, who claimed that on that date an 'alignment of planets' (they were within 25° but on the other side of the Sun from us) would cause vast seismic disturbances and the Earth's axis to tilt, plunging us into an ice age. Assorted other doom-cryers jumped on the bandwagon promising doom and disaster, while Skeptics were kept busy assuring the fainthearted that it was highly unlikely that anything untoward would happen on that date. Noone supported his claims by readings from Nostradamus, Biblical prophecy and measurements of the Great Pyramid, however, notwithstanding all this heavyweight evidence, the Earth simply didn't move for us.

If 2000 was supposed to be bad, then what about 1962, when all the visible planets, plus the Moon and Sun fitted into a circle of sky only 16° across (when seen from Earth)? Nothing particularly disastrous hap-

pened in 1962, certainly nothing in the way of a planetary catastrophe.

Moreover it would seem that the physical laws underlying celestial functions have led there to be around a baker's dozen of similar "alignments" throughout the past millennium, none of which has led to the destruction of the planet, nor to the extinction of life as we know it.

The very closest alignment of the millennium happened back in 1186, when the visible planets could have been encompassed within a circle of only 11° diameter (less than half the 2000 event). Now 1186 is not one of those dates from history that jumps off the page at you; nothing like 1066, 1492, 1788 or 1938* for instance. In fact, after trawling through one of those Timecharts of History that make historical research such fun, the only event that I could find specifically attributed to 1186 was that the city of Lucknow was taken by the Ghurids. Tough for the Lucknovians, no doubt, and not even so great for the Ghurids, for whom I can find no other references anywhere, but hardly a global cataclysm.

Movie and media madness

Part V, *Beam Me Up Scotty*, covers a variety of common misconceptions about matters astronomical in the mainstream media as well as listing some of the more egregious errors made in science fiction dramatisations on the large and small screens. The author, a self-confessed bad sf movie nut, treats this theme rather gently and with his characteristic good humour.

And that, above anything else, is what makes this such a good book. You can learn a lot from it, it is full of excellent information, but Phillip Plait's light touch makes the acquisition of the knowledge such a pleasure. Few books that I have read in recent years deserve the accolade, "unputdownable". This is one of them.

* My birth date, since you ask.



Intelligent Design - Not

Comprehensive demolition of a creationist subterfuge

Intelligent Design Creationism and its Critics: Philosophical, Theological, and Scientific Perspectives

Ed by Robert T. Pennock. A Bradford Book: MIT Press, Cambridge, MA. 2001. ISBN 0262-16204-0 (hbk), 0-262-66124-1 (pbk).

From the 1970s to the 1990s there were more and more creationist attempts to legislate “equal time” in school science classes for creationism and evolution. Each one was briefly successful in some state legislature, then struck down in a higher court. In one case, an attempt by members of a local school board to fiddle with the curriculum was overturned by the electorate itself which, in a fit of good sense, simply voted the protagonists off the board. The creationists desperately sought some new strategy. And so Intelligent Design (or ID) was born.

First there was a law professor, Philip Johnson, who caused a minor stir in 1991 with a book- called *Darwin on Trial*. A book called *Of Pandas and People*, by Percival Davis and Dean Kenyon, specially written as a school textbook, was published in 1993. And what passes for the intellectual underpinnings of the new movement was laid out in 1995 in *Darwin's Black Box*, by a biochemist, Michael Behe.

There are some biological structures, says Behe, that are irreducibly complex, and so couldn't possibly have evolved by natural selection. That's it! That's this powerful new force on the scene, that demands to be taken seriously. No Noah's Ark, no Six Days. Just our old friend, the God of the Gaps: where you can't think of a Darwinian explanation, bring in God. One cannot think of a more effective way of choking off all scientific research. And, though some of its proponents have strained every fibre to avoid being forced to make it explicit, others have, when finally pushed, admitted it: yes, their “wedge strategy”, as they call it, is a way of bringing those six days in through the back door.

Like the old creationism, this new creationism publishes no papers in peer reviewed scientific journals. But Robert Pennock has met it on its own ground, and taken it seriously, and has edited a book containing chapters by ID's proponents and detractors.

The nine sections of the book are each, except for the initial Introductory section, organised just as the IDers would have it, for balance: one or more ID proponents, then one or more detractors, then replies, replies to replies, and so on. The sections are, after the Introductory one, based on ID's claims about evolution-



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ary naturalism; its theological standing; its scientific standing; its claims to be philosophy; its claims to supersede evolution; its claims to be a theory of information; ID as magic, and finally whether it should be taught in schools. Rather than go through each section in order, I will pick out some highlights.

The wedge

A definite highlight is the introductory chapter by Barbara Forrest, a philosopher at Southeastern Louisiana University. She has made a special study of “the wedge”, and how Johnson and the others are working to manoeuvre it into the scientific mainstream, in the public eye at least. She traces its origin (apparently with Johnson’s divorce and conversion to Christianity at age 38), the trashing of Johnson’s book in a review by Stephen Jay Gould, followed by his supporters closing ranks around him, and the foundation in the mid-90s of the Center for the Renewal of Science and Culture (CRSC) under the aegis of the Discovery Institute, a conservative “think-tank” based in Seattle.

“The proposition that human beings are created in the image of God is one of the bedrock principles on which Western civilization was built”, begins the Discovery Institute’s Wedge Document, and IDers have held conferences, published books, given public lectures, and generally tried their damndest to convince legislators and the public that this is a scientific proposition. And some success they have had; limited so far, but the scientific pretensions of ID, including the recruitment of at least 15 academics teaching at major universities to the CRSC, gives it a superficial credibility in many people’s eyes (just as the self-conscious advertising of their PhDs and BScs did for the old-style creationists).

In the remaining sections of the book, two IDers are prominent: Philip Johnson, of course, and Alvin Plantinga. Johnson writes a chapter called “Evolution as Dogma”, and gets comprehensively creamed by

Robert Pennock. His chapter “Creator or Blind Watchmaker?” is further pummelled by philosopher/theologian Nancey Murphy. But his biggest mistake is to quote the noted evolutionist¹ George C. Williams, as if Williams was on his side, and he is pithed and strung up helplessly for all to see in two succeeding chapters, of just one and a half pages each, first by Richard Dawkins and then - oh dear! - by Williams himself.

Alvin Plantinga somehow manages to hold down a position as Professor of Philosophy at the University of Notre Dame, thereby denying the job to someone who actually has any competence in philosophy (or theology, or biology, for that matter). His attempts to pretend that he has weighed the evidence in the balance, and come down in favour of creationism, is so weak and pathetic that one almost feels sorry for him when he is thoroughly hammered in succeeding chapters by Howard van Till, a physicist who does actually know some philosophy (and theology), and Ernan McMullin, a philosopher of science. But he can’t leave well enough alone, and comes back for more with a chapter called “Methodological Naturalism?”, and this time he is laid out to dry in a wickedly witty chapter by the noted philosopher/biologist Michael Ruse.

Debates

After all this, you’d have thought that the “Wedge” guys would have chosen someone else to debate Robert Pennock in defence of the proposition that creationism, in some form, should be taught in schools (this was at a meeting of the American Philosophical Association in 1998, and the two addresses, and Pennock’s reply, are reprinted here). Plantinga actually maintains that it is evolution that should not be taught in schools.

This is mainly because he doesn’t believe in it, but he then goes on to invent a “Basic Right (BR)” (p.781): “Each of the citizens party to the contract [involving the handing over of their children to others for their education] has the right not to have

comprehensive beliefs taught to her children that contradict her own comprehensive beliefs”. Pennock, in his reply of just over four pages, has little trouble in showing that, whatever a parent may want, “BR” is unjust - to the children who are being taught.

There are lots of other nice touches in this book. William Dembski, a Senior Fellow of the CRSC, and Associate Professor of something at Baylor University, accuses evolution of appealing to magic, pulling rabbits out of hats, in claiming to produce something for nothing; this was a mistake, because Robert Pennock, in his reply, has delicious fun with the “magic” theme, and takes every opportunity to discourse on the biology, palaeontology, and epistemology of rabbits. ID’s showpiece, Michael Behe, an actual biochemist, gets his when he is stripped naked by philosopher Philip Kitcher (“Born-again creationism”) and, in scientific detail, by zoologists Matthew Brauer and Daniel Brumbaugh (“Biology remystified”).

In one way, you can ask, why? Why all take this trouble to point out yet again the pseudoscience in the “God of the Gaps”? - to debunk what is in effect a bunch of creationists who think they have discovered “the wedge”? The answer is that, without this sort of response, this wedge might indeed open up a crack: not in science, which can take care of itself, but in the public’s perception of it... or, shall we say, the crack between science and people’s prejudices. It is necessary to say loud and clear, that neither science, nor philosophy, nor even theology, will have any truck with creationist mystification in any guise. And that’s what this book does. Very comprehensively.

1. Note that I am here using the word “evolutionist” in its proper sense: one interested in, or contributing to, evolutionary theory; not, as creationists have convinced far too many people, “a believer in evolution”.



Glossy Propaganda

A mixed bag of books from an unlikely source showing the universal nature of creationist propaganda.

Islam Denounces Terrorism; Matter - The Other Name for Illusion; Miracles of the Qur'an; Evolution Deceit.
All by Harun Yahya;
Various publishers

These four beautifully produced softcover books were sent unsolicited to an internationally distinguished law professor who passed them on to me. They are, to say the least, an unexpectedly fascinating study for any Skeptic - at first.

Their author Harun Yahya, 46, has written over 120 books, and must almost be, in output, Islam's answer to the late Isaac Asimov; but in content they are at opposite ends of the science spectrum, Yahya being a Muslim manifestation of the Christian creationists.

Terrorism

I start with *Islam Denounces Terrorism*, published in Bristol, England, by the Amal Press in January 2002 and already in its third edition ISBN 0-9540544-1-5. Its expensively embossed covers and 175 full-colour A4 pages are most attractive. The illustrations are a mix of east and west – bearded Imams, mosques and desert

palms along with English country gardens and blonde children. The foreword focuses on the September 11 events, attacking the western media for blaming Islam, “a religion of peace”. Really? So why don't Islamic clerics denounce promises to suicide bombers of an afterlife in paradise with 72 virgins for their pleasure? Maybe they do, but the message isn't getting through.

The Introduction then strongly condemns the terrorist attacks and offers condolences to the American people. It cites the Qur'an (5:32) and states that the cruel face of terrorism will be punished in the hereafter – no promises of virgins there. Also, suicide is forbidden in the Qur'an (4:39). The book then goes on to discuss the real face of terrorism acting in the name of religion, citing the “Crusaders: Barbarians who trampled their own religion” (score, one all).

Moving on to Russian anarchy we are told that “At the roots of the greatest brutalities of the 19th century lies the Social Darwinist ideology” which led on to the terrors of communism and fascism. Then there are two chapters, with pictures of President Bush praying with Mus-



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lims, arguing that “according to the Qur’an, Muslims, Jews and Christians must live in friendship”, and that “Islam has brought peace and harmony to the Middle East.”

The real message

But then comes the blast: a chapter “The Real Roots of Terrorism: Darwinism and Materialism” followed by “The Misconception of Evolution”. This where the science becomes somewhat bizarre, but could be extremely convincing to intelligent laypersons. It then concludes with a section asking “To Whom Does the Consciousness that Sees and Hears Within the Brain Belong?” A pretty poser indeed.

The poser is addressed in Yahya’s book *Matter – the Other Name for Illusion*, its first edition published by Kultur Publishers in Istanbul, Turkey, in February 2002. It is a handsomely produced and pathetically argued serving of eighteenth-century Irish philosophy as per Bishop George Berkeley, who argued that reality exists only in the mind.

Hence we have Yahya on one page saying “All sounds are formed in our brains. There are no sounds in the outside world.” and on the next page “... actual sounds do not exist outside our brains, even though there are physical vibrations we call sound waves.” Likewise for sight (“Light is also composed in our brain”), smell, taste and touch.

Yahya claims that experiencing realistic dreams provides proof that our senses occur without the existence of the outside world. According to Yahya, this demolishes materialism and leads to faith and belief in God. It turns out that time is also a perception of the mind and we learn that the concept of relativity of time was revealed at several places in the Qur’an.

As with all of Yahya’s books that I have seen, the illustrations are lavishly presented in full colour, this one on 259 pages of top quality glossy A4 paper. In fact it is quite the most extravagantly presented nonsense I have ever set eyes on.

Miracles

The third Yahya book is titled *Miracles of the Qur’an* published by Al-Attique in Toronto, Canada, in 2001. This handsomely illustrated A4 monograph is in the same mould as the others with stiff embossed covers in full colour, including a view of the Canadian Rockies above the Prophet’s gold seal which is featured on the front of every one of Yahya’s books.

Here we have a fundamentalist presentation without quite going to the ridiculous extremes of Bishop Ussher’s chronology. The twenty or so “miracles” range from big-bang cosmology and the expansion of the universe to the chromosomal basis of human reproduction, all of which were unknown and unexplained by seventh-century science – so they could have only been engineered by God, with quotes from the Qur’an to prove each point.

The “miracle” that gave me the greatest amusement was the process of pair-production in nuclear physics, where an energetic gamma ray gives rise to a positron-electron pair. This was first predicted by Paul Dirac. So here is a picture of Dirac alongside “Glory be to Him Who created all the pairs; from what the earth produces and from themselves and from things unknown to them.” Qur’an (37:36).

Pure propaganda

The fourth and last of the these books in my possession is *Evolution Deceit* which lambasts Darwinian evolution from every angle Yahya can think of in its 269 pages. It “clarifies the scientific collapse of the theory of evolution in a way that is detailed but easy to understand.” And “The only reason Darwinism is still foisted on people by means of a worldwide propaganda campaign lies in the ideological aspects of the theory.”

These stunning claims are a total inversion of the facts. That is not surprising because in this book I learnt of the existence of the Science

Research Foundation (SRF) which is the Islamic counterpart to Answers in Genesis. Links between the two are evident with pictures of “world renowned evolution expert” Duane Gish, one showing him receiving an SRF plaque. [Duane Gish is an expert on evolution only in the sense that Ghenghis Khan was an expert on pacifism. Ed] In another chapter there is a picture (showing several young children) of “Richard Dawkins busy with propagating evolution.”

Throughout *Evolution Deceit* the salient theme is that living cells, and the organisms they build, are much too complex to have been formed through evolution – only God could be their architect. A supporting thread is the demand for an infinite gradation of intermediate forms between related species.

Almost every other page contains quotes from “prominent authorities” like Professor Michael Denton testifying that “Evolution is a theory in crisis.” Sorry, I don’t know of him, or most of evolution’s other detractors quoted from among the 220 cited references. From what I have seen of creation ‘science’ literature, Yahya’s arguments are all too familiar.

Yahya writes well and it is a pity his talents are not harnessed to the promotion of real science – his books are as attractive as any I’ve seen from the major western science publishing houses.

Evolution Deceit was published “in the name of God” by Ta-Ha Publishers, Ltd, London and bears the ISBN 975-6579-38-2. Related titles by Yahya that I have not yet seen include *The Blunders of Evolutionists*, *The Dark Magic of Darwinism*, *Children – Darwin was Lying*, *The Real Origin of Life*, *The Disasters Darwinism Brought to Humanity*, and so on. But I’m not going to go looking for them. Tedium has already set in.



The Universe Around Us

Everything in the world you wanted to know about everything in the world

Our Cosmic Habitat, Martin Rees: Princeton University Press

People have always wondered about the place of the Earth in the cosmic scheme of things. Cosmology, the science of the biggest of all big pictures, has over the past century been one of the areas of science that people have the most curiosity about. Cosmologists were not always well respected by other scientists; their work was speculative and on the fringe, it was thought.

But then the strange idea of the Big Bang Theory took hold. The term was actually coined by Fred Hoyle, who didn't believe in the Big Bang and used the term derisively. In 1965, cosmic background radiation was found all over the universe that had been predicted by the Big Bang Theory. In 1990, measurements from the Cosmic Background Explorer (COBE) satellite provided a spectacular confirmation that the radiation came from a huge explosion of matter and space 13 billion years ago.

Sir Martin Rees was one of the celebrated circle of astrophysicists at Cambridge that also produced Stephen Hawking, and he is now the Astronomer Royal. Cosmology is no longer fringe; in *Our Cosmic Habitat*, Rees insists:

The big bang theory deserves to be taken at least as seriously as any-

thing geologists or palaeontologists tell us about the early history of our Earth.

Rees's entertaining summary of his stance on cosmological issues serves as a guide to where we live in the universe. Cosmologists who take up the chore of explaining their work to the public have enormous obstacles against them. Their science uses more of mathematics than observation, and the extent of times involved and the counterintuitive strangeness of different forms of matter and energy may be data that experts get a feel for, but will always be foreign to most of us.

Hawking's *A Brief History of Time* is a best-seller (and let us be thankful that this is so!), but I have never run into a reader, myself included, who wasn't mystified by big blocks of it. Rees's book, written as an inaugural to the Scribner Lectures at Princeton, is concise, wise, and witty, and I think most people would find it more accessible than Hawking's.

Could the world be different?

Einstein posed the famous question, "What interests me most is whether God could have made the world differently," and Rees here attempts an answer. Of course, Einstein didn't think about God the way most people do; he saw God as overarching nature rather than some divine construction engineer who would, any-



Rob Hardy, a US based psychiatrist, is a regular reviewer for the Skeptic.

way, be omnipotently able to make the world anyway he pleased. It is a great question that has no clear answer yet; did things have to turn out just so in order to produce a “biophilic” universe, one hospitable to life?

Rees reviews the question, ranging from quarks, atoms, molecules, stars, galaxies and beyond, and while there are no firm answers yet, he shows that some day there may be.

Rees’s humble view of his own field is illuminating:

Friendly skeptics sometimes ask me: ‘Isn’t it presumptuous for cosmologists to claim to explain anything about the vast cosmos?’ My response is that what makes things hard to understand is how complicated they are, not how big they are. Under extreme conditions – inside the stars or in the hot early universe – everything breaks down to its simplest ingredients. A star is simpler than an insect. Biologists, tackling the intricate multilayered structures of butterflies and brains, face tougher challenges than astronomers.

The Galaxy problem

Star colours, life cycles, and interior mechanisms are indeed pretty well understood. Galaxies aren’t. Why do they form such various circular shapes? And why do they not spin apart? Our planet spins, but is held together by gravity, the same force that holds it from being flung away from the Sun.

But galaxies don’t have enough visible matter to stick together. No one knows how they manage, but smart bets are on “dark matter” within every galaxy, which has gravity but is yet invisible to us. In fact, dark matter does most of the pulling: “It is embarrassing to cosmologists that 90% of the universe is unaccounted for.” It is not made of ordinary atoms, but is some other remnant of the Big Bang; exactly what sort of stuff it is forms a prime problem in astronomy and physics.

Rees is confident we will have some answers within the decade, and it is going to humble us:

We’re reconciled to the post-Copernican idea that we don’t occupy a central place in our universe. But now our cosmic status must seemingly be demoted still further. Particle chauvinism has to go: we’re not made of the dominant stuff of the universe.

Newton could explain the elliptical orbits of the planets, but felt that their tracing paths all in the same plane could only be explained as the work of some designer. In the way we have of whittling away mysteries and giving that designer less to do, we know that the solar system was originally a spinning disc from which the sun and planets congealed, and they keep to the plane. Now scientists wonder, not about the plane of the ecliptic, but about just why the universe at the age of only a few seconds had, say, a particular rate of

expansion and a particular set of material ingredients to produce, billions of years later, an intelligence that could wonder about origins.

Anthropic contingencies

Rees has thought deeply about the “anthropic” contingencies that resulted in a planet with human life. If gravity or various other forces were tweaked only slightly, completely different universes, adverse to the formation of life, would result. He is not satisfied with the answer that if the contingencies were not just so, we wouldn’t be here, and so the world looks fine-tuned just for us because we are here. The answer of a creator who deliberately dialled in the numbers smacks of a “god of the gaps,” the unsatisfactory explanation of last resort for mysteries, an explanation that is not scientific and actually makes for more mysteries than it answers.

The final part of Rees’s stimulating book is devoted to the idea of a multiverse of which our own universe is only one of an almost infinite number. If there are plenty of other universes, it is not surprising that we would have wound up on one that seems designed or fine-tuned. He is quick to admit that this is speculation, but also proposes that there may be ways in the future to test if a multiverse might actually exist. It is an attractive idea. Is it testable? It is exciting to think that good minds are working on the problem, and we can wait and see.



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Good in Parts

***Quantum Leaps in the Wrong Direction*; Charles M. Wynn and Arthur W. Wiggins (Cartoons by Sidney Harris)**

There is an old cliché about the curate's egg - it was good in parts. This book is like that. The first part of the book is very good, and gives a plain and easy-to-understand explanation of the scientific method and what it means to say that something is science based on reality or pseudoscience based on faith or magic.

The problems arise when the authors start talking about specific examples of pseudoscience. They state that there are five major areas where false beliefs have been elevated to the status of science - UFOs and alien abductions, out-of-body experiences and astral travel, astrology, creationism, and paranormal phenomena such as telekenesis and ESP.

I don't particularly like their choice of issues (I think astral travel

is a joke, whereas medical quackery is a pseudoscience which can do real harm) but it is always the prerogative of authors to write about what interests them. My real disappointment comes from the way the issues are addressed. Had each of these different areas been treated in a logical manner by first describing the beliefs and then offering evidence against them then the book would have been more useful in pointing out the consistent inconsistencies in these magical beliefs. Instead we get anecdotes and brief looks at other idiocies (palmistry and tarot are only tenuously related to astrology, for example) so that the point gets lost.

That point is that statements of fact require evidence of fact. The last part of the book is a collection of unrelated and disconnected references to various other forms of crazy beliefs, where what is really needed is a summary of what has gone before. In fact, the last part of the book

looks like something that was added to get the number of words up. (This criticism is not unique to this book - two of the modern classics about rational thinking, Michael Shermer's *Why We Believe Weird Things* and Carl Sagan's *Demon Haunted World* have final chapters which look suspiciously like padding.) I have the feeling that the first two chapters were written as magazine articles and then someone said "Let's make a book out of this".

I may have been overly critical of this book because I read it immediately after finishing *Voodoo Science* by Robert Park. It is not a bad book, just not as good as it could be. I would still recommend it as an introduction to the scientific examination of unscientific ideas. The tools are there and the silly ideas to be examined are there. You just have to do a bit of work to bring them together.

Peter Bowditch

Report

A Case of Psychic failure

The most significant yet the most unpredictable event of 2001 was clearly September 11. No fortune teller, clairvoyant, psychic or astrologer has been able to prove they predicted the event. None of "Australia's best psychics" used their advertisements or columns in *Aussie Post* to warn us of September 11.

Of interest is the post-September 11 rationalisations of those who claim the ability to see the future. Sydney astrologer Ed Tamplin claims success with his pre-September 11 quote "... from August onward, Pluto, the planet of reformation, brings hidden agendas and buried issues to final resolution in a powerful manner" Would knowledge of this prediction have kept you from

the observation deck of the World Trade Centre on September 11?

Melbourne astrologer Isabella Buczek has retrospectively checked her chart for September 11 and with the benefit of hindsight says you can see why it all happened in New York as the Pluto-Saturn opposition only repeats itself every thirty to thirty-three years.

If the seers of the world cannot predict such important events as September 11 were then what hope have they of predicting less earth-shattering events? I have frequently wondered why they are not wealthy recipients of lotteries, of horse-racing spoils or from breaking the bank of every casino in Australia.

This leads onto the issue of

whether or not they believe in their own skill. Have you ever read of an astrologer, psychic or clairvoyant losing their life savings at gambling?

Closer to home few seers have tried to win prizes offered by Australian Skeptics for proof of their claimed ability to see the future even though there are no entry fees! We can contrast their shyness to be tested with that of the water diviners who clamour to be tested. Their eagerness to be tested is to me proof of their believe in their own abilities, whereas the reluctance of the seers to be tested I suggest is evidence that they don't believe in their own claims.

Mark Plummer

Forum

Theology, Philosophy and Psychology

Gary Bakker
Launceston TAS

I very much enjoyed Matthew Birmingham's letter "On Theology" (*Letters*, 22:1) describing theology as pseudo-philosophy.

Even among Skeptics, critical expositions on religious belief seem to be regarded as politically incorrect, in the sense that what is 'politic' is 'prudent'. I assume that the politicians of the skeptical community consider it imprudent to risk alienating that large element that are prepared to chuckle at clairvoyance but defend mainstream religious beliefs as a matter of faith (ie belief without evidence, the antithesis of skepticism). They often claim that religion is useful for "those questions that science cannot answer" such as questions of morality, 'ultimate cause', or the nature of consciousness.

These are issues that philosophy has had a much more detailed and sophisticated go at than theology with its primitive, arbitrary, wishful thinking assumptions about heaven and hell, a metaphysical creator, and nonmaterial souls. At least philosophy is allowed to take into account advances in our scientific knowledge. The Roman Catholic church, on the other hand, took 400 years to retract its condemnation of Galileo.

But I would like to take Matthew's arguments one step further, and ask: though philosophy has gone further with these sticky questions than theology, has it gotten us any closer to some answers? I would argue that it hasn't. Among philosophers – amateur and professional – there are still libertarians (who 'believe' in free will), hard determinists ("everything is caused"),

and soft determinists (who believe both!). There are moral absolutists and relativists. There are representatives of all major religions. There are animal liberationists and shareholders in abattoirs. I won't go on.

Unlike the methods of science, which result in some degree of progression and general agreement, the methods of philosophy appear to be little more than 'ways to muck around with the language so that some questions appear to be meaningful and my muckings answer them'.

Whether we can detect or derive truths by merely thinking or knowing used to be a philosophical debate (the Empiricists versus the Rationalists). This was never resolved by them because it is actually a psychological question requiring scientific study. Such study has shown we can't reach consensual agreement on 'philosophical' issues by philosophical debate. So let's stop claiming to.

By such methods Rene Descartes in his *Meditations* claimed to doubt everything, derived his "I think therefore I am", built from this base, and ended up with Roman Catholicism! A position he coincidentally began with but allegedly suspended during his philosophical process.

I remember in my teens leaning over the side of the bed one night retching, after trying to comprehend the Nothingness that occurs after death – a futile scientific exercise, but an interesting psychological one. I realise now it will be the same for me as it was before I was born. But my petty individual psychological distress at the prospect of 'no afterlife' is a pathetic reason to claim the existence of a spiritual world. What I may want is no criterion of

Truth; it is merely a psychological feature of me.

If I were king for a year I'd do away with philosophy, simply because it doesn't work, and let any perceived remaining gap be filled by semantics, science (incorporating logic and mathematics), and especially science's growing baby – psychology. This latter discipline can tell us why for three thousand years we have chosen to take seriously questions as meaningless as "Who created the world?", which evidences the same semantic confusion but grammatical correctness as "What colour is coincidence?" Or why until recently we've left questions such as "What is consciousness?" to a bunch of self-proclaimed thinkers, instead of subjecting them to proper scientific study.

Interestingly, a philosophical school called the Logical Positivists expounded the view that propositions are either empirical (scientifically testable), or tautologous (definitions or explanations of word use, 'A triangle has three sides'), or meaningless. Unfortunately, the metaphysicians, using semantic confusion and motivated by a desire for human ascendancy and the comfort of an afterlife (psychological rather than logical reasons), simply disagreed and continued to pursue meaningless questions with ineffective techniques. As philosopher Majikthise demanded in *The Hitch Hiker's Guide to the Galaxy*: "Under law the Quest for Ultimate Truth is quite clearly the inalienable prerogative of your working thinkers", to which Vroomfondel added: "We demand rigidly defined areas of doubt and uncertainty!"

So, just as theology is philosophy contaminated by spiritual beliefs ("pseudophilosophy"), philosophy is logic (science) contaminated by semantic obfuscation.

Environmental Skepticism

Chris Guest
Marrickville NSW

I recently read Bjorn Lomborg's *The Skeptical Environmentalist* and was sufficiently impressed by his detailed analysis that I made the effort to obtain some of his source material.

In a section called entitled "The costs of the Litany", Lomborg gives what would appear to be a comprehensive overview of research conducted at the Harvard University Center for Risk Analysis by Tammy Tengs and John Graham. In their initial paper, "Five-hundred Life-Saving Interventions and their Cost-effectiveness", they analysed the comparative cost effectiveness of 587 policy initiatives in terms of their dollar cost per year of life saved. The interventions covered health care, housing regulations, transportation, occupational and environmental controls. As well as a comprehensive tabulation of the 587 interventions they also summarised the information across policy sector and government department by stating the median costs. The environmental sector performed worse with a median of \$4 200 000 compared to \$19 000 for health and an overall median of \$42 000.

Lomborg's presentation of the data focuses on these median costs. In a note he says "The advantage of the median is that it is less effected by very atypical (high) prices." Yet adding the total years of life saved and dividing by the total cost would have given more representative figures, particularly if the data set contained a lot of high valued initiatives that were of relatively low cost, but negligible life saving benefit.

In a subsequent paper, "The Opportunity Costs of Haphazard Social Investments in Life-saving", the researchers jettisoned 402 of the policy initiatives because their initial estimates were derived from geographically limited or small data-sets and comparable national figures were unavailable. Lomborg, mistakenly asserts

these 185 initiatives in the 1996 paper are actually implemented policies.

Tengs and Graham used linear programming to calculate various optimal policy mixes and measured them against the policies that the US government had actually implemented. According to their study, the status quo involved spending 21.4 billion dollars per annum, in order to save 592 000 life years. They found that by changing the policy mix and degree of implementation, a maximum of 1 230 000 years of life could be saved. They recalculated the problem with the added constraint of keeping spending in the five policy areas invariant. Surprisingly, this strategy was still able to save 1 190 000 years of life.

Tengs and Graham also considered a further subset of 134 life-saving initiatives which were proposed (or implemented) by five government agencies. Rather than use median cost per life year as a measure of departmental performance, the researchers obtained an average for each department by adding the estimated cost of implementation for the policy set and dividing by the estimated years of life saved. Although, they omitted their baseline figures from the paper, their optimised results do not reflect the extreme disparities that Lomborg suggests.

With the same departmental budgets, another 86,300 lives could have been saved at a marginal cost per life year of \$1 510 000 for the Consumer Product Safety Commission, \$497 000 for the Occupational Safety and Health Administration, \$45 000 for the Federal Aviation Administration, \$35 200 for the Environmental Protection Agency, and \$23 800 for the National Highway Safety Administration. Yet according to Lomborg "the extremely high typical cost of \$7.6 million for the EPA area is fairly representative of the cost of saving life by means of toxin control".

When Lomborg closes the passage by saying, "the Harvard study gives us an indication that, with greater con-

cern for efficiency than with the [Environmentalist] Litany we could save 60 000 more American lives year", he is guilty of a blatant misrepresentation.

I agree with Ian Plimer when he warns of "the misuse, by self-interested bodies, of statistics ... in supporting scare-mongering and other irrational claims". However, I think it is unfortunate that Bjorn Lomborg has fallen into the same pattern of abuse that he seeks to expose.

Another view

Tony Jurgenson
Innisfail QLD

Ian Plimer waxes lyrical about Bjorn Lomborg and his book, and although I have read neither the book nor any in-depth rebuttals of the claims in it, I have heard that many of these claims have been challenged.

I hope *the Skeptic*, in the interests of pursuing the truth, is seeking comments in this regard for publication in a future issue. [In this issue. See above. **Ed**]

While not being qualified to comment on the veracity of his claim, I suspect that the first part of Ian's penultimate paragraph is somewhat exaggerated. What's that about the pot calling the kettle black?

The same paragraph reports Lomborg's claim that the cost of implementing the Kyoto Protocol could be better spent on providing everyone on Earth with clean, safe drinking water. While the comparison might be valid, I think a more desirable comparison would have exemplified the cost of the armaments trade or the beauty industry. Either of these would enable more than the cost of clean water.

Editor's comment

On your last point, Tony, I think any economist would point out that you pose a false analogy. A bit like "if you banned sport, a lot more people would go to church".

Letters

British Identity

Nigel Sinnott
Sunshine, VIC

As a former employee of the Ancients Monuments Secretariat (now part of English Heritage) I must protest strongly against Liz Armstrong's unauthorised removal of Stonehenge to Somerset ("New look at old legend", 22:1). This could have a catastrophic effect on the Wiltshire tourist trade, and also result in hordes of distressed and disoriented druids roaming the south and west of England at the time of the Summer Solstice!

On a less facetious note, it seems very strange indeed that the link between King Arthur and Wales has not been spotted sooner. The notion of Britain signifying Wales is not new. The Irish name for Wales is *An Bhreatain Bheag*, "Little Britain".

Soon after the Angles, Saxons and Jutes arrived on the island, Albion could be regarded as divided into Caledonia, north of the Firths of Forth and Clyde, shared between the Picts to the north and east, and the Scots (Gael from Ireland) to the west. Most of the Picts accepted the King of Scots as their (often nominal) ruler. Some Anglo-Saxons also settled in the Pictish lands.

To the south were kingdoms of the Angles and Saxons, such as Northumbria, Mercia, East Anglia, Wessex and Kent, known collectively as England; and to their west the British-speaking kingdoms of Strathclyde, North Wales (roughly today's Wales) and West Wales (roughly the West Country). These were collectively called Britain. Their inhabitants called themselves *Cymry*, hence Cambrian, *Cymru* (Wales), Cumbria and Cumberland.

West Wales contracted as the Saxons of Wessex pushed the Britons, referred to in Old English as *wælic* or *wealas* (foreigners), out of Devon and Somerset into Cornwall (the *wealas* of Cornovia). Cornwall and Wessex were eventually absorbed by the kingdom of England.

After a while Strathclyde and northern Northumbria sought the protection of the King of Scots, so they and Caledonia formed the kingdom of Scotland. This explains why Glasgow is British or Old Welsh in origin, and Edinburgh Old English (Edwin's *burh*). The rest of Northumbria (south of the Tweed) remained part of England.

After the conquest of 1066, the Norman kings of England grabbed the southern part of Strathclyde (today's Cumbria), and so the boundary between England and Scotland settled down along the Cheviot Hills. The Normans gradually conquered Wales as well, and the old concept of Britain disappeared. Britain nowadays means the whole island of Albion. Just to confuse matters further, the name Albion survives in Irish and Gaelic, as *Alba*, but it means just Scotland. And when the French mutter "*Albion perfide*", they are usually grumbling about the English!

More British Identity

Mark Newbrook
Monash University VIC

Liz Armstrong (22:1, p 47) is happy to accept Blake & Lloyd's interpretation of King Arthur. But, as I pointed out in 'A tale of two Arthurs' (21:1, pp 47-52), their work is only one of many recent attempts to establish the exact

location of Arthurian events; and, although it is one of the less 'fringey' of these books, the authors are too ready to treat the entire Arthurian cycle as relating to genuine events in the confined area of North Wales.

Now it is indeed likely that any dimly-remembered historical ruler loosely corresponding with Arthur was active mainly in and around what we now call Wales. But the Welsh texts referred to are familiar to mainstream scholars, and (again as I noted) there is no good reason to believe that they pre-date Geoffrey of Monmouth as Blake & Lloyd claim. They are not alone in this (see my earlier piece); of late there has been a surge in the idea that Geoffrey's supposed Welsh source was real, but in fact it very probably never existed. (If it had existed, it is ridiculous to suppose that

Welsh words would have troubled Geoffrey. He was himself Welsh, after all.) In addition, Blake & Lloyd's claims about geographical terminology and specific place-names are often overstated or speculative. Even if they may sometimes be right, eg about the political use made of the Arthurian legend in medieval times, they cannot be regarded as authoritative. All such books should be treated with caution.

What bloody identity?

Justin Wills
East Chatswood NSW

Why is it that when minor politicians, orotund columnists, underemployed lecturers in improbable disciplines and other pundits of like kidney are at a loss for something to pontificate about, they trot out the old cliché about "Australians are searching for a national

identity”? More puffed-up nonsense has been written and spoken about this non-topic in recent years than about almost anything else, and we should be skeptical whenever the question arises.

What the hell is a “national identity” when it’s at home? How does it differ from a “national stereotype” or does the difference lie only in the eye (or prejudice) of the beholder? What is the national identity of Italy? Malaysia? Iceland? Bolivia? Botswana? and are the citizens of these disparate nations also being constantly badgered by their punditocracy to search for one?

Shouldn’t we leave pontificating to the Pope who is, after all, the only person actually paid to do it?

Propaganda or not

Tim Train

Raymond Terrace NSW

In his article *Reds Under the Bed After All*, Colin Keay offers his usual spirited defence of nuclear energy. In this, he has my qualified support. I will continue to appreciate his willingness to inform people about nuclear energy, and its potential benefits.

But he seems to go a bit off the rails in this article, offering what is, in effect a conspiracy theory. His main contention is, that the objections to nuclear energy in groups such as Greenpeace and Friends of the Earth, were begun by communist propaganda. What is his source for this? A book which was published in 1986, by Richard Deacon, which ‘surveys the role of cleverly planted disinformation in shaping world views on a variety of subjects from UFOs and Star Wars to genetics and nuclear power.’ Certainly, Keay may have found the book ‘remarkable’ – he quotes a number of startling conclusions – but he doesn’t offer much by way of evidence for these conclusions. His main points are: “The Soviets wanted not only to hamper ... weapon production, but also cripple Western nuclear energy programs.”, and that “... the Friends of the Earth

drew support from known communist sources”.

I can’t really accept these points (especially the second one) – and I don’t think many readers would – without first seeing a wide range of evidence, from various sources, supporting these conclusions. It is possible that Deacon’s book does access a wide range of sources – in which case, Keay really should have gone into the matter in more detail. Also, if we accept that the Soviets were using propaganda in such a manner, then it might be equally easy to accept that Deacon’s book was American propaganda.

A simpler explanation for the adverse public reaction to nuclear energy is possible. Many people who have become acquainted with nuclear energy through the atomic bomb, Three-Mile Island, and Chernobyl, would be understandably apprehensive about the use of nuclear energy. Keay at least acknowledges that these may have played a factor in the debate:

I also had arguments ... with a colleague of mine, a one time member of the Communist party. On the scientific side, I was able to score well, but the claim that nuclear power was a social problem requiring great care by all involved was a standoff, until the Three Mile Island melt-down in 1979. Then there was much ‘I told you so’ rhetoric. Seven years later Chernobyl exploded. Score: one all, East vs. West. Except that Chernobyl was a vastly greater human disaster...

I would have thought that the explosion of the nuclear reactor at Chernobyl, and the subsequent loss of life due to fallout, cancer, etc, was obviously and directly attributable to social and political mismanagement, thus supporting of the claim that ‘nuclear power is a social problem requiring great care by all’. Chernobyl was obviously a vast human disaster, and should have been avoided at all costs. This is clearly not Soviet Propaganda – it is simple fact.

Perhaps Keay is professionally annoyed at the prevalence of misinformation regarding nuclear energy in the community. In which case, he might find it useful to blame Soviet propaganda, or to concoct a believable

Soviet conspiracy. I would suggest, however, that the best approach to take would be to continue to inform the public about nuclear energy – why it works, how it works, and what the potential benefits and dangers might be. I am only one amongst many readers who would appreciate Keay’s efforts all the more if he were to take this approach.

Since I am a member of the Hunter Skeptics, I had better end on a note of thanks, before Colin murders me! I was pleased by his other contribution to *the Skeptic (A Sound Skeptic)*, on a fascinating subject – and I will always support Keay in his campaign to provide real information about nuclear energy.

On apricots

Jackie French

Braidwood NSW

The short answer to your query (*Around the Traps*, 22:1) re apricots v other stone fruit is: sunlight and water.

In the past 31 years I’ve grown Moorepark, Glengary, Trevatt and Newcastle apricots, and have eaten many more varieties overseas, and although each variety does taste subtly different, in each case the deliciousness of the fruit depends on when it’s picked and where and how it’s grown.

Commercial apricots are picked while firm and pale green. Firm green apricots don’t bruise on the way to market. Although the green apricots will turn yellow they’ll be mealy and tasteless. The more sunlight an apricot receives, the better it tastes; the best fruit is ripened till soft on the tree, and grown on sunny hillsides. Irrigated apricots, and apricots grown in wet seasons, also have little flavour, and as growers are paid by case and kilo, it pays to produce large soft irrigated apricots rather than small tasty ones.

The flavourless tomato was mostly a problem of variety: one ad to convince growers to about the virtues of the new no crush tomatoes featured a

tomato under a boulder, with no squish, no juice!

Early commercial peach varieties are pretty flavourless: the early ones that do have flavour are very soft and don't travel well: a stunningly subtle scent though. But you won't find them in Australian markets, though in France and Italy you may – well wrapped in tissue paper. The later you buy your peaches, the more flavour they will probably have; and unlike apricots, peaches don't become markedly sweeter in the last ten days of growth – once they have reached maximum – ie marketable – size, they have just about reached their maximum sweetness, though a tree ripened peach is still a few degrees more heavenly than a chilled one. (If you bite into a firm ie 'green' peach it will be crisp, but reasonably sweet. My son who grew up with a few thousand peach trees *et al* prefers to eat his peaches crisp, not soggy - they are just as sweet as the ones left to soften)

Nectarines ripen later in summer than apricots (late Dec/Jan/Feb as opposed to late Nov – early Jan), so get more sunlight anyway, and are also firmer, so are usually picked reasonably ripe. But unlike peaches nectarines quickly lose their sweetness in cold storage – cold storage nectarines are floury and stale tasting, but if you only buy nectarines in December/January you should get decent ones. If you are really desperate for decent apricots (one you can hold at arms length and still smell apricot) there is one grower in the Araluen valley who still picks his soft and ripe, who might be persuaded to bung some on a courier for you in early December. Otherwise... grow an apricot tree!

Re your experience with 'energised water' – on receipt of a large envelope of used bank notes, I'll send you a bottle of our 'de-energised water'. This is the water that has been used by our water wheel to generate the electricity that powers my computer. As our forthcoming publicity campaign will attest, all the energy is taken out of the water to power our house; thus making the water a perfect antidote for suffers from city stress (or the consequences of drinking energised water).

Metaethics

Mark Newbrook
Monash University VIC

James Gerrand (22:1, p 45) identifies what he believes is the conclusion of science on the basic point of metaethics (the nature and status of moral statements). Not quite. Science can be understood only as dealing - perhaps accurately – with the origin and nature of ethical responses and beliefs.

Unless some absolutely unprecedented re-conceptualisation occurs (and can be justified), questions as to whether or not these responses and beliefs reflect or fail to reflect abstract ethical truths, and the more fundamental question of whether and in what sense such ethical truths exist at all, are outside the domain of science. This is not to say that they are illegitimate questions (only old-style positivists would think so).

Of course, such issues are intrinsically more difficult to resolve than scientific matters; and philosophically naive scientists might be tempted either to dismiss them or to try to collapse the issues into others which are amenable to scientific treatment. But to do this is scientific, and hence is itself illegitimate.

Does gambling lead to religion?

Helen Lawrence
Lewisham TAS

I have puzzled over Garry Dalrymple's hypothesis. I think he is saying that the gambling instinct in "pre-humans" led them to a belief system. However, later in the letter the theory gets turned on its head, and religion is *responsible* for human heroics. I question evidence based on one dog, and wonder what "In the wild, animals do not take chances" really means. Risk taking is part of life. Mammals that reproduce in large numbers (altruistically) have evolved this method to deal with risk. Only a few will survive to breed. On the other hand,

precocial mammals like us have other ways to deal with risk; long gestation periods, small numbers of young, more sophisticated parenting. Humans and their antecedents are in no way unique in this aspect, nor in trying out new survival techniques, seeking pastures greener, etc. Life just is a gamble.

Antecedents of *Homo sapiens* left no sign of having a religion (apart from Neanderthals who may have buried their dead – a theory that is highly speculative).

What *is* known is that a rich array of world wide myths strongly suggest that religion developed via language; and painting, carving, sculpting and abstract thought. It is quite likely that religion developed *in association* with controlling risk.

Omniscience v Free will

Blair Alldis
Noosa, Qld

Australian Skeptics does not challenge religious claims such as the existence of God on the grounds that this belief cannot be tested. I do not agree with this policy but I must accept it even though much space is given in our "journal of fact and opinion" to beliefs which cannot be "proved" or "disproved".

However when a logical contradiction is involved in any belief system I believe that this is a valid reason for our attention.

The Christian religion (and no doubt many others) hold the omniscience of God and the existence of free will for human beings as corner stones of their faith and I offer the following argument for scrutiny and comment: **A Proof that the Omniscience of God and the Existence of Free will are Logically Incompatible.** Decisions in life are, of course, not always between a simple "yes" or "no". However there are occasions when we do encounter such crossroads.

Let me suppose that at some specific time in my future I will be obliged to take either path A or path B, (ie to choose one of only two possible courses

of action, for example either to **do** something or to **not** do it).

If God is omniscient then God must know now which path I will choose when the time arrives for me to make this decision. If I choose path A when this time arrives, it is absurd to say that God knew all along that I would choose path B. If I choose path B it is absurd to say that God has always known that I would choose path A. It is a contradiction to say that one can know something to be true if in fact it is false. If something is false, it is possible to feel certain that it is true but one cannot KNOW that it is true - knowledge is the awareness of a truth.

Hence when the time arrives for me to make the choice, I must take the path that God has always known I would take and since there is only this one path that I must take, I have no free will in the matter, i.e. no choice.

Hence free will and the omniscience of God are logically incompatible.

Hidden agenda?

P.L. Riley
Blacksmiths NSW

I have a gut feeling that many of our influential institutions such as the Board of Film Censors, Parliament, Human Rights and Equal Opportunities Commission, The Australian Broadcasting Authority, have been infested with religionists who are working to their own agenda. This does not bode well for society as a whole, the freedom of speech, the freedom to criticise nonsense, to be able to read, see and hear that which is available to be read, seen and heard without interference.

The Board of Film Censors who gave the film *E.T.* a "G" rating when first released and contained scenes with guns and a 'PG' rating when the guns were substituted by 2-way radios. I suspect the subject matter is the concern of the latest bunch of censors. Guns are OK.

The HREOC who cannot or will not define the three words that form the

basis of *Article 18; The freedom of religion and belief*. "Theistic", "Non theistic", and "Atheistic". [I am sure that any Skeptic can define the words and spot the mistake.] Also in *Article 18*, anti-vilification laws are being mooted to protect the righteous from criticism. The laws will be the 21st century substitute for the Pope's favourite toys, the Inquisition, the torture chamber and the burning stake.

The Australian Broadcasting Authority who have the power to prevent false claims from being advertised (They did it with Carters Little Liver Pills) The ABA, working to a double-standard, allow religious advertising whose claims are not only unprovable but an insult to peoples' intelligence (an audio CD that bring one closer to God!). Had Carters claimed that their little pills gave one glimpse of the hereafter, or a pre-death harp lesson from Gabriel [order now, use your credit card and get an autographed picture of St. Peter FREE] they would probably still be selling their little liver pills.

All Members of Parliament who were asked the simple question "Is it right and proper to teach a controversial subject to six-year-olds?" would not answer. A controversial subject cannot be 'taught' to anyone. All that can be done with it is to present it for discussion and debate which is something a six-year-old cannot do. The practice is rife, however, in public schools, using the excuse that the parents permit it. One controversial subject uses an erroneous "text book" and the subject is being taught as the truth, the whole truth and nothing but the truth. I refer (as if you didn't know) to Religious scripture lessons. We hear a lot about child sexual abuse but child mental abuse can leave scars just as deep and can be just as psychologically damaging as sexual abuse.

It would seem that the more tolerant of religion we are, the more intolerant it becomes. Has my gut feeling any validity?

Faecology

Win Fowles
Moffat Beach QLD

I like my health benefits fund. Its administrative overheads are low, it responds quickly to claims and it is (probably) the only fund not to raise its rates in the recent health fund feeding frenzy.

Imagine my surprise upon discovering my otherwise excellent fund now allows claims for all sorts of 'alternative' medical treatments. Why, I wondered, do they waste my money thus?

Research on the Australian Sceptics website quickly revealed I was not the first to evince concern about this practice. I discovered in the Qakatak visitor book that the estimable Richard Arrowsmith had written to his health fund on the same subject, so I pinched his letter (please don't sue me, Richard) and adapted it to suit my fund. In breathless anticipation I mailed my missive.

My phone rang just a couple of days later. The caller was my health fund's assistant general manager. To cut a long yarn short, he confirmed that the fund will pay (up to its published limits) for any, repeat any, 'therapy' provided the practitioner has an ABN and issues a tax invoice. Medical efficacy is not a prerequisite.

And why does the fund do this? Two reasons, he said:

1. Most fund members said in a survey that they wanted benefits for alternative practitioner treatment. (What an indictment upon my fellow fund members.)
2. It is cheaper for the fund to pay up than it is to hire clerks to field angry demands from members who have their iridology or other'ology claims knocked back (as was the case until recently).

I have sympathy for the fund's management on the latter point. Management has made a straight commercial decision. So, clearly, have other health funds. But that does not make it right.

It seems to me that the only way to stop this iniquitous practice would be

by federal government intervention. After all, the health funds receive taxpayer largesse as well as direct member contributions so the feds have a legitimate interest.

But I am under no illusion that the present, or any, federal government would take action based on the objective evidence – too many lost votes.

So if you can't beat 'em, join 'em. With this in mind, my son and I recently developed a new diagnostic therapy after many minutes of exhaustive research and karmic consultation. Of course we are not sure if it works but no one can prove it doesn't and that's good enough for us. We will both become rich beyond the dreams of avarice as our therapy is embraced by the gullible, all at the expense of the health funds and the Australian taxpayer.

Now to the method. Patients give us a microscopic stool sample (homeopathic size – we don't want icky faecal smells, thank you) in a special patient-sealed vial that we provide in advance for a small fee.

We then analyse the sealed vial in our proprietary S-meter. (Readers would know that an S-meter is sort of like an E-meter but without the overt religiosity.) Next, the patient receives an impressive computer-generated printout of his/her maladies as diagnosed by the S-meter. A larger fee applies here, of course. We then refer the patient to a nearby purveyor of natural nostrums for treatment, not forgetting to skim our 10% on the way through.

Oh yes, we give the patient a tax invoice showing our ABN and unconscionable fee. Off it goes to the patient's health fund and before you can say Milan Brych we are poncing around in Ferraris and living it up in a Gold Coast high-rise. And it's all legal.

By the way, we call our therapy 'Faecology' - pronounced Fake-ology', as if you had not already worked that out. We confidently expect faecology to be a raging success here in Australia and, nanoseconds later, California. Franchises are available for paid-up Skeptics.

You heard it here first...

Testing psychics

Charlie Parsons
Mt Waverley VIC

I wish to support Graeme McDowell's suggestion (*Letters* 22:1) of a system of 'names' to flush out some psychics (I love that word 'flush'). It is patently obvious that a mere \$100,000 is not working, as there are pages and pages of them touting in local rags and pulp magazines.

One of their best-kept secrets is that they win all the Tattslottos, using their superior powers. If you ask them they will deny it, but one of their defectors told me of it.

My suggestion is a flier in the next issue soliciting promises in units of \$1000, such promises to lapse in the event of the subscriber ceasing to subscribe, or moving on to the next world.

I would think it would take at least \$M1 because these people are very busy and not generally interested in a bunch of crackpots like us.

Reply

Your suggestion mirrors the method James Randi used initially to get a guaranteed \$M1 for his challenge. Hundreds of people (including me) put up sums of \$1000 or more but JR has since found a sponsor who has guaranteed the whole sum. Not too surprisingly, he has about the same number of claimants as we do, and rarely (if ever) from 'professional psychics' of the sort you mentioned. The majority of claims we get are from self-deluded individuals, who often can't explicitly say what it is they think they can do.

In my experience, the professionals use one of two arguments to avoid being tested.

1. *The tests are rigged and no one could possibly win them.* This in spite of the fact that we clearly state that any test of paranormal abilities we conduct must have an agreement, in advance, between the claimant and Australian Skeptics as a fair test of the ability.

2. *No psychic can personally benefit from his ability.* I have asked many psychics if this is because of some sort

of "code of ethics" among psychics, or if it is some sort of natural law, like the one that says if you jump off a tall building you will eventually hit the ground with a splat. Thus far, I have never received a satisfactory answer.

Many psychics use both arguments interchangeably, but I suspect (nasty old Skeptic that I am) that the truth is far simpler – professional psychics won't be tested because they know very well they won't win any fair test for a 'real' paranormal ability, because they know very well that what they are doing has nothing to do with psychic powers and everything to do with amateur psychology. Still, we live in hope. **Ed**

Public lies

Tony Jurgenson
Innisfail QLD

Jackie French's piece on public lies (*Letters*, 22:1) had much going for it up to the end of the second paragraph. Then she seemed to succumb to those sub-conscious beliefs (so hard to eliminate, even for Skeptics) instilled in us by the brain washing techniques employed during our childhood.

How can it be OK for an archbishop to promise life after death, even though he cannot prove it, yet advocate punishment for others who promise a cure for illness, even though they can't prove it. Both basically rely on selling ideas/dreams in order to obtain the resources (money) to enable them to pursue their own goals.

If the media is to be believed, the world is currently awash with a plethora of religions. I wonder how many would still be around if they did not enjoy the tax free benefits they do, almost universally?



Visit Melbourne during the Spring racing carnival and attend the:

Australian Skeptics Annual Convention

Leaving It To Chance: Gambling, Superstition, Science

Melbourne University, Old Arts.

Sat & Sun November 9-10
9-5 pm (7 sessions daily)

Featuring:

Overseas Keynote Speaker: **Dr Narendra Nayak**, Indian Rationalists: "Godmen and superstition: being a sceptic in India" Dr Nayak is an expert in the tricks of the "Godmen" and will perform some at the convention. Come see some magical miracle mongering.

And:

The Rev Tim Costello: the impact of gambling in Australia

Valerie Yule: psychologist: why gamblers always believe they'll win

Paul Rylance: the gambler's reality: casinos around the world

Andrew Scott: Beating them at their own game. Andrew runs his own blackjack school and has been banned from every casino in Australia.

Also:

Dr Paul Willis (ABC Science Unit): how to fool a Creationist...with a roast chook .

Prof Alan Trounson: who wants to be a clone?

Bob Nixon (Chief Investigator, Aust Skeptics) and

Ray Crossley (Dowsing Society of Vic) : Digging the dirt on Dowsing

PRICES: \$45 for one day and \$75 for both days

Students/concessions: \$30 for one day and \$50 for both days

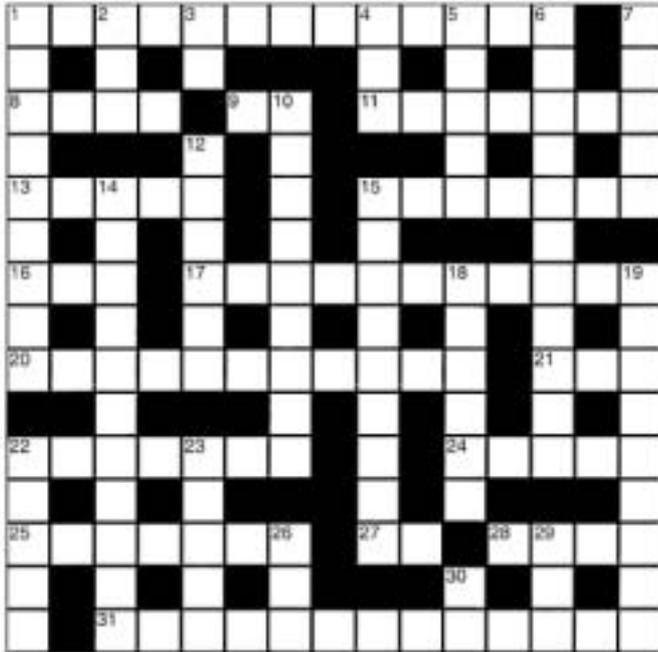
Annual Dinner to be advised. Full details in next issue.

Ph 1800 666 996

Competition

Skeptic Crossword No 15

(Compiled by Tim Mendham)



Return to Skeptic Xword
PO Box 268, Roseville 2069

Name: _____

Address: _____

Entries will not be opened until August 10. The first correct entry opened will receive a book by Richard Dawkins.

Solution to Crossword No 14



The winner of Skeptic Crossword No 14, and a copy of Richard Dawkins' *Climbing Mount Improbable*, is Chris Short of Blackburn, Vic.

Across

1. The attenuated ability to change chewie with the mind? (13)
8. Bull in a hurry? (4)
9. As an afterthought the bookie will back it? (1-1)
11. Animated coot ran all over the place. (7)
13. Los Angeles' missing in action, taken by bloodsuckers? (5)
15. A passenger vessel puts it straight? (7)
16. Offend the eye between extremes. (3)
17. These miners are blown to bits. (11)
20. By chance take the plunge into calmness (in Sri Lanka). (11)
21. Brief doppelganger? (3)
22. It's true - I find myself in property! (7)
24. Yuk, Little Richard must be a Hungarian. (5)
25. Conceives of a confused sea tide. (7)
27. Personal chart backs up a valiant gong. (1-1)
28. Wrongly accuses us of alien craft. (1-1-1-1)
31. Strange persons suit it when they have irrational beliefs. (13)

Down

1. Immobility caused by strange lays in Paris. (9)
2. Affirmative coming before Oldes. (3)
3. Train gauge good for a laugh. (2)
4. Not elsewhere classified as electronics company. (1-1-1)
5. Arise in an eastern inn. (5)
6. Ponder bones of Uri? (11)
7. Not a warrior princess, just some cards. (5)
10. If you madly study pi it will confirm thickness. (9)
12. Dad's boy not someone to be proud of. (6)
14. Telepaths live in terror of the goonish Ms Bannister. (11)
15. Lack of belief means he is in the attic. (9)
18. SF weapon invented by US president? (6)
19. Expect bad manners from crazy Miss Coles. (9)
22. PSI researcher in Lorelei's lair. (5)
23. Posit strangely at the pinnacle of achievement. (2,3)
26. Rise up, mostly, for the knight. (3)
29. Trailer of to and a Fellow of the Royal Order? (3)
30. French and alien. (2)

Please advise us of any address change.

Copy deadline for the next issue is August 6.