

The

Volume 12 Numbers 3 & 4

Skeptic



MARS: the mystery planet?

Also in this issue

Radio psychics and "cold reading"
In search of the Loch Ness Monster
Near-Death Experiences
Hare Krishna's strange astronomy
Scientists who go off the rails

Plus News • Book Reviews • Comment • Humour

Hilary Evans' *Paranormal Picture Gallery*



DO YOU COUNT the guests when you attend, or give, a party? Oh, but you should! For if thirteen should sit down at table, woe will betide one or other of you before the year is up.

Well, statistically speaking, that is likely to be true anyway: but be that as it may, the notion that the number 13 is over-the-odds ill-omened is a widespread and persistent one. Though commonly referred back to Jesus's final meal with his twelve disciples, the superstition actually predates AD. The ancient Romans regarded 13 as a symbol of misfortune, and Jesus was following a tradition, not creating one, when he drew up the guest list for the Last Supper.

Source: Charles Gibson, in *Allan's Family Journal* (Sweden), 1925

Contents

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Volume 12 Numbers 3 & 4

| | |
|--|----|
| Skeptic in Chains | 4 |
| Wendy M Grossman | |
| Hits and Misses | 5 |
| Behind the Red Planet | 9 |
| Paul Chambers | |
| Skeptical Stats (part 1) | 14 |
| Immortality Revoked | 15 |
| Barry F Siedman | |
| In Search of Nessie | 18 |
| Lucy Sherriff | |
| Radio Ga-Ga | 20 |
| Tony Youens | |
| It's Astronomy, Jim, But Not As We Know It. | 24 |
| Marc LaChapelle | |
| The Skeptic's Dictionary | 25 |
| Robert Todd Carroll | |
| Scientists and the Paranormal | 26 |
| Harry Edwards | |
| Fantastic Skepticism | 29 |
| David J Eccott | |
| TEOTWAWKI | 33 |
| Wendy M Grossman | |
| Skeptical Stats (part 2) | 34 |
| What Really Happened? | 35 |
| Peter Ward | |
| Sprite | 41 |
| Donald Rooum | |
| Rhyme and Reason | 42 |
| Steve Donnelly | |
| Philosopher's Corner | 44 |
| Julian Baggini | |
| Reviews | 45 |
| Letters | 54 |



Skeptic in Chains

Wendy M Grossman

THERE'S SOMETHING depressingly cyclical about skepticism – like the stock market, or the going in and out of fashion of Birkenstock sandals. The other day, I got a call from a very unhappy BBC researcher in search of skeptical comments on the subject of the Shroud of Turin. Some bright soul has found pollen grains in or on the Shroud that come from flora only native to Jerusalem. Now, I know you're going to say, "So what?" So did I: after all, it's hardly miraculous that objects can move around in space. No one's doubting that. There is nothing inherently mutually contradictory in the Shroud's having been both created in the 13th or 14th century and having been in Jerusalem.

The BBC researcher's problem is that this is what he thought, too. But one of the rules of journalism, at least if you're writing features rather than opinion columns, is that you must quote other people. You're not allowed to have opinions yourself, because of course, you're not an expert. They're the story, not you. And so on. Our researcher, therefore, was unhappy because as far as he was concerned this was a non-story. But he still had to write it, and quickly. Remember him, next time you get mad at the media for covering some stupid story.

Not that people outside the media can't be equally stupid. Lately, I've been fascinated by the fortunes and lack thereof of Internet stocks. There seems to be an endless supply of Net-related companies that have shown nothing but losses in their short lives. There is, of course, an even more infinite supply of suckers – er, speculators – willing to buy their stocks at prices so over-inflated that even the least unprofitable ones (oh, all right, there are a few with positive earnings, just) won't pay back their current valuation out of their earnings for something like 1600 years. At that point, someone will carbon-date their share certificates and will doubtless find that the paper they were printed on is contaminated with cocaine that can have only been derived from plants that grew in Atlantis.

Still, the Shroud of Turin made a nice change from the more usual cycles – crop circles (by the way, the *Cereologist* has accused us of being part of a well-funded international conspiracy to suppress ideas that might up-end the status quo), astrology, and so on. It makes a skeptic's life kind of hard, since how many times can you say the scientific evidence doesn't support the claim that astrology is true without becoming boring? My guess is that it gets kind of repetitive for the other guys, too, and that this explains why everyone leapt upon Feng Shui as a

new fad with such glad cries of delight.

So what with one thing and another it was a dull summer, skeptically speaking. Until the eclipse happened. From the moment of black dawn off the coast of Nova Scotia (credit to the *Independent's* writer for coming up with that phrase) to the end of the 167-mile-wide path of totality's race across Europe at some 2,000 miles an hour, it was truly the most compelling show on earth. In Kew, where I was, 95 percent of totality meant the light took on a smoked-glass quality. Because it was a clear day it wasn't obvious outdoors how much the light had dimmed; but indoors it was as dark as twilight on a winter's day.

Everyone I've spoken to about it, no matter how scientifically trained, experienced the same visceral reaction: supposing it doesn't come back? Intellectually, of course, you knew it had to: there is no mystery about the workings of eclipses, and the sun has never failed to reappear in all these millennia. But in those moments it was possible to identify completely with all the humans up and down the ages who wondered the same thing.

Hidden in the grandeur of the moon's moment of exerting its power over the sun was a wonderful vindication of the power of science. Much of astronomy deals in claims that are beyond proof to most people. Quasars, black holes, pulsars, the age of stars invisible to the naked eye – how can any of that be easily proven? But astronomers predicted to the minute when the eclipse would appear, and then it arrived, on schedule, beyond all doubt. Whatever else it overshadowed, it certainly made the nebulous claims of astrology, ESP, and those other things look shabby. When they can come up with this level of proof, we might be able to stop the endless cycle of argument.

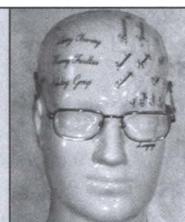
Wendy M Grossman is editor of *The Skeptic* and a writer and folksinger.

Editorial meeting

Copy date for the next issue: February 1, 2000.

Next editorial meeting:
the week of March 7, in Kew.
Call (07020) 935370 10am to 9pm or email
edit@skeptic.org.uk for details.

Hits and Misses

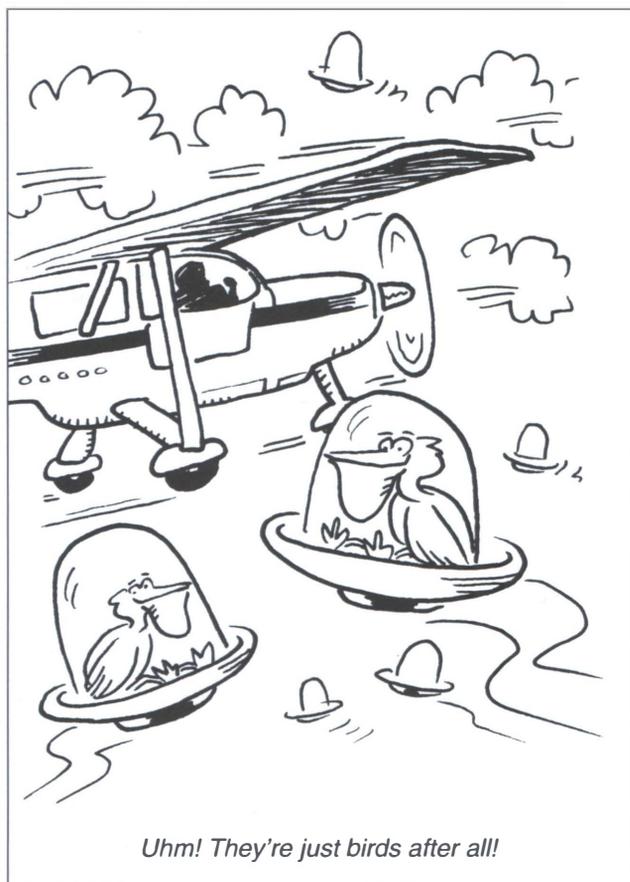


Superbirds

Scottish researcher James Easton figures he may have found the explanation for a hitherto mysterious UFO sighting on June 24, 1947, when Oregon private pilot Kenneth Arnold spotted a formation of nine unusual objects which "fluttered and sailed," their wings occasionally reflecting light from the afternoon sun. Arnold thought they flew like a flock of geese, but thought they seemed to fast for birds, and so he concluded they must be a new type of military jet. They flew, he told reporters, like saucers skipping across water – and thus was the phrase "flying saucer" formed.

Easton figured the most likely explanation was that the objects were birds, and in an on-line discussion birders from the Pacific Northwest identified the objects as American White Pelicans, which weigh up to 30 pounds and have a wingspan of ten feet or more. These birds have been clocked flying at speeds of 52 mph.

Further research showed that the "pelican theory" surfaced as early as July 1947, when another local pilot experienced a similar sighting but was able to identify the objects definitively as White Pelicans.



Tim Pearce

Moonstones

Alonzo Fyfe, of Applied Space Resources, has emailed to thank us for including the news – in last issue's *Skeptical Stats* – of his company's plans to charge \$200 for a pea-sized moon rock. As expensive as that sounds at first, Fyfe points out that the prices typically paid for a 1g fragment of a meteorite determined to have been knocked from the moon and fallen to Earth is \$35,000. The top bid for such a thing – a 0.2g (1 carat) fragment of lunar material brought back by Russia's Luna program was an unbelievable, whopping \$442,000.

Finally, he points out that although the pictures taken by NASA and JPL belong to the public under their charter from the US government, none of the material brought back on the Apollo missions is allowed to pass into public hands. "If anybody," he notes, "ever tells you that they have a genuine piece of lunar material brought back by the Apollo missions to sell you, please inform the local authorities. They are almost certainly lying. Or, somewhere along the line, somebody has broken the law."

In other words, the availability to you, the willing buyer, of moon rocks depends on private space flight getting off, er, the ground. Gives you plenty of time to save up for it, anyway.

It's a miracle, but don't look!

Meanwhile, over the summer, the government was worrying about our eyesight; or, more particularly, how easily we can damage it by looking directly at the full eclipse which duly occurred on 11 August.

Warnings about the dangers of looking at the sun have been plentiful for decades. In the US, TV shows and newspapers explain how to watch the eclipse safely by using a special viewer, easily constructed out of some cardboard and a pin (used to punch a pinhole in the card). A logical politician might, therefore, have considered making it easy for people by giving ready-made viewers away – in the Sunday newspapers, perhaps, or in large piles in supermarkets. Then everyone would have had a viewer, and when they were tempted outside by the extraordinary phenomenon of it getting dark at midday, they'd have had a way to see the eclipse safely.

The government's advice? Stay indoors and watch it on TV.

This moronic and anti-scientific message is more understandable as a phenomenon when you reread an article by Thomas Sutcliffe in the *Independent* considering the question of whether MPs may be said to have independent intelligence and an understanding of language: "In many cases they don't have a clue what they're 'saying' – they simply make the right noises because they've learnt to associate them with reward."

Nostradamus misses again

A recent email message from Belgium announces that the prophecies of Nostradamus are finally and definitely taken care of. The message has nothing to do with the fact that July 7, 1999 passed without the world's coming to an end (although the US did manage a spirited rendition of the prediction that a holy king would fall from the sky when John F. Kennedy Jr hit the sea a couple of weeks later), but instead claims that Nostradamus was a plagiarist.

According to a book by Belgian citizen Rudy Cambier (which the email message advertises), the original text was written between 1322 and 1329 by Yves de Lessines, a prior of the Abbey of Cambron, and was a fantastical tale, not predictions at all.

I suppose every classic artist has to live with this kind of thing. Over the years, people have attributed the works of Shakespeare to Christopher Marlowe and Francis Bacon, the Nazca lines to aliens, and the Turin Shroud to Leonardo da Vinci. It will be interesting to see what historians make of this new claim. At least we know Nostradamus didn't predict it.

Everybody gets butterflies

A big story this year has been the growing and marketing of genetically modified (GM) crops, writes Simon Brophy. The British press have led the charge by naming these things 'Frankenfoods' (how helpful, unemotive and non-inflammatory – well done, chaps). This term shows that the members of the fourth estate have not only managed to misunderstand the concept, they have also apparently never read the book: Frankenstein's pathetic monster was stitched together out of bits, like the reverse of a dissection (or several dissections, as it happens), rather than compiled from assorted genes and hatched.

The issue of GM foods is, of course, important. However, the matters raised have more to do with economics and politics, and perhaps biodiversity, than they do with food safety. A sensible review was published in *The Economist* for June 19th to 25th.

While the issue was hot, *Nature* published a paper from Cornell University in Ithaca, NY about how pollen from GM corn (the US term for sweetcorn) was slaughtering the Monarch butterfly. The British press swept this insect into its collective bosom with glee, despite the fact that the Monarch does not live in the UK, and, apart from Disneytime, I don't suppose anybody in the UK has ever seen one. For the record: it looks rather like an estate version of the common tortoiseshell.

What the researchers showed was that if you take tiny Monarch caterpillars and force them to eat leaves coated with pollen from GM corn that contains an insecticidal gene, the little beggars fail to thrive, or even die. Frankly, with most caterpillars, this would be a good thing. But Monarch caterpillars only eat weeds and the adult insect is spectacular, colourful, doesn't sting or smell or make loud noises, and has won several Oscars. As a result, it received a bit-part on the BBC evening news. Prince Charles, the well-known entomologist and Nobel prize-winner, also contributed meaningfully to the debate: "If [GM] plants can do this to butterflies, what damage might they cause to other species?" (I suppose he has a fraternal

interest in an animal called a 'Monarch'. Watch out for pronouncements about 'king snakes', 'emperor moths', and so on in the near future.)

What was completely omitted was any discussion about the benefits of growing GM corn containing the insecticidal gene. Galen Dively, a University of Maryland entomologist said: "Before GM crops, our corn had to be sprayed eight to ten times. Now it's not sprayed at all. That used to kill a lot of ladybugs [ladybirds]. That's no longer happening." According to the *Wall Street Journal*, it is estimated that GM corn saves about \$1 billion per season in the USA because of reduced spraying costs and increased yields.

Electrical faults

Science is not, in general, having a good year. If the protests over Frankenfoods and the acrimonious debates about global warming weren't enough, it can't help the profession's self-esteem to keep seeing these nasty little stories about scientific fraud and/or incompetence (like this issue's Skeptical Stat about the study that found statistical errors in 65% of the articles published in the *British Journal of Psychiatry* in 1993).

Yet another of this sort of story popped up in the *New York Times* in July, when a US federal probe found that a scientist at California's Lawrence Berkeley Lab had faked what was considered crucial evidence tying electromagnetic radiation to cancer. This ought to be good news, of course, since this means that electric power is probably indeed safe, which has to be comforting to anyone who lives near a power plant. The scientist in question, cell biologist Robert P. Liburdy, had apparently eliminated data that did not support his conclusions in two influential 1992 papers; he resigned after the investigation ended and has agreed not to seek further federal funding for his research for at least three years. However, as the article notes, he continues to defend his reputation by saying that his conclusions were correct and supported by the raw data, and the only thing that has been retracted is his interpretation (a statement with which federal experts disagreed).

The question of whether electric power causes cancer has been hotly debated for years. More than 20 research studies recently reviewed by the National Institutes of Health are in agreement: electric power is safe. Most recently, two years ago a study of 636 children with acute lymphoblastic leukaemia sponsored by the National Cancer Institute and childhood leukaemia specialists found no link between electromagnetic fields and childhood leukaemia (the most common childhood cancer). Liburdy's research claimed that electromagnetic fields affect the way calcium enters cells and therefore affects many important cellular processes.

Research will, of course, continue, and there are many other scientists investigating whether a link exists between cancer and electric power; and who knows, one of them may yet prove that it does. The sad tale reminds us, however, that although any individual piece of science relies on humans to carry it out and report it honestly, science as a whole is continuously self-correcting.

Bang! You're dead!

If you weren't worried enough about the world ending – Nostradamus, the bomb, the Year 2000 computer problem – the *Sunday Times* in July published the good news that a machine built at Brookhaven National Laboratories on Long Island (that long, skinny finger sticking out the east side of New York City) could create a real, live black hole here on Earth.

The machine in question is a nuclear accelerator designed to replicate the Big Bang by stripping atoms of gold of their electrons and pumping them into one of two 2.4 mile long circular tubes and accelerating them to 99.9 percent of the speed of light. When they collide at one of the intersections between the tubes, the thinking is that they will generate tiny fireballs of dense matter with temperatures of about a trillion degrees – stuff that hasn't been seen since the Big Bang. As the resulting mess of quarks and gluons cools, emitting other particles, predictions are that solitary strange quarks will appear.

One cheering possibility is that the strange quarks could start an uncontrollable chain reaction turning anything they touched into more strange matter (shades of ice-9 that featured in Kurt Vonnegut's novel *Cat's Cradle*?). The other is that the process could create a tiny black hole which, however, small, could suck the rest of the planet into its intense gravitational field (isn't this fun?). The scientists at Brookhaven hastened to say that both possibilities are extremely unlikely. Nonetheless, apparently they've decided to investigate further before actually turning their \$350 million machine on. Just in case, you know.



Breathe to live

My experience with this year's "silly season," writes *Simon Brophy*, took place while holidaying in France, when I found that the previous occupants of our rented house had left behind a June edition of *Woman* magazine. In it, a lengthy piece profile a female entrepreneur who makes a living charging £12 a time to talk about her experience as a "breatharian" (that is, a person who claims to extract nutrition from the atmosphere). I had never heard of this particular madness before (it is not even mentioned in my battered copy of *Fads and Fallacies*, nor my *Visual Encyclopaedia of Alternative Medicine*), and was pleased to note that the author of the piece was skeptical, even though the magazine considered the item worthy of a couple of thousand words. The best bit was the tag (in italics at the end), a warning to the effect that living as a breatharian (as opposed to merely making a living as one) would result in certain death.

Kind of made the whole article worth reading.

Russian roulette

Sales of science magazines are down in Hungary and Russia since the opening up of the Eastern Bloc, notes British journalist and former *New Scientist* editor Mike Kenward in the Association of British Science Writers' newsletter, *The Science Reporter*.

The reasons, according to Gyula Bencze, whom Kenward heard speaking at a conference on science journalism in mid 1999, are that science magazines are too expensive (\$2 an issue) now that their subsidies have come to an end, and that democratisation has provoked a new wave of interest in both Russia and Hungary in alternative therapies, astrology, miracle cures, and so on – material that under the old regime simply wouldn't have gotten printed. According to Kenward, Bencze also noted that one reason people read science in the days of Communism was it was the one subject that was not politically manipulated: it was the only subject where most reporting was truthful. Ah, the irony.

The Science Reporter is also asking all its readers to inspect all vegetables and fruits carefully after a recent report of a tomato in Bradford that when cut open displayed the name of God in Arabic. Special points will be awarded to anyone who can find the words "Science sucks." Skeptic readers who find such produce, sadly, will probably be too late to win the ABSW's £20 token, but may want to consider sneaking the fruit or vegetables into the fields in use for GM trials, where they might give help and comfort to protesters.

In the category of "weird things people will let their doctors do to them" is the news that some surgeons at the Mount Sinai School of Medicine in New York and the University of South Florida have collaborated on conducting some sham operations in order to find out whether transplanting fetal brain cells really did any good in treating Parkinson's disease. We obviously approve of double-blind testing, and we can't argue that the results, when they're published, won't be very interesting. On the other hand, the Hippocratic oath starts, "First, do no harm." You kind of have to feel that going under general anaesthetic and having holes drilled in your brain and taking powerful anti-rejection drugs for six months,

particularly at the advanced age of many Parkinson's patients (Michael J Fox's diagnosis notwithstanding) doesn't really come in the category of even "mostly harmless." So there have been lots of critics of this test, which was described in the *New England Journal of Medicine* in September, and was sponsored and approved by the US National Institutes of Health. And the patients actually did give their consent, which has to count for something (although there are also people who think it's great to drill holes in their heads, and we don't call them public-spirited, we call them nuts). We are torn: fascinated to know what the results will be, but firmly against unnecessary surgery.

Bad Sci-Fi

Monsanto, which has been much in the news recently because of its "terminator gene" plants, has done an about-face on the subject, in response to public pressure, and now says it will not market these seeds.

To recap: Monsanto had genetically modified a variety of crops to be more resistant to pests (and its own pesticides, so farmers would have an incentive to buy more Monsanto products), but to protect its intellectual property investment in those seeds had engineered them so they would fail to reproduce. As most farmers, logically enough, plant their next year's crops with seed retained from this year's, the change would disrupt thousands of years of farming practice, raise costs for already struggling farmers, and and raise the possibility that other plants, too, might become infected with the terminator gene. Let's hope that Monsanto doesn't try to sneak the same technology in another way so the whole poorly thought-out mess can remain the stuff of bad science fiction.

Space writing

A great story circulated on one of the skeptics' email lists recently. According to the tale, when NASA scientists found that astronauts couldn't write in space, the agency spent a fortune developing the space pen (www.spacepen.com), which famously writes upside down and sideways in all conditions. Well, we know the pen is true. So the story is that when things got friendlier between the US and Russia at some point some NASA guys thought to ask the Russians how *they* managed (because, of course, they never developed the space pen ... or Tang, either – now what does *that* tell us?). We just gave them pencils, came the reply.

Now, it's a very nice story and it's very cute (oh, look at the stupid Americans who always want to spend money when there's a simple answer), particularly if you ignore what space might be like with a lot of pencil shavings floating around. But it's not, as someone a little more informed on the list pointed out. It's one of those urban legends. Early American missions did use pencils. And the pen wasn't developed by NASA, it was developed by the Fisher pen company as a universal refill cartridge; NASA just bought the astronauts some pens.

But it *sounds* true, like all the best urban legends do. Until you remember that this is an agency that's having trouble telling English measurements from metric, so if it did develop a pen, probably the cartridges wouldn't fit.

Psychic junk

A while back, my eye was caught by one of these ads for a talisman. You know the kind of thing: well-attested psychic offers FOR FREE! (how wonderful of them) some kind of charm or caterpillar's foot guaranteed to bring you good luck. What really caught my eye, though, was the little box on the bottom of the form you send in to get the talisman – one of those standard Data Protection Act things that you check if you don't want your name to be passed on (that is, sold or rented) to "reputable companies with offers that may be of interest." I decided to test this out.

The worst that would happen was that I would get some junk mail. The best was that – well, didn't the ad say Maria Duval's talisman could change my life? Accordingly, I filled out the little form using a fictitious name, birth date, and place of birth (all valuable data for advertisers), and sent the thing off. I imagined that somewhere hidden to skeptics was a huge network of New Age organisations all exchanging mailing lists. I would soon, I thought, begin getting solicitations for everything from weird health concoctions to psychic reads of all kinds.

The talisman was fairly disappointing: a one-sided gold card with some unimpressive, vaguely pagan graphics looking sort of like a medallion. However, it came in its own envelope, with a printed warning that no one else should touch it "to prevent any negative waves." Along with the talisman came an order form offering me the opportunity "to adopt Maria Duval, the most gifted medium of our era, as my own personal Clairvoyant and Mentor." For £31, I can get my own personal "horoscope-prediction", and my "calendar of luck." Plus two gifts: 22 major arcana Tarot cards FREE, and a test to try out my own psychic powers.

Anyway, the only things that came for about six months were a couple more solicitations from Duval herself. One told me that Fate was smiling on me and offered me a book of secrets, a lucky pentacle, and Duval's assistance in dispelling negative waves for £16.45. Finally, about six months after the original ad, the god of junk mail smiled upon my alter ego: apparently she has won a prize (maybe, if she sends back a signed form) from the Palm Beach Perfume Warehouse.

Hits and Misses was compiled by **Wendy Grossman** with help from **Simon Brophy**, **Rachel Carthy**, and **David Morton**. Thank you to all our clipping contributors.

Skeptics in the Pub

This event continues into the new millennium. It takes place on the third Thursday of every month at the Florence Nightingale Pub, Waterloo Bridge Road. Speakers for January/February/March to be announced.

Email pub@skeptic.org to get on the emailed announcement list or call Robert Newman on (0181) 686 6800 for details nearer the time.

Behind the Red Planet

Paul Chambers looks at the mysteries of Mars

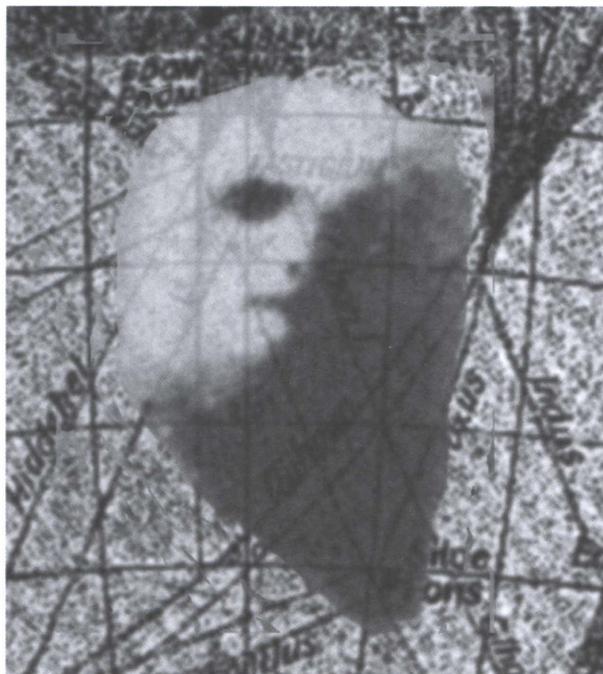
IN APRIL 1998 NASA's Mars Surveyor probe returned a number of high resolution photographs taken of features on the northern Cydonia Plain of Mars. For over 20 years these photographs had been eagerly awaited by both occultists and astronomers and it was hoped that they might settle a long-running debate about whether an alien intelligence had left its mark on the surface of Mars. In the event, the new photographs not only settled this outstanding question, but also proved to be the final chapter in a modern story that shows a strange parallel to a similar debate that occurred over 100 years ago.

Since the late 1970s a minor cult has developed around a series of photographs taken by the Mars Surveyor's predecessor, the Viking mission, which spent nearly six years mapping the Martian surface using two orbiting satellites. This cult is centred around a landform that was photographed by Viking on the northern Cydonia plain of Mars. This feature resembles a human face and has been heralded as proof positive that extraterrestrial life once existed in our solar system. Indeed, the whole affair has become quite an industry which is collectively known as the "face on Mars".

Now that, as we shall see, the face on Mars controversy has been resolved to the satisfaction of most, it can be seen that the whole saga bears a remarkable similarity to one of the most embarrassing episodes in astronomical history, that of the canals on Mars. Detailed histories of both the face and canals are given in the two boxes.

The similarities between the two episodes are quite uncanny, something that owes more to the stupidity of human nature than to any supernatural synchronicity. For a start, the controversies behind the two began almost exactly 100 years apart and look set to be resolved nearly 100 years apart as well. Each case was initiated by an announcement from an astronomer that was picked up by amateur pseudo-scientists and interpreted as being evidence of life on Mars.

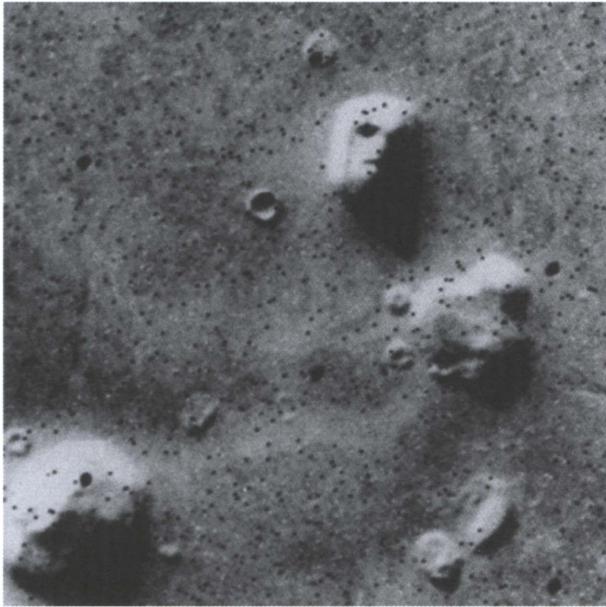
This was then taken, reinforced with further, less convincing evidence (such as the seasonal spread of vegetation with the canals and the pyramids near the face) and heavily promoted to the general public in a series of books and lectures by a highly charismatic personality who claimed to have the backing of science but in fact did not. Once in the public domain, the issue was added to by other interested parties until what was originally a simple astronomical observation ended up reading like a Hollywood science fiction script. The canals went from being rivers to a vast network of artificial waterways and cities feeding a dying planet while the face went from being an amusing example of simulacra to evidence of an ancient race of aliens trying to communicate their secrets to humanity using planetary geometry.



Perhaps the reason behind the similarity in the rise to prominence of both issues is the rather hazy nature of their evidence. The canals were only ever viewed distantly through telescopes and, although the issue was effectively resolved by 1900, their existence could not be fully denied until Mariner IV visited the planet in 1965. A major problem with the canals was that not everybody could see them. In order to overcome difficulties people were having in seeing and interpreting the canals, Lowell and others would draw endless maps of them that were very subjective – impossibly detailed given the quality of telescopes at the time.

Similarly, the landform that makes the face on Mars is only 1.8km in diameter and at the edge of the Viking's photographic resolution. On the original photographs the face is a very blurred and indistinct feature whose interpretation is open to question. Many of the other features on the Cydonia plain, including the city, Tholus, and the D and M pyramid are smaller than the face and even more out-of-focus. To overcome this, many computer enhancements have been made of that region of the Cydonia plain which have sharpened the shadow boundaries, increased the contrast, lessened the grain and filled in details missing on the original photographs.

All of this makes the images look sharper and gives the landforms straighter lines and darker shadows and therefore makes them look more artificial. Subsequent attempts to remove the shadows and to alter the angle of view of the face are computer generated reconstructions which, considering the limited of amount information in



The Viking "Face on Mars"

all by the same analysis.

In addition to enhancing their visual evidence, both the supporters of the canals and the face have used mathematics as a means of reinforcing their theories. Percival Lowell added thick appendices to his books on Mars which were stuffed full of mathematical equations that, according to him, proved everything from the rate of cooling for all the planets to the composition and pressure of the Martian atmosphere [2,3,4]. Almost without

exception, everything Lowell calculated has now been proved wrong.

In order for his canals to exist, Lowell needed his equations to prove that Mars was a habitable planet. Since then, however, the large amount of data sent back by the Viking, Pathfinder and other probes showed Mars to be an inhospitable place with sub-zero temperatures, a thin atmosphere with no ultra-violet screening and, most importantly, no liquid water. As supporters of the face are using NASA data, they cannot argue that the surface of Mars is currently a pleasant place to live. How, then, could there be a living alien civilisation up there now? To overcome this, Hoagland used astronomical alignments to calculate that the face was built 500,000 years ago and that its builders had left geometric clues in the landscape.

Hoagland's use of geometry on the Cydonia plain is interesting. It should be obvious to anybody that using straight lines to join random features on a map will produce geometric shapes. Join any three objects and you get a triangle, superimpose geometrical shapes onto non-linear landforms (such as a pentagon that was superimposed on the so-called 'D and M pyramid') and you end up with rigid geometrical shapes on paper where none exist on the planet's surface. Geometry, after all, is a branch of mathematics concerned with the properties of lines, curves and surfaces and therefore once you have geometrical shapes it is relatively easy to find a mathematical significance within them. The latitude of the sites, so highly regarded by Hoagland, is also a function of planetary geometry and again it is easy to find mathematical significance in them.

THE FACE ON MARS

In 1976, 99 years after Schiaparelli published his canali map, the Viking orbiter returned a picture of the northern Cydonia plain to Earth. A NASA technician noticed that one of the features on the plain resembled a human face and, ever keen to generate publicity for its costly ventures, the photograph was released to the press as a curio [15]. Very quickly, rumours started up about the face that linked it to pyramid-shaped features to the west of it. To scotch the rumours, NASA acted quickly, claiming that the face had been photographed from a different angle and was nothing more than a hill.

The issue was dropped until, in 1982, two engineers searched all 68,000 Viking photographs looking for further evidence of the face. They found seven in total (two high resolution, five low resolution) all of which showed the face as it had first been published in 1976. Although this was probably because the angle of the sun was approximately the same when these photographs were taken, they wrote a book linking the face to ancient Egypt [6]. As with the canals, it took a flamboyant publicist to move the issue of the face from relative obscurity into the public domain.

Richard C. Hoagland, a journalist, examined the NASA photographs and saw not just the face, but a whole series of artificial features on the Cydonia plain [7]. These include a city of pyramids, a spiral dome (called Tholus), one large isolated pyramid (called the D and M pyramid), the face and a linear feature called the cliff.

In a scenario that seems to draw much from Arthur C. Clark's 2001: *A Space Odyssey*, Hoagland declared that the Cydonia landforms were built 500,000 years ago by a race of transient aliens who had left a message for humanity in their ruins. By drawing straight lines between the Cydonia landforms, Hoagland found a geometric significance in the angles between them and deduced that the ruins were indicating that the latitude of 1950 (the latitude that corresponds with the intersection of three vertices of a polar-oriented tetrahedron and its circumsphere) was significant. On this latitude on Mars is Olympus Mons, the solar system's largest volcano, whilst on Earth can be found the Hawaiian volcano chain. On other planets this latitude was associated with features such as Jupiter's Red Spot and the Great Dark Spot of Neptune. Hoagland now believes that this latitude marks the location of a vortex that can provide the Earth with infinite power once we have learned how to utilise it [18]. In the meantime, the face on Mars bandwagon is rolling on with the feature now being linked to ancient astronauts, government conspiracies and, most bizarre, proof that Elvis has visited Mars! I won't comment on David Percy's assertion that the features on the Cydonia plain match those of the Avebury Circle – or Eric Crew's assertion that they form a map of our solar system [20].



Andy Pandy? — the less well known “Face on Mars”

Why is the use of mathematics so crucial to both the canals and face? The probable answer is because it appears to add independent scientific evidence to the arguments and because these theories are difficult for a non-mathematician to argue against. Many areas of the paranormal are shored up with apparently complex theories that use quantum physics, mathematics or genetics that non-specialists find hard to argue against. If, however, a specialist does place convincing arguments against a paranormal theory they can always be accused of being part of the international scientific conspiracy against extraterrestrial intelligence. In the case of the face, the nature of the published evidence makes it hard to verify the mathematical claims and Mark Carlotto even wrote in his section on mathematics, “Please note that the diagrams in this section are included for illustrative purposes only, and are not sufficiently precise to serve as a basis for testing the claims presented here”.

Although there are other more minor similarities between the canals and the face, there is one further similarity that, to my mind, seals their fate.

In the 1890s, at the height of the public interest in the canals, five mediums (independently of each other) claimed to have mentally visited Mars or to have spoken to Martians [5,6]. Without exception, they reported a desert world inhabited by a dying race of aliens, some of whom were building canals to try and save themselves. These descriptions are identical to those then being promoted by Percival Lowell in his best-selling books on the canals on Mars.

One hundred years later, in the 1990s, we have a similar group of psychics, now called remote viewers,

who claim to have visited Mars and in particular the Cydonia Plain. This time they have not found any trace of the canals or dying aliens, but instead large pyramids “laid out in a specific geometric pattern” that were built by beings that were “moving through our solar system and had to move onto a different location” [7]. These are pretty accurate descriptions of Hoagland’s (and others’) theories concerning the face. In other words, the mediums and remote viewers are merely reflecting contemporary occult thinking about life on Mars.

Like the canals in their day, the face on Mars affair is rapidly gathering more and more unsubstantiated and esoteric theories making it a scientifically untouchable subject. Negative attention meant that debate about the canals was abandoned by the astronomical community and the subject was left to amateurs and pseudoscientists. The same is now true of the face with few, if any, planetary scientists even bothering to comment on the issue at all.

The issue of the canals was settled to the satisfaction of most astronomers in 1900 with the Maunder and Evans experiment [8]. The face on Mars was solved to the satisfaction of all astronomers in 1998. Given this, what will



The “Fish and Turtle on Mars”

become of the considerable number of people currently financing themselves with their claims of extraterrestrial life on Mars?

Some have already claimed that NASA has conspired to remove vital information from the Mars Surveyor photographs but most, to be frank, have simply ignored the newer photographs in favour of the older Viking ones. In 1998, Graham Hancock produced the number one best-seller *The Mars Mystery* which, despite hastily added comments about the Mars Surveyor results, advocates the theory of alien intervention in human affairs. Fuelled by Hancock's success, a new generation of Mars books is planned for 1999.

Other members of the face on Mars community have simply moved onto bigger and better topics. A new campaign claims that the moon-landings were faked [9], while others believe that evidence of extraterrestrial cities has been air-brushed out of the Apollo photographs [10]. The world of the paranormal seems able to support such contradictions, and reasoned arguments against them have little or no effect.

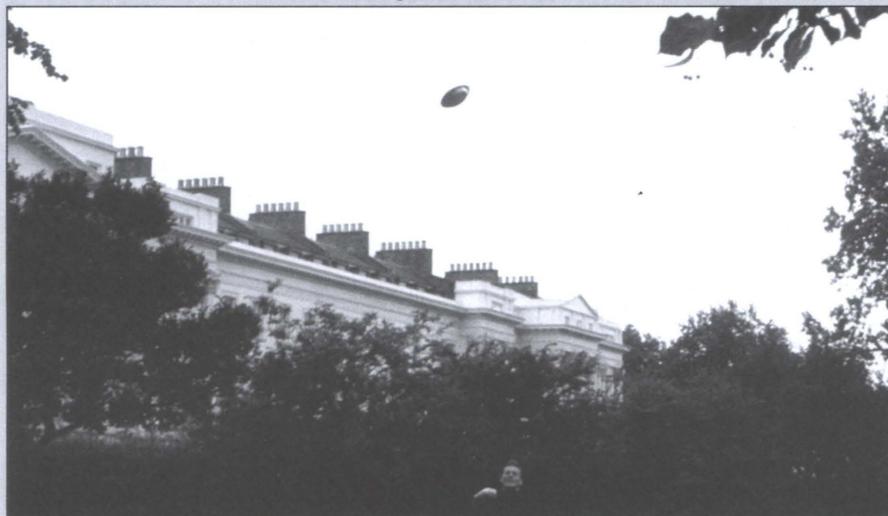
The Mars Surveyor has only just begun its mission and will be joined by another ten or so Martian probes over the next decade. In the next few years we should know if the face on Mars affair can outlive this onslaught of scientific interest or whether, like the canals before it, it will become another embarrassing footnote in the annals of astronomy.

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Paul Chambers is the author of the book *Life on Mars* (Ward Lock, ISBN 0713727470)

The Millennial Competition



A skeptical photographer found when she developed the film in her camera that she'd snapped more than she'd bargained for. Your challenge, should you decide to accept it is to explain what the strange object in the sky is and how it was captured on film.

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A prize (a book or a bottle of champagne) will be awarded for the best explanation.

Skeptical Stats (part 1)

1. Amount of money attracted by Australian hoax Web site advertising Millennium Bug insurance that would "triple your money": **\$4 million.**
2. Number of people who sent personal messages via MiniTel and a radio telescope to extraterrestrial civilizations in the late 1980s: **10,500.**
3. Percentage of papers appearing in the *British Journal of Psychiatry* in 1993 that were found to have statistical errors: **65.**
4. Number of human souls up for auction on www.eBay.com, June 1999: **1.**
 5. Amount of bid, with six days to go: **\$15.50.**
6. Probability that two human irises will produce the same code for recognition: **1 in 10⁷⁸.**
7. Percentage of the world's supply of electricity supplied by nuclear power plants in 1997: **17.**
 8. Number of plant species under threat of extinction: **almost 34,000.**
 9. Percentage of plant species that number represents: **12.5.**
 10. Number of firearms in private hands in the US: **243 million.**
 11. Number of gun control laws on the books in the US: **22,000.**
12. Number of virgins who have bought an insurance policy against immaculate conception next year: **10,113.**
 13. Amount paid in Taiwan for the mobile phone number '456789', believed to indicate ever-increasing success: **\$2,447.**
 14. Cost of a one-on-one controlled remote viewing instruction course: **\$2,500.**
 15. Number of essays required during basic training, no computers allowed: **5.**
16. Number of years Australian Breatharian Jasmuheen claims to have survived without eating or drinking more than two cups of herbal tea per day: **5.**
 17. Number of children who die worldwide each year of starvation: **7 million.**
18. Maximum likely estimate of the number of large (2m-plus) unknown open-water marine creatures awaiting description by science: **47.**
19. Average number of years between scientific descriptions of these animals: **5.3.**
20. Number of UK members of the Astrological Society of Great Britain: **1,000.**
 21. Number of publications: **4.**
22. Cost of e-meter, a device claimed by the Church of Scientology to identify charged areas in the Scientology student's ("pre-clear"'s) mind: **£500 to £3,500.**
23. Number of patents granted on the device by the British Patent Office: **0.**
24. Number of yogic flyers needed in the Balkans to stop the war: **7,000.**
 25. Date of this year's IgNobel awards: **September.**

Sources: 1 RISKS Digest 20.37, <http://www.theaustralian.com.au/index.asp?URL=/national/4291177.htm>; 2 *Discover Magazine*, 6/99; 3 Study cited in RISKS Digest 20.49; 4,5 <http://www.ebay.com>; 6 IriScan company information; 7 CNN; 8,9 World Conservation Union (via CNN); 10,11 Charlton Heston, National Rifle Association president, on Sky News; 12 *Independent on Sunday*; 13 *Independent on Sunday*; 14,15 Remote Viewing Instruction Services, <http://www.rviewer.com>; 16 *Fortean Times*; 17 UNICEF, 1997; 18,19 C G M Paxton, *Journal of the Marine Biological Association*; 20,21 Astrological Association; 22,23 *Daily Telegraph*; 24 *Daily Telegraph*, quoting Natural Law Party presidential candidate John Hagelin; 25 Live Webcast at <http://www.improb.com>.

Skeptical Stats compiled by **Wendy Grossman** and **Rachel Carthy**. Please send contributions (with source) to stats@skeptic.org.uk or to *The Skeptic* (stats), PO Box 475, Manchester M60 2TH.

Immortality Revoked

Barry F Seidman reports on progress in understanding Near-Death Experiences

THE YEARNING has been a uniquely potent one. Immortality: we want to live forever. We will invent – have invented – many ways to escape death’s finality – at least in our minds – and have incorporated many of these into our various cultures, usually under the guise of religion.

It’s not merely the fear of dying a horrible death, or going quietly in our sleep that disturbs us; it’s the inconceivable idea that one day we will just cease to exist. It is an amazing enough feeling to wake from an eight hour sleep without being able to recall even one dream. It is quite another feeling – one of desperate dread, I’d pose – to contemplate going to sleep and *never* waking up to realize you hadn’t dreamt – ever!

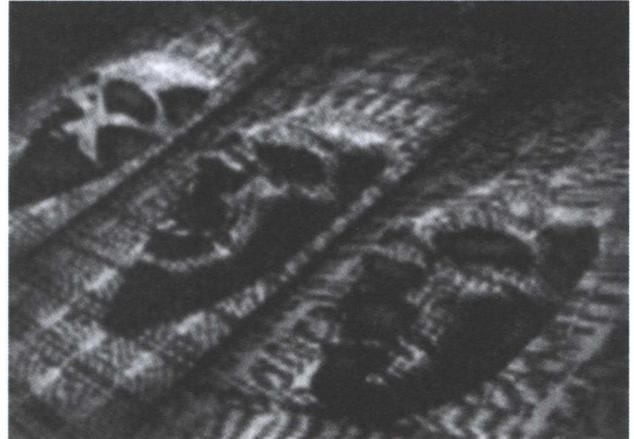
Few of us are seriously concerned with how the world existed before we came to be; but history is saturated with the emotional abyss that grows ever deeper with the realization that the world will, in all likelihood, exist long after we are gone. So we’ve created myths. One of the most solid of these myths, still being debated today, is one that specifically tells of the everlasting desire for human existence beyond the grave.

The alleged evidence for such an “afterlife” most often is thought to be the proof that the religious “soul” exists. Unfortunately for those who depend on this myth, the nineteenth and twentieth centuries haven’t been so kind. After living for centuries never questioning our most intimate hopes and ideas, there came a new kid on the block; mankind’s most useful tool to understand the nature of things has been science, and science now has something to say about that pinnacle of “evidence” for the after life, the Near Death Experience (NDE).

What is an NDE?

Twenty-three years ago, Raymond Moody – a medical clinician and philosopher – introduced us to the phenomenon of the NDE, coaxing us to infer that the strange occurrences one had while near death were proof of the existence of the human soul. Since then, many psychologists, neuroscientists, and parapsychologists have investigated NDEs and some still hope to come to conclusions that will settle the debate once and for all.

What is an NDE? Close to death, many people across many cultures and religions have reported certain odd sensations and “visions.” Typically they seem to float above their own corpse and see it from a bird’s eye view. Some say that what is “floating” is the human soul. The person then sees a long tunnel with a bright light “beckoning” them to move through the tunnel into this light. Along the way they might encounter lost relatives and friends who have died – and God. The fact that persons of different religious up-bringsings see “different” gods is, to



the believer, to be expected.

These events are very powerful emotionally, as one would expect, and those who have survived to live “again” often become happier and more stable-minded people. It is true however that some feel the worse for it – believers say they are so because instead of seeing God, they might have encountered Satan. So, what’s really going on here?

On the one hand . . .

Ian Stevenson, known for his lifetime of work dedicated to understanding Psi (that is, ESP, telepathy, and psychic powers), parapsychologist Dean Radin at the Consciousness Research Laboratory at the University of Nevada in Las Vegas, and Dr Joanne D S McMahon of New York’s Parapsychology Foundation are three of the front runners claiming there’s “something more” about NDEs than traditional science can explain. In particular, McMahon and Radin feel that one can’t “take the NDE experience into the laboratory and expect to get accurate and true results.”

McMahon is a strong advocate of Psi, of which she believes NDEs are a part, and she feels that these extraordinary experiences are so multifaceted in their origins – covering such a wide range of physiology, psychology, and culture – that the “reductionism” science is known for simply misses too many explanations.

One such “missed explanation” that both Stevenson and McMahon quickly suggest is the “psychic” element of NDEs. They feel that if one is truly dead or dying, he/she ought to be able to describe items that they would not be able to “see” if alive. Some people, for instance, claim to see the goings-on in the street outside of the Emergency Room where they lie unconscious. Others could recall – after being resuscitated – the time on the clock in the next room! McMahon claims that this is possible due to some sort of “astral” body that leaves the body during

such an "out-of-body experience". She wonders, "How then do you explain some of the psychic events that are incorporated within that whole constellation?"

McMahon and others seem to have come to a common ground among themselves. Scientists, they say, operate on avenues that are too narrow, based on pinpoint hypotheses; they use their methods to prove or disprove these hypotheses and then go on to the next subject confident that the mystery is solved. McMahon feels that in order to truly understand NDEs, one has to adopt more open-ended ways of thinking and come to grips with the possibility that there may be no "real" answers because the NDE is too complex and subjective to understand fully.

... On the other hand

Today, unlike centuries, or even just decades ago, we no longer tend to see mysteries that "ought to forever remain mysterious". In due time, many now believe, mysteries such as NDEs will be solved as Sherlock Holmes himself might; by eliminating all the obviously wrong answers, and coming to provable conclusions - always testing everything along the way.

Dr Susan Blackmore is on the front lines in the battle to understand NDEs. She has a Ph.D. in Parapsychology from Cambridge University in England and has spent years "really looking for Psi." She has found what she feels most educated in the scientific method have found: that it doesn't seem to exist.

Blackmore has suggested that there are indeed sufficient and scientific ways to study NDEs that are not as narrow-minded as some might say. She explains that since one need not be dying to have an NDE - certain drugs can also elicit the experience - other methods for potential study are available. She also feels that researchers need not study a full-bloomed NDE in order to understand how it happens. "You can make theories about the experience which will have strong implications to things that do happen in the lab, and therefore test those bits and pieces in the lab."

Blackmore's approach is one of reason and critical thinking, the prime ingredients involved in the act of doing science. "I feel that why so many people hate my view is that they think I am taking it [the NDE 'experience'] away from them. They think that meaningful, mystical and deep spiritual experiences have to have something to do with a soul or a spirit which is independent from an ordinary mundane thing like the brain. These people are lurking about for 'something more'; they're simply looking in the wrong place."

Blackmore has allies. Dr Barry Beyerstein, a psychologist at Simon Fraser University in Vancouver, Canada, argues that there is "no convincing evidence that consciousness can exist independently of an intact, functioning brain."

Insofar as an NDE is a form of consciousness - however feeble - the events of the NDE must have naturalistic causes.

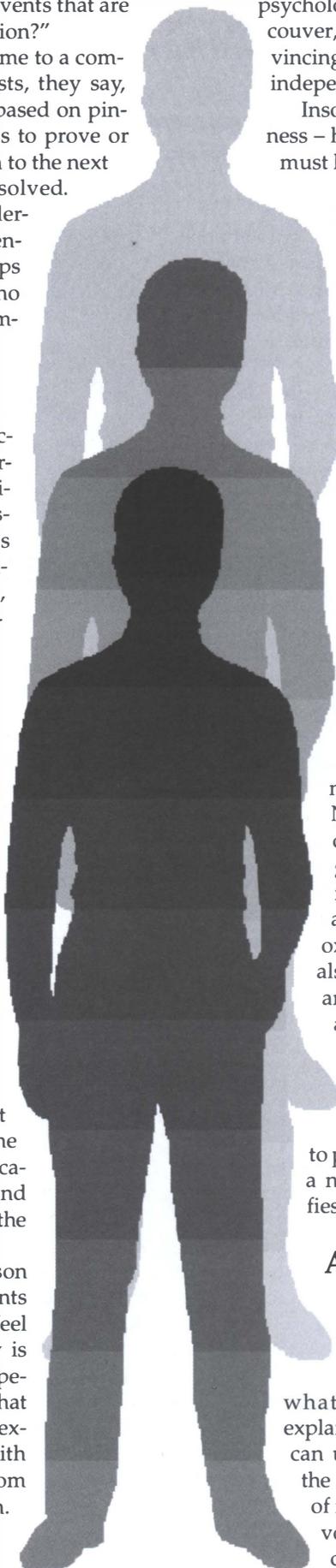
Blackmore and Beyerstein agree. What happens is this: when the brain starts to die, functions start to fall apart one after the other, and the person experiences all sorts of strange phenomena. Neurotransmitters (chemicals that travel amongst the nerve cells of the brain sending and receiving signals) start firing irregularly and towards the centre of the brain's visual cortex causing the "mind's eye" to perceive the famous tunnel and light of the NDE.

Mind's eye? It has been established that sight does not begin and end with the eye you see in the mirror. The optic nerve and other nerves in the vicinity can still detect signals and translate them to the brain for analysis.

Furthermore, the sensation of movement through this tunnel is caused by the growing light that occurs as more and more transmitters fire. If the person actually dies, the tunnel fades away. Since those who report NDEs obviously do not die, they perceive a return "out of the tunnel" as oxygen is returned to the brain and the transmitters perform their proper duty once again. This lack of oxygen is called anoxia. Scientists postulate that anoxia can also cause the hallucinations (of, for example, deceased relatives and friends), and the sensations of bliss and ultra-relaxation many claim to have during an NDE. The fact that similar events occur across vastly different cultural and religious populations only goes to prove, scientists put forth, that NDEs are a natural human phenomenon that signifies that the brain is dying.

And there's more . . .

To further understand the NDE, Blackmore postulates a theory that the brain subconsciously creates "mental models" - the most familiar of these is what we call "I" - so that it can organise and explain the world in a way the conscious mind can understand. When the person is dying, the brain struggles to create the best "I" out of memory, and this is why the NDE survivor feels the experience is "real". The "I" is constructed from memory and is not the "I" someone starts out with beforehand.



In memory, altered versions of yourself become your new reality. Anything you hear or see – or have ever heard, seen, or even believed – can seem to be occurring during the NDE as at any other time in your life. You'd expect to see your family or God, as our culture has taught us, so you do. You, or your new "I", "sees" or hears things about you in the operating room – where doctors struggle to keep you alive – and you feel you are actually seeing them in real time.

Other phenomena can also be explained. For instance, the feeling of floating above your own body is also a result of the function of memory. Psychologists have long understood that we remember things from a birds-eye view. If the NDE's "I" is constructed from memory, it will "see" things from this same perspective.

As for the question which asks how someone blind from birth can "see" anything at all during an NDE, author Michael Shermer explains in his book *Why People Believe Weird Things*, that "memories of verbal descriptions given by others during the NDE are converted into visual images of the scene and then rendered back into words."

Similarly, one can understand how and why the infamous images of "one's life passing before one's eyes" can occur. According to Blackmore, the subcortical limbic system – a key area of the brain including the hypothalamus and the hippocampus, which regulate the sleep cycle, emotion, and motivation – and the temporal lobe of the cortex release chemicals like endorphins as higher brain centers are shut down, subsequently flooding the brain with images from its memory sectors. She cites Canadian neuroscientist Michael Persinger, who has used an electroencephalogram (EEG), to study the temporal lobe. An EEG reads like an electrocardiogram (EKG), with "spikes" of activity showing up on attached monitors. Persinger measured the number of spikes per minute and found that the activity strongly matched the so-called "psychic experiences" of NDEs.

In conclusion

The solution will come in time. Studies already in progress will produce a better understanding of both the brain's functions, and the near-death experience. The myths may linger like the ones that oppose a theory with much more proof, evolution, because people become intoxicated by mystical solutions to ordinary phenomena. Many find enormous comfort in paranormal explanations because they can connect their unusually vivid experiences with their hopes of "life" eternal.

Blackmore admits that "people that believe in a life after death already have 'faith' that there is life after death and are somewhat happier and more able to cope."

Beyerstein, however, warns, "I do not claim that everyone who believes dubious propositions will end up joining the Heaven's Gate folks, but I do agree with Voltaire, who said we will only stop committing atrocities when we stop believing absurdities."

Barry F Seidman is a lifelong skeptic with degrees in media and in journalism who is currently writing a book on skepticism and atheism to be published by Prometheus. He lives in northern New Jersey, USA.

Y2K Gifts

Need an idea for a Year 2000 present? Here are some suggestions, submitted to the *Journal of Improbable Research*, courtesy of its editor, Marc Abrahams.

2000 flushes toilet bowl cleaner

2000 Calorie mascara by Max Factor

Lever 2000 Soap (which is claimed to "clean all of your 2000 body parts")

Class 2000, an escort service in New York City

Hover-Shoes 2000, shoes with small propellers in the soles. The props are claimed to "spin at over a million RPM"

Revco Home-Clone 2000 Kit. The manufacturers says this is "not to be used for human duplication purposes"

Molecule 2000 Cellbuilder, a skin cream.

Leak Ender 2000, which is claimed to repair leaky pipes.

NET DETECTIVE 2000, an "amazing new tool that allows you to find out EVERYTHING you ever wanted to know about your friends, family, neighbors, employees, even your boss!"

AC2000, "Air Conditioning for the new millennium" in Hertford, England

ANGELS 2000, a bra from Victoria's Secret

AD 2000 CARBON FIBRE FOUNTAIN PEN, manufactured by Alfred Dunhill.

Hair 2000, a hairdresser in Sydney, Australia

SEPTIC 2000, a product currently being telemarketed.

TIKI 2000, a Croatian brand of bathroom waterheaters manufactured in Zagreb.

Whisper 2000, a device that lets you hear a whisper across the room.

The Journal of Improbable Research is available from <http://www.improb.com>.



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In Search of Nessie

Lucy Sherriff visits Loch Ness hoping to catch a glimpse of its most famous – and elusive – inhabitant

THE LOCH NESS MONSTER – whether or not you believe in her, you can't deny her popularity. Inhabitants of the shores of the loch nearly all have a story of a sighting, and the whole town of Drumnadrochit is filled with believers. I wanted to see if I could find the monster for myself, so armed with a new husband, I set off to investigate on our honeymoon.

First of all, what is all the fuss about? Most of the lochs in Scotland used to have their own monsters – Loch Morag, for example, is also reported to harbour a giant, fishy creature. But most of these stories have faded into myth as science has been able to show the lochs are free of man-eaters, and are little more than folklore and legend. But Loch Ness has been able to hang on to its monster as being somehow more real.

Loch Ness lies in a massive trench that runs – almost perfectly – from southwest to northeast, for over 60 miles, along the Great Glen fault. This fault is not a simple one; it is transcurrent, or a tear fault, which means it runs perpendicular to the direction you would expect. Movement of the fault has produced a zone of shattered rock half a mile to a mile wide, and there is uplift (erosion) to the north.

The fault has been active for around 400 million years – quite a stretch by anybody's imagination – and causes regular quakes. The area averages three quakes per century, at about four on the Richter scale. Not that big,

but certainly large enough to indicate large amounts of energy being stored.

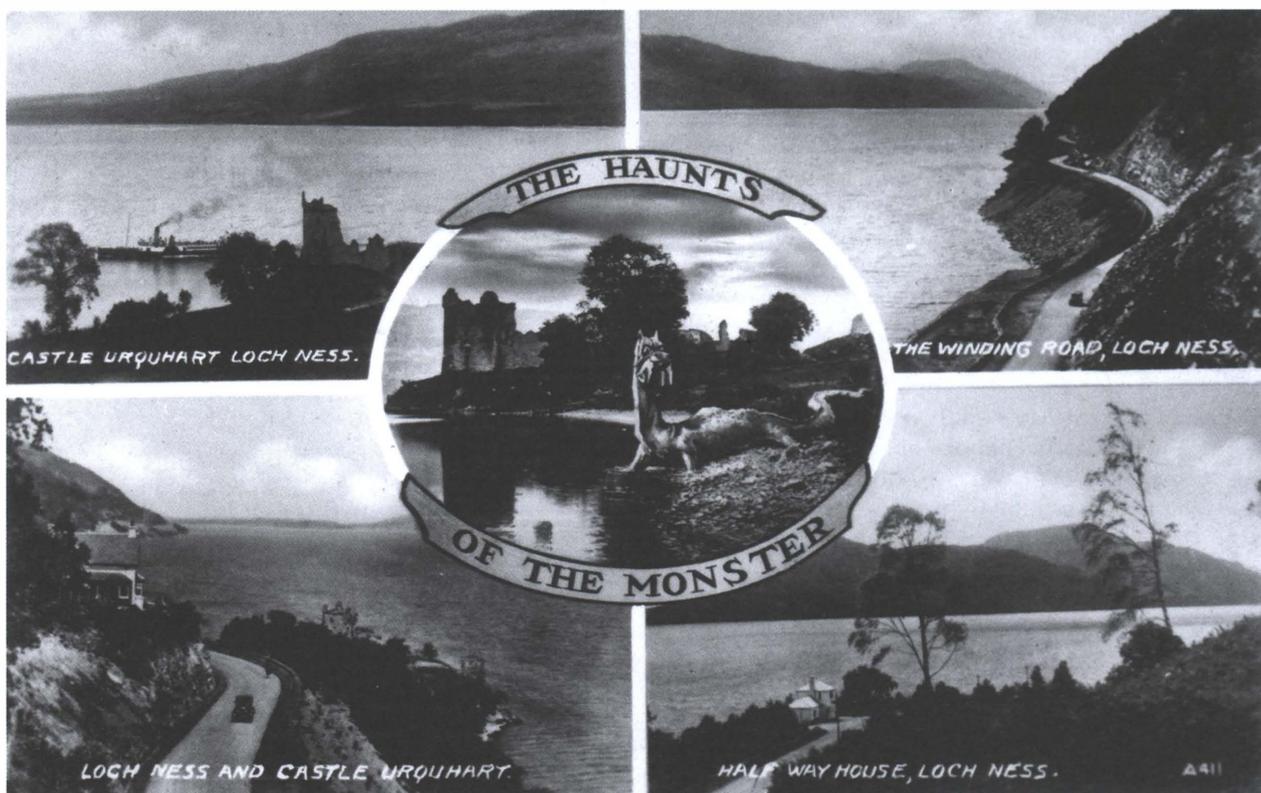
The damage from the quakes is slight – and the last one of any real note was in 1816. This was reported to have been felt all over Scotland.

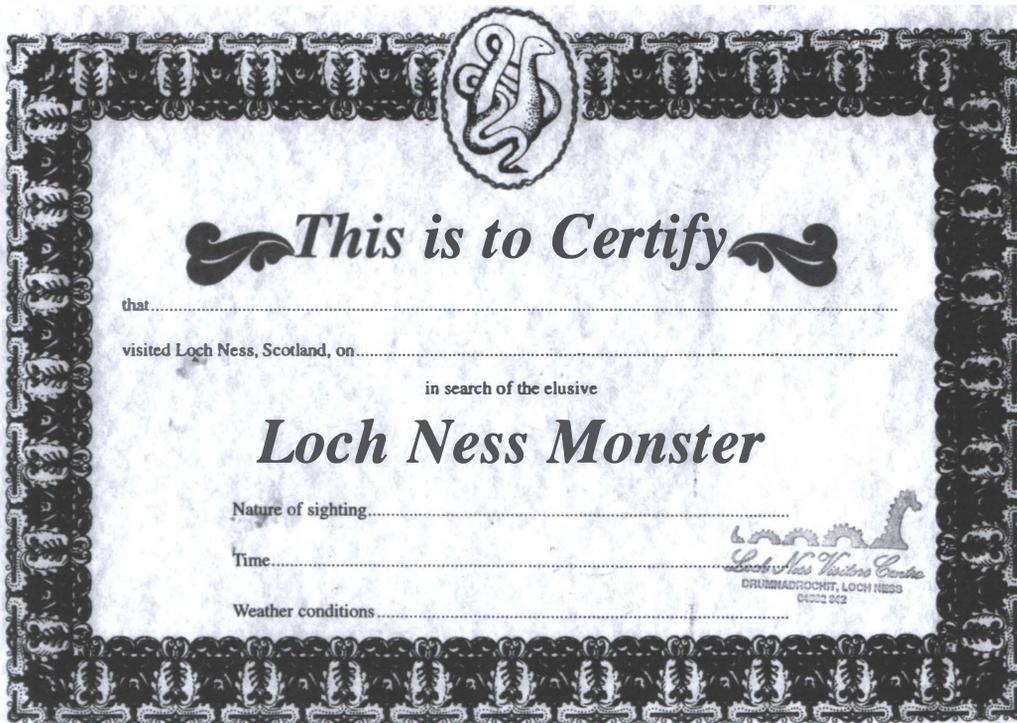
The loch itself is large by UK standards, and impressive by anyone's yardstick – it averages a depth of 600 feet. Six major rivers flow into the loch from the surrounding hills. It holds more than 2 cubic miles of fresh water, and the River Ness outlet – despite being only five miles long – has one of the largest average flows in Britain.

The loch has been in its present shape since the last ice age 10,000 years ago. During the 20,000 years cold spell, the whole area would have been covered by glacial ice. This eroded the loose rock, and accounts for the great depth of the loch. It also explains why the north and south faces differ in age by around 200 million years.

A 25 ft deep layer of sediment covers the floor of the loch and below this is a layer of hard clay. The actual depth of the rock floor of the loch has not been recorded.

Glacial sediment blocks any outflow at Lochend, but the basin of the loch could extend beyond Inverness. The River Ness is actually a braided glacial river, and the Loch itself could be regarded as a drowned glacial landscape.





The loch is so big – well over 20 miles long – that no researcher worth his/her salt would swear to know what is in it for sure. Then there was the suggestion that Nessie was in fact a remnant from the Cretaceous period, a Plesiosaur that time forgot despite the loch’s having been frozen during the last ice age. Having a name for the beast seemed to lend the legend some credibility, and inspired another generation of Nessie hunters.

We drove around the whole loch and didn’t get so much as a glimpse of a flipper. The closest encounter we had was with a life-sized mock-up of Nessie outside the visitors’ centre. Even that was a bit of an anti-climax, as visiting children were using it as a climbing frame, which spoiled the illusion somewhat!

The shop was something else. Nessie was everywhere. Nessie hats, Nessie glasses, mugs, plates, scarves, boxer shorts, T-shirts, sweatshirts, shorts, earrings, pendants, ornaments of all shapes and sizes, and last but by no means least, the stuffed Nessies. Few of the little critters go for less than a fiver, and the big ones are more. My three-inch-high stuffed toy, proudly sporting a tartan hat, set me back £3.95. In the tourist shop, you can also buy certificates proving that you have had a genuine monster sighting (see above). You get to fill these out for yourself.

Finding the monster was proving difficult, despite my certificate, but as I say, this was not a surprise given the dimensions of the loch. It is the largest of three lochs in the Great Glen, and is 23 miles long and a mile wide; it averages 600ft in depth and contains over 2 cubic miles of fresh water.

Perhaps the best way to view the monster would be by boat. There are cruises that run every hour from Drumnadrochit which take you across the bay and past Urquart castle. The cruise lasts for an hour and costs £8 for adults and £5 for children under 14. The cruise boats are armed with a battery of modern Nessie detecting equipment – VHF radio and colour sonar. The boats are also equipped with GPS, so if you do find Nessie they can

pin down where you found her.

However, the weather was not quite up to it, and we also thought better of trying a swim. I wouldn’t want to be eaten by the monster I came to see.

However, it turns out that there’s a theory that Nessie could be hiding in a network of underwater caves. George Edwards, a skipper on the cruise boats, discovered a huge underwater cavern when he was on a coastguard training exercise on the loch. He picked up an abnormal signal on his sonar and found that the floor beneath him was at a

depth of 812 feet, not 750 feet as expected. He hesitated to report the discovery for fear of being denounced as a self-promoting fake.

Although Scotland’s tourist board does not have any figures on the revenue from Loch Ness specifically, it does have numbers for the Highlands in general. It is clear that Nessie is a big pull on the tourist circuit, bringing in a lot of money and creating much-needed jobs in the area.

At least 10 percent of all visitors to the Scottish Highlands visit the Official Nessie Exhibition, and at nearly £6 a head this money all adds up very quickly. The exhibition attracted nearly 300,000 visitors last year, and is the second most popular attraction in the region. Third is Urquart Castle, also on the loch, which got 235,000 visitors last year.

If you don’t want to go to Scotland to see the monster, you can always have a look online. The Web site at www.nessie.co.uk holds what are purportedly photos of Nessie, and also links to the site of the Nessie fan club. For the patient Web surfer equipped with a flat-rate telephone line, there’s even a Webcam pointing at the loch in case Nessie fancies being the first monster on the Internet.

Lucy Sherriff is a physics student at Kings College London and a technology journalist.

Thanks

The *Skeptic* would like to thank Scott Campbell for his efforts in organizing this year’s Skeptics in the Pub meets and his editorial assistance with the magazine.

We wish him well back in Australia.

Radio Ga-Ga

Tony Youens on the tactics of radio psychics

SKEPTICS HAVE LONG SAID that psychic readers achieve their results, either consciously or unconsciously, by the technique known as “cold reading”. This term refers to the giving of a reading without any prior knowledge of the sitter.

When I debate psychics and mediums they flatly deny using any such technique and some have claimed that they have never heard of the phrase. Of course, very few then offer to have their claims tested, and visiting them as a client is likely to be costly. However, such psychics now make frequent radio appearances that allow us to carry out at least some analysis on how they operate.

Some years ago, I remember reading in *Psychic News* about mediums appearing on radio phone-in programmes and providing callers with startlingly accurate information that they couldn't possibly have known about by any normal means. They would describe the listener's wallpaper, health problems, recent bereavements and provide numerous other tidbits and trivia. What was going on? Did they have friends phone up, was it a series of lucky guesses, or were they, in fact, really psychic?

A few months after Talk Radio UK started, I turned on the radio one evening when a “spiritualist medium” was doing a turn. The show's host was “Caesar the Gezer” and his spiritualist guest was one Kevin Wade. I listened to Kevin with great interest, as he had a curious way of talking. To start with, virtually all his “statements” sounded like questions. This was because he usually said “please” at the end of every sentence. An example might be: “Your father's passed into spirit, please.” Was this a question or not? He also said things like, “Can I say to you, please, that you're not always appreciated, please?” These are not actual examples but they are typical of the curious way he used, or maybe abused, the English language.

I tried to speak to Kevin, but getting through was impossible. He was only on for about an hour and such was his popularity that I constantly got the engaged tone. It has since been confirmed to me by various presenters that psychic phone-ins routinely generate a massive response from the listeners. Then one evening Caesar sud-

denly said he wanted to hear from skeptics. He wanted to put Kevin to the test. This time I got through and eventually spoke to Kevin. What follows is most of our conversation. I do not pretend I was at my most eloquent but this was the first time I had spoken to a radio station.

Fortunately, however, as I had tried to get through on previous occasions I had already compiled a list of test questions. Caesar himself had suggested we should ask specific questions in order to test Kevin's talents. Kevin claimed to be able to talk to the spirits. He had spirit

guides to help him (I can't remember but I'm fairly sure one or both were “American Indians”) and he had certainly been on form that evening with no apparent communication problems.

The following extract is taken from a tape recording I made at the time and although I cannot remember the actual date when it took place, it would certainly have been well over two years ago. I began by

saying that I wanted to ask some precise questions of Kevin and emphasised that I did not want a “cold reading.” I also said that if Kevin was not given the answers from the “spirit world” that he should just say that he couldn't answer that particular question and not be tempted to guess.

Question One

Tony Youens (TY): Are either of my parents dead? Kevin

Wade (KW): I feel that one of them is, please.

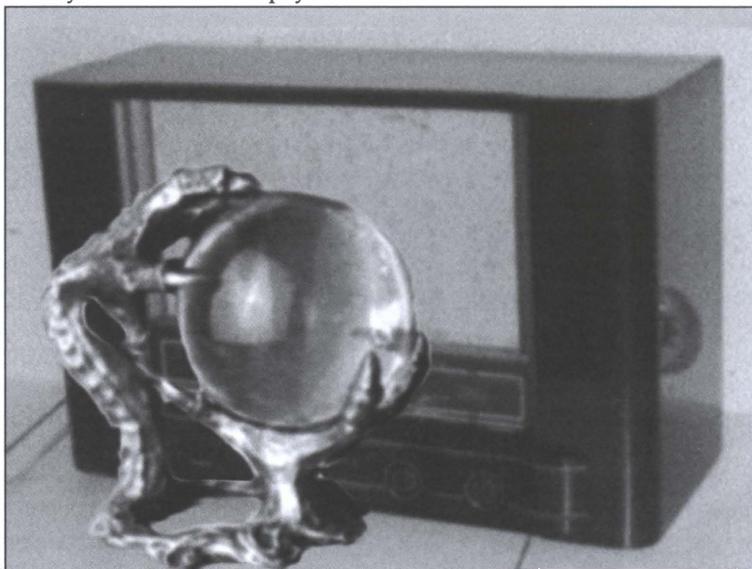
TY: Which one?

KW: Can I say I want a mother link, please?

TY: Right neither of them are dead. So you are wrong.

KW: Right, carry on.

A few comments at this point. Why for goodness sake didn't Kevin just give me a simple answer? “I feel that one of them is, please” is vague enough but what about “Can I have a mother link, please?” Normally when Kevin was trying to determine if a family member was dead, rather than say, “Your mother” he would use the phrase “mother link.” If it then turned out that Mum was alive and well, he would remind the caller that he only said “mother link” and was therefore referring in general



terms to the mother's side of the family. This was a rather pointless tactic in this instance, as I had specifically asked about my parents. Of course, Kevin never said which parent until pressed, and when he committed himself he only compounded the error.

Question Two

TY: All my grandparents are dead, can you give me any of their names?

KW: Can I have Albert, please?

TY: You can have him, but he wouldn't be my grandparent.

KW: You understand why I want Albert?

TY: No, we're slipping into cold reading.

KW: Carry on, carry on.

TY: Right, so that was wrong.

KW: Carry on.

Whether deliberate or not this is certainly cold reading. Look at the way Kevin answers a perfectly reasonable question: "Can I have Albert please?" I asked a direct question, so why didn't I get a straight answer such as "Albert"? Even, "I believe your grandfather's name was Albert" is at least normal speech. His claim is that he can communicate with the dead, and normally he can come up with names quite happily. Of course, when standard cold reading techniques are used responses are along the lines of, "I'm being given the name Albert" to which the caller might obligingly respond by saying, "I had a grandfather called Albert." The word "had" would indicate that he is now dead (or passed into spirit if you prefer) and a suitable response might be, "That was on your mother's side?" The fact that this is phrased as a question is almost undetectable. If a positive response is given, it's a hit. On the other hand if the caller says, No he was on my father's side, this is dealt with by saying, "Only I'm also getting a man who says he's from your mother's side." With any luck the caller will help the medium out with, "Oh, that might be Cyril." Rather than be so obvious as to actually say, "Yes I know," the cold reader might instead imply that he or she knew it all along it by adding something trivial like, "Did he have a dog?" Once again, ready to adapt to either a positive or negative response, and so the fishing expedition continues.

In our example, Kevin tried to salvage something by asking if I understand why he wants Albert, thus getting me to do his job for him. Albert is a common enough name for a male grandparent, and even though there are only two of those, there are also uncles, friends, brothers, and so on, and as far as Kevin is concerned it seems any Albert will do. Intentional or not, this smacks of cold reading. As it turns out, I am completely unaware of any "Albert" in my family and even if there were one it's not the answer to my question. Straight questions deserve straight answers. Imagine on Mastermind:

Magnus: What was the name of the British engineer who built the Clifton Suspension Bridge?

Kevin: Can I have William, please?

Magnus: No it was Brunel.

Kevin: Do you understand why I'm getting William?

Magnus: Well. . .no...?



Tim Pearce

Question Three

TY: A friend of mine died, tragically, 20 years ago in a car accident...

Caesar [interrupting]: You shouldn't have told him that. [I explain that I told Kevin because he might say something vague about "them dying tragically," etc.]

TY: They died in an accident, OK. They died near Oxford and were buried near Oxford. I won't tell you where they were buried, although I don't expect you to come up with that, but could you give me their name?

KW: No I can't.

TY: Right so that's another one . . . that we've missed on.

I imagine Kevin did not try a name because I gave no indication of my friend's gender. It would be embarrassing to ask for "a Nigel, please" and be told her name was Wendy. Wisely, Kevin decides not to risk it, or perhaps his spirit helpers are beginning to tire.

Question Four:

TY: My wife's maternal grandparents, are either of those alive?

KW: Your wife's grandparents?

TY: Her maternal grandparents.

KW (Slightly hesitating): Yes, I feel that they, one of . . . yes I do, yes I feel they are alive.

TY: Right, they're both dead.

I had of course already mentioned that my grandparents were dead so it would seem likely that I had a reason to specifically mention my wife's maternal grandparents, surely one or both were probably alive. Kevin plumps for "both living," only to find his normally accurate spirit guides have let him down once again. I did tell him not to guess.

Question Five

TY: *And could you tell me their surname?*

KW: *No, I can't do that at all.*

But why not? Their surname was Gregory. We know that Kevin can be given names, although these are always first names and fairly common first names at that. Gregory can be a first name, therefore I can only conclude that surnames are never given because they are too difficult to guess. There is an exception to this, though. If a psychic or spiritualist is talking to a large audience it's possible to have a try at a few surnames. For example Robinson would be acceptable. It's common enough without being obvious like Smith or Jones. Chances of success are fairly good if you also consider that someone might simply know of a Robinson. This can still appear to be a hit to the faithful.

I summarise for Kevin his lack of success and refer to his earlier comparative accuracy:

TY: *So those were my questions and you failed on all of them. I mean (slight chuckle) in that respect...I mean I'm sure you could go on now to tell me that I'm having trouble with the cat or something. Many of those things you said to people, that Caesar said weren't generalisations, they certainly applied to me. I could think of somebody who died of cancer. I know people who have died tragically as I mentioned there.*

Anyway, the questions are now over and Kevin has scored a duck. He needs to salvage something quickly, hence . . .

KW: *You know someone who lost a limb as well . . .*

TY: *You see, we're slipping into cold reading now.*

KW: *Just say yes or no.*

TY: *No I don't.*

KW: *Who lost a leg?*

This is another cold reading tactic. Having told me just to say yes or no, he then refuses to accept my answer, so that it appears as though it's me who cannot remember rather than Kevin who has made a bad guess. This can be dealt with in a variety of ways. The medium can shift the problem onto the caller by using phrases and methods like the following:

Do something for me. Go and ask someone in your family if they remember someone who lost a leg.

As they are never going to come back they can afford to be a little bolder and offer more details.

He was fairly young when it happened and I'm being shown someone with dark hair. The name James, or maybe it's Jim, is connected with him. Promise me you'll check.

What can the caller do but agree to check? Of course they come up with nothing but hey, the show's over.

Continuing with the 'missing limb' conversation:

TY: *Well I just said I don't know so if we keep pursuing it now until I think of someone . . . I said I don't know anybody that's lost . . . I mean, you know it depends what you mean. Long John Silver did, I believe, and I've read about him. [Caesar laughs in the background.] But otherwise if you're saying anybody in my immediate family . . .*

KW: *I'm not talking about Long John Silver.*

TY: *Are you saying anybody that I've known in my entire life?*



Tim Pearce

KW: *No. All I'm getting is someone that lost a limb . . . a leg.*

TY [laughing]: *Well I don't know anybody that's lost a leg - at all.*

I think we can finish there. I remember that following my call Kevin had a more sympathetic listener, even though he was supposed to have stopped by then. It obviously takes more than scoring a big fat zero to deter the faithful.

More recent examples

Talk radio psychics have moved on a bit now. They seem to have a much easier time these days. Obliging callers start by clearly stating their question such as, "Can you see any change of career for me?" With this as a starting point, the psychic can prattle on with confidence. The conversation proceeds something like this:

Psychic: *Well I can't see anything in the next couple of months. What is it you're thinking of doing?*

Caller: *I was thinking about a job in sales.*

Psychic: *In that case I think you should hear something by about the end of this year. It may be a bit sooner but I don't think so.*

The conversation can take various turns but the sequence is pretty much consistent throughout. First, a question from the caller followed by a response from the psychic which refers to a future event. That's nice and safe, as it can't be challenged. The rest is the psychic asking questions and, depending on the response, churning out more possible future events. The questioning is quite barefaced. It's done in the same manner that a phone-in solicitor might use simply to home in on the problem. One positive change since the early days is that talk radio no longer allows questions about health, and potential callers with medical queries are told to see a doctor.

A while back BBC *Late Night North* asked me to take part in a debate with a spiritualist medium named Jean

Duncan. I had never heard of her before and did not really get much opportunity to listen to her work beforehand. I asked the researcher if Jean would be prepared to undergo a brief test (I had in mind the questions I had asked Kevin Wade.) She refused. Since then I have had the chance to listen to her and analyse her particular style.

In one show earlier this year I noted the number of callers and the number of questions Jean asked them. The average was between 12 and 13 questions per caller, the range being between five and 29. The total number of questions was a staggering 162. (Counting these questions is not as easy as it seems and there is some subjectivity in assessing what should be regarded as a question. I took as my working definition anything that was said by the medium that was likely to provoke the caller into providing more information. Even then it was difficult. To allow for disputes I missed out some questions that didn't get any worthwhile information and those that were simply restated. So if anything my figure is fairly conservative.)

I also made a note of the names Jean uses. They are all fairly common. The hits were: Hilda, Margaret, John, Bob, David, Michael, and James. The misses were: Ann, Thomas, William (when this missed she changed to Bill or Billy – still no luck), Robert (Bob was accepted), Ron, Rodney, Alan, and Alec. These names are just thrown out, as in, "Who's Michael?" or "Why am I getting the name Margaret?" If the name means anything to the caller, it's a hit. With these names some hits are virtually guaranteed. James, for example, was the name of a caller's boss. In my own family, I have noted at least 17 different but fairly common names. If I extend possible connections to friends and work colleagues this figure easily doubles.

Jean usually begins with a general question such as, "How are you?" Simple and polite, but she seems to use this as a springboard for the start of the reading. The caller may respond with, "Not too bad" or "Fine." Either way Jean seems to use this as her starting point.

She sometimes asks a trivial question such as, "Who's seeing a doctor?" or "Who's got a bad leg?" If there is a positive response she builds on it, but if it's a miss she tries to modify it by referring to the spirit she is talking to with something like, "Only I'm being shown a man in a white coat." If this can be reinterpreted by the caller then there is still a chance of a hit. As always, the caller is the one who has to do the matching. Another trivial question with almost guaranteed success is, "Who's got a bad back?" My answer? About two-thirds of the population.

Jean avoids jumping in with: "Your dead husband's here and wants to say something." Instead she tends to prefer the much safer, "There's a gentleman beside me."

As is usually the case with other psychics, her questions often sound like statements. For example she might say something like, "You're not planning to move are you?" The way it is said makes the meaning imprecise. She could either be telling the caller she is not moving or asking if she is. Curiously, sometimes the spirit is talking to Jean ("He's telling me . . .") while other times it uses pictures or objects ("I'm being shown . . ."). The reason for this is unclear. I cannot understand why this leads to such confusion. If she can hear him why not ask him who he is instead of the caller. If she can only see him, why

doesn't he hold up a placard saying, "It's me, Monty, and I'm her husband"? The whole thing works because we assume (rightly) that communication with the dead is going to be difficult and a certain amount of clarification will be needed by the medium to make sure they are on the right track. But why do they know someone is called "Thomas" but not that he's in the spirit world until it's confirmed by the caller? If a name can be picked up, which after all is only a word, why not the word "brother," "father" or "uncle"? Why does communication become so much easier after the facts have been established?

How about a test?

How are psychics chosen to appear on radio? Do they undergo testing prior to giving readings on air? Or, as is more likely, are they simply judged on their popularity? Cold reading is known to work, and the technique has been widely written about in mentalist literature. So how does a radio station know that this technique is not being used unless a proper test has been carried out. It would appear that as long as those who phone in are impressed, then this is test enough.

In devising a test the only way to decide on the psychic's ability is on the accuracy of the information provided. But not any information. Mediums and psychics always fall down on the detail, or more precisely the verifiable detail. An obvious exception to this, of course, is if they manage to obtain information prior to the reading. Any test will obviously have to be adapted to the powers the psychic claims to have, but in the case of a medium five people could be chosen at random from a list of thirty volunteers and the psychic could be required to provide specific information on each of them such as: The volunteer's name (would just the first name do?) Are they married? Do they have any children? (If yes how many?) Is their partner still alive? Names of dead or living relatives (parents, grandparents, children, brothers and sister). Both the name of the relative and the relationship are required. For example: grandfather, dead, named Ferdinand.

Candidates would be allowed only one answer per question and sitters would not be permitted to respond until after the test. No questioning by the medium should be allowed. If they get around 70 percent accuracy then they get to go on air; otherwise they need to return to psychic development classes. Before even this test can begin it would need to be established whether or not the medium needs to hear the voice of the sitter or perhaps know their gender. If they do require this information then I think some kind of explanation is required as to why this is needed. Perhaps the hit rate could be moved to 80 or 90 percent in such cases. Once the voice has been heard, the sex of the sitter is usually known along with approximate age and maybe even some indication of education and social background.

Sadly, no such testing is ever likely to take place. If it were, and were done properly, then there would be little chance of any psychic making an appearance and that would not help the ratings, would it?

Tony Youens is co-founder of the Association for Skeptical Enquiry (ASKE).

It's Astronomy, Jim, But Not As We Know It

Marc LaChapelle reports on the strange celestial beliefs of the Hare Krishnas

RECENTLY, parts of the UK were treated to a grandstand view of one of Nature's most impressive spectacles, a total solar eclipse. The Moon slowly moved across the face of the late morning Sun and progressively blotted out its light until an eerie darkness descended over the sweeping path of the eclipse during the few minutes of totality.

The phenomenon of an eclipse arises from the coincidence that the Sun is roughly 400 times larger than the Moon but also about 400 times further away from the Earth. This chance agreement of the two ratios means that the Moon appears to be the same size as the Sun, so that during a total solar eclipse the Moon "fits" exactly over the Sun.

However, the above explanation of a solar eclipse would not make sense or be acceptable to the followers of the Hare Krishna organisation, or, as they are more formally called, The International Society for Krishna Consciousness (ISKCON). The views held by ISKCON on astronomy are taken literally from the teachings of ancient Vedic texts. They bear little resemblance to what you would find in any conventional book on the subject. This article describes some of ISKCON's beliefs about the Sun and Moon.

In order to find out what ISKCON believes, I rang a couple of ISKCON contact numbers found on the Internet. I was particularly interested in views that could be readily compared with those of conventional science. The people I spoke with were friendly and quite happy to talk in general terms about their beliefs in this area but were less able to answer detailed questions. When asked if they were concerned that their views were not compatible with those of contemporary science, they replied that they weren't at all worried since they knew it was "Western science" that was at fault. Although they didn't understand too much of the detail about their astronomy, they felt unshakably confident that all the necessary detail was known by more learned members of the Society who were versed in these matters.

I subsequently made contact by email with an ISKCON member who was very helpful. He did the research in the source texts and provided all the quantitative information about Vedic astronomy given below. He told me that getting hold of the detail was "very difficult" and having had a brief look at the one of the source texts, I can readily appreciate that it was.

According to the Vedic texts, modern science has got it all wrong in a big way when it comes to understanding the solar system. The *Srimad Bhagavatam* [1] one of the

books constituting part of the collection of Vedic literature, gives the low-down about the heavenly bodies in our part of the solar system. According to the *Srimad Bhagavatam* the distance to the Moon is not 240,000 miles [2] as is conventionally held to be the case, but is in fact more than six times further away at a distance of 1,600,000 miles. Much more astonishingly, the Sun is not 93,000,000 miles distant from Earth as we have all been taught but in fact resides about 115 times closer, only half the distance to the Moon at a mere 800,000 miles away!

And it is not just the distances to these bodies that don't agree with what you learned in school. The *Srimad Bhagavatam* states that the Moon extends for 160,000 miles whereas the Sun has to make do with being only half that

size at 80,000 miles. It wasn't clear to me if the "extend" figures represent circumference, diameter, or something else. Whatever "extend" is meant to represent, however, each figure is wildly at a variance with scientific measurement, which has established that the Moon has the much smaller diameter and circumference figures of some 2,160 and 6,800 miles respectively, whereas the Sun's diameter and circumference figures are significantly more massive at 865,000 and 2,717,000 miles respectively. Therefore, according to the ISKCON belief, the Moon's circumference would be about 23 times larger than conventionally accepted and the Sun's some 34 times smaller.

So in terms of both size and distance from the Earth of Moon and Sun, the beliefs held by ISKCON would not



have any place or credibility within a conventional scientific description of the solar system. I didn't pursue the implications for the resulting celestial mechanics.

Now you might wonder how a solar eclipse could occur with the relative sizes of the Sun and Moon being what they are as decreed by the Vedic astronomy. No problem at all, as it turns out there is another planet called Rahu that lies 80,000 miles "below the Sun". It is no slouch in size, either, at 320,000 miles. Clearly, at this size Rahu would have no trouble covering up the Sun (the Sun being but 80,000 miles) during an eclipse. Indeed, given the relative sizes of Rahu and the Sun, it seems surprising that we manage to get as much sight of the Sun as we do. Apparently Rahu can move in either a "straight or curving way" and it is this variable movement that accounts for the different types of eclipse that are visible from Earth. Some might find it strange that Rahu has managed to elude detection by the panoply of scientific instrumentation available over the years.

The *Srimad Bhagavatam* also has something to say about the conditions on the Moon. It reveals that the Moon is in fact "lush and beautiful". This doesn't exactly accord with the conventional scientific understanding of the Moon, nor I suspect, with the experience of the astronauts who landed on its surface 30 years ago. The ISKCON response is that either the Moon landing was a staged event or that the astronauts simply went somewhere else, probably Rahu, by mistake! Now, I imagine the journey to the Moon wasn't very well sign-posted but you'd have thought that the number of back-seat drivers at Mission Control would have ensured the astronauts got to where they were meant to be going.

In this article, I have looked briefly at a few of the areas in which ISKCON beliefs about solar system astronomy disagrees with the accepted scientific views. My investigations suggest that there are a number of other ISKCON convictions in this area that readers might find equally curious compared with contemporary scientific views but I wasn't able to obtain adequate detail to include here.

The discrepancy between ISKCON and conventional astronomy is not surprising since the basis of ISKON astronomy was formulated thousands of years ago but is still treated as literal fact today. Belief in their astronomy neither gives recognition nor makes any concessions to the obvious strides in knowledge that science has made in the intervening millennia. We might well accept that teachings of a spiritual in nature could endure more or less unchanged over large spans of recorded history. Surely, however, it is reasonable to expect that descriptions of the external world by ancient cultures should yield to discoveries made by the cumulative and collective advance of science.

Notes

1. Specifically, Fifth Canto, pt 2, Chapters 22, 23, 24.
2. Distances in the *Srimad Bhagavatam* are given in 'yojanas'. One yojana equates to eight miles, I'm advised.

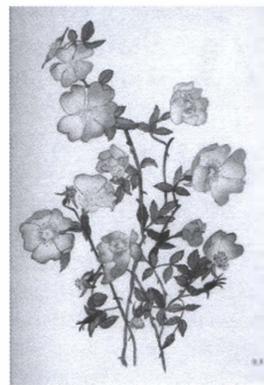
Marc LaChapelle is a quiescent computer project management consultant who thinks that sometimes size does matter.

The Skeptic's Dictionary

Robert Todd Carroll

Bach flower remedies

Bach's flower therapy" is a type of homeopathic aromatherapy developed in the 1930s by British physician Edward Bach (1886–1936). Bach claimed to have psychically or intuitively discovered the healing effects of 38 wildflowers. His "discoveries" were arrived at by "inspirations." For example, while on a walk he had an inspiration that dew drops on a plant heated by the sun would absorb healing properties from the plant. He claimed that all he needed to do was hold a flower or taste a petal and he could intuitively grasp its healing powers. From these intuitions he went on to prepare "essences" using pure water and plants.



Bach claimed that these wildflowers have a soul or energy with an affinity to the human soul. The flower's spiritual energy is transferable to water. Devotees drink a homeopathic concoction of flower essence, mineral water and brandy in order to get the flower soul to harmonize their own soul's energy. According to Desde San Felipe y Santiago de Montevideo of Uruguay, flower remedies "do work." Bach thought that illness is the result of "a contradiction between the purposes of the soul and the personality's point of view." This internal war leads to negative moods and energy blocking, which causes a lack of "harmony" which leads to physical diseases. "Each of the 38 flowers of the Bach system is used to balance specific emotional pains or, in advanced stages of the lack of balance, to remit physical symptoms" [personal correspondence]. I have no idea what is meant by saying that this therapy "works," but I do not see how it could be tested since its main claims are metaphysical not empirical.

Dr. Bach seems tame compared to the pioneering work of others who have followed in his petals. In California it has been discovered that the humble Forget-Me-Not is 'good for "increasing your awareness of karmic relationships beyond the threshold." And Mugwort is good "for awareness of dreams and conscious control of one's psychic life."

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Robert Todd Carroll teaches philosophy at Sacramento City College, California.

For the full text of the *Skeptic's Dictionary* visit: <http://www.skepdic.com>

Scientists and the Paranormal

Harry Edwards reports on a rogues' gallery of respected scientists whose later beliefs left the field

A THOUGHT-PROVOKING LETTER from a John Allen of London, appeared in *The Skeptic* (Vol. 11, No. 2) and surprisingly solicited no comments. The letter read in part:

For almost every topic covered in *The Skeptic* it is possible to find a proponent who is a scientist with genuine, respectable scientific qualifications. For instance, Percy Seymour (astrology), Stanton Friedman (UFOs) and Jacques Benveniste (homeopathy) come to mind immediately. How should we regard the writings of such people and, superficially, why should we have less respect for their views than for those of the sceptical scientists?

Apart from the fact that the views and findings of Seymour, Friedman and Benveniste have been found wanting, in my opinion it's not the academic standing of the proponent that is important but the validity of the argument. If an argument cannot stand up to scientific or peer scrutiny then the proponent's qualifications are irrelevant. There are many reasons why a seemingly rational person would promote an irrational idea – money, fame, wishful thinking and eccentricity among them. The Nobel Laureate chemist Irving Langmuir summed it up in a famous lecture in 1953 when he coined the phrase pathological science. He used it to refer to cases in which scientists

"perfectly honest, enthusiastic over their work . . . completely fool themselves." These are cases "where there is no dishonesty involved but where people are tricked into false results by lack of understanding about what human beings can do to themselves in the way of being led astray to subjective events, wishful thinking or threshold interactions. These are examples of pathological science. Perhaps a better term is wishful science."

A good example of one whose enthusiasm led to bias is Dr William McBride. An obstetrician and gynaecologist, McBride wrote a letter to the *Lancet* that drew attention to the fact that thalidomide could be responsible for the limb deformity known as phocomelia, which causes children to be born with appendages like seals' flippers in place of arms and legs. His letter made him famous overnight and brought him the resources to open his own research centre, Foundation 41.

In 1972 McBride went public with a new claim. He declared that three deformed babies had been born in Sydney after their mothers took the anti-depressant drug Imipramine during pregnancy. However, the case proceeded no further as there had been no other reports of any increase in deformed live births during the use of the drug in Britain and America.

Later, McBride reported that in laboratory tests he had found eight rabbits with deformed limbs after their mothers had been given Debendox. This seemed to him to be statistically significant – he believed Debendox was potentially teratogenic. Richardson-Merrell, the pharmaceutical company that developed Debendox, investigated the claim, and McBride was proved to have faked his evidence. The charge was first made by Dr Philip Vardy in 1982, and six years later, in 1988, Dr Norman Swan looked back at earlier research and realised that the figures had indeed been doctored. A tribunal found there had been scientific fraud and McBride was forced to resign from Centre 41.

In 1991, McBride admitted that he had changed some data "in the long term interests of humanity" and had allowed himself to depart from "proper scientific practices".

One doesn't have to search too deeply to come up with other examples of highly qualified scientists, academics and physicians who have put forward remarkable ideas only to have them dismissed as non-sequiturs on close examination by their peers. Here are just a few.

Albert Abrams



Dr Albert Abrams' (1864–1924) early medical career is quite impressive. A degree from Heidelberg, post-grad courses in London, Berlin, Vienna, Paris and Portland, and author of a dozen reputable textbooks. His appointments included Professor of Pathology, Cooper Medical College, President of the Emmanuel Polyclinic, Consulting Physician Mt. Zion Hospital and vice president of the California State Medical Society. In 1910 he theorised that every disease had a characteristic vibratory rate. Further, by tapping the spine and abdomen to discover the patient's disease frequency he could determine the severity and exact location of any ailment. A cure was effected by restoring the vibrations to equilibrium.

Dr Abrams developed and sold expensive apparatus for diagnosis and treatment and in a matter of a few years amassed a fortune. When Dr Abrams' devices were subjected to investigation they were found to be useless boxes of haphazardly wired electronic components. After his death in 1924, the American Medical Association noted that Abrams "easily ranked as the dean of all twentieth century charlatans."

William Bates



Dr William Horatio Bates (1860–1931) was a graduate of Cornell University and had a medical degree from the College of Physicians and Surgeons. He was clinical assistant at Manhattan Eye and Ear Hospital; attending physician at Bellevue Hospital and at the New York Eye Infirmary. He also taught ophthalmology at the New York

Postgraduate Medical School and Hospital.

In 1902 Dr Bates vanished and was later found working as an assistant at Charing Cross Hospital. Disappearing again, he was discovered by a fellow oculist in 1910. He had been practising in Grand Forks, North Dakota, for six years. Moving to Manhattan he served as attending physician in Harlem Hospital until 1922.

In 1920 Bates published a book titled *Cure of Imperfect Eyesight by Treatment Without Glasses*. He stated (incorrectly) that the lens of the eye was not a factor in accommodation, and that refractive errors were simply "strain due to an abnormal condition of the mind" that could be helped through various prescribed eye exercises. Bates' theory was supported by exaggerated case records, curious photographs and anatomical ignorance. Consensus has it that the Bates' method has no validity although it is still advocated by a few practitioners.

Cyril Burt



Sir Cyril Burt (1883–1971) was a British psychologist and one-time assistant to Dr. Soal; Burt's work, for which he was knighted, was mainly on heredity. After his death it was found that he had appropriated the work of other researchers and many of his sources and references had been invented to satisfy the needs of his conclusions.

Linus Pauling



Dr Linus Pauling (1901–1995) had an even more distinguished career than Abrams and Bates. Professor of Chemistry at the California Institute of Technology and at the University of California, he was awarded the Nobel Prize in 1954 for his contributions to the electrochemical theory of valency. Elected a foreign member of the Royal Society, he was again

awarded the Nobel prize in 1962, becoming the first person to win two full Nobel prizes.

Controversy arose with the publication of Pauling's 1970 book, *Vitamin C and the Common Cold*, in which he advocated taking large amounts of vitamin C to reduce the incidence of colds. In a 1976 revision, *Vitamin C, the*

Common Cold and the Flu, he advocated even larger doses of vitamin C, and in a third book published in 1979, claimed that high dosages of vitamin C might be effective against cancer.

A number of well-designed double-blind studies and clinical trials conducted by various medical establishments have all shown that supplementation with vitamin C does not prevent colds, and that at best, it may slightly reduce the symptoms of a cold. In 1979 the Mayo Clinic reported a double-blind study of 123 patients with advanced cancer. No difference was found between those patients receiving 10,000 mg of vitamin C daily and the control group. No differences were found between the two groups in survival time, appetite, weight loss, severity of pain, or amount of nausea and vomiting. Other well designed studies reported similar results.

Both Pauling and his wife died of cancer.

Wilhelm Reich



Wilhelm Reich, M.D. (1897–1956) graduated from the University of Vienna Medical School and became a protégé of Freud's. While continuing his research into psychoanalysis, he claimed to have discovered the existence of "orgone energy", a non electromagnetic force which permeates the universe.

In the United States he took up a position as an associate professor at the New School for Social Research, in Manhattan and established a laboratory, The Orgone Institute, at Forest Hills, Long Island. Reich is best remembered for his invention of the Orgone Energy Accumulator, a box resembling a phone booth constructed of alternative layers of steel and rock wool. This box supposedly attracted orgone energy and a patient sitting inside would allegedly benefit therapeutically. It was recommended for fatigue, anaemia, arthritis, ulcers, migraine, cancers and hay fever among other ailments.

Another of Reich's inventions was a rain-making device – a bank of long, hollow pipes tilting at the sky. The clouds are not sprayed with any substance; the hollow pipes merely draw orgone out of them, thus weakening their cohesive power and eventually causing them to break up. At least that's the claim.

Carefully conducted tests by research scientists for the Food and Drug Administration in the US concluded that, "there is no such energy as orgone and that Orgone Energy Accumulator devices are worthless in the treatment of any disease or disease condition of man. Irreparable harm may result to persons who abandon or postpone rational medical treatment while pinning faith on worthless devices such as these." In 1954 the FDA brought suit against Reich and his wife and the Wilhelm Reich Foundation to prevent the interstate shipping of orgone energy accumulators. The federal jury found Reich guilty, he was fined \$10,000 and given a two year prison sentence.

J B Rhine



Joseph Banks Rhine (1895–1980) graduated from the University of Chicago in 1922. He later received a doctorate from Chicago and for a time taught at West Virginia University. His interest in spiritualism was sparked after attending a lecture by Sir Arthur Conan Doyle and led to an eventual appointment in

1927 as a research assistant at Duke University, working on psychic forces under Professor William McDougall. Rhine joined the Duke faculty in 1928, and in 1940 became the director of school's Parapsychology Laboratory. Rhine published the results of his experiments in four books, numerous articles and as the editor of the *Journal of Parapsychology*.

Rhine's objective approach was evident in testing the likes of diviner Henry Gross and psychic diagnostician Edgar Cayce, but bias is evident when it comes to ESP (telepathy and clairvoyance) and psychokinesis (the ability of the mind to control matter). Rhine claims in his books and articles that these have been demonstrated beyond all reasonable doubt by means of several million tests with ESP cards. This extraordinary claim raises the question: did Dr Rhine give psychic phenomena a sound empirical basis or is his research suspect by scientific standards? Foremost among the considerations is the fact that the only experimenters who have confirmed Rhine's findings are those who share his belief in psychic phenomena. Hundreds of tests conducted by others have yielded negative results. Professor John E. Coover, of Stanford University in particular made extensive and carefully controlled ESP tests which were published in detail in 1917, in a 600-page work, *Experiments in Psychical Research*. Other accusations against Rhine include loose systems of laboratory controls and recording errors.

In 1974, Rhine appointed Walter J. Levy, 26, as his successor as director of his laboratory. Three older members of Rhine's staff were suspicious of Levy's many successes at proving the existence of psi, and set a trap while Levy was testing the PK ability of rats. Levy was caught red-handed beefing up the scores.

Rudolph Steiner



Rudolph Steiner (1861–1925) studied science and mathematics and edited Goethe's scientific papers at Weiniar (1890–1897) before coming under the spell of Annie Besant and the Theosophists. Steiner was a firm believer in the former existence of the mythical continent of Atlantis and the Akashic records – a record of all the deeds, thoughts and events

the human race has ever experienced that could be accessed only by psychics. In 1912 he propounded his own "science" of spirituality and established the "Geotheanum", a centre at Domach near Basle. Here he advocated the art of eurhythm, the harmony of bodily movement developed with music and dance into a system of education.

Steiner also established "Bio-Dynamic farming based on the belief that soil can be made more dynamic by adding homoeopathic compounds. In 1920 Steiner proposed Iscador, an extract of mistletoe, for the treatment of cancer. However, in 1920, the expert working group of the Swiss Society for Oncology concluded that there was no evidence that Iscador was effective against human cancers.

Although Steiner's theories have long been discredited his schools still flourish around the world.

Samuel Soal



Dr Samuel George Soal (1889–1975) was a mathematician and president of the Society for Psychical Research in 1950. Impressed with the findings of Dr. J.B. Rhine, he replicated some of Rhine's experiments with astonishing results. His own experiments in ESP with two thirteen-year-old Welsh boys, Glyn and Ieuan Jones, were so astonishingly accurate that it led to Soal's publishing

the overnight best-seller *The Mind Readers*. There was much scepticism and there were many suggestions of cheating, and finally, after Soal's death, the Society for Psychical Research, via a computer program, found that Soal had cheated by changing the figures on the score sheets. Today, Soal's work is not accorded any credibility.

These are but a few examples of well-known qualified scientists typical of Mr Allen's "independent thinker." If an argument cannot stand up to scientific or peer scrutiny then the proponent's qualifications are irrelevant.

Today there are many science-based medical practitioners who make available alternative and pseudoscientific services to their patients, including iridology, aromatherapy, homoeopathy, traditional Chinese medicine, herbs and acupuncture. One could ask why, after years of learning and practising scientific and proven methods they now offer their patients remedies for which there is no evidence of efficacy? Perhaps Irving Langmuir could also have included pecuniary interest in his reasoning and the fact that in many instances the placebo effect is real and beneficial.

Harry Edwards is a member of the Australian Skeptics and a writer with a particular interest in pseudoscience and the paranormal

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Fantastic Skepticism

David J Eccott responds to claims of fantastic archaeology

VOLUME 8, Number 5 (1994) of *The Skeptic* contained an article by Howard Wellman entitled "Fantastic Archaeology" (pp 6-8). In this article, Mr Wellman quite correctly refutes certain pseudo-archaeological claims, such as those concerning Atlantis, Bronze Age Celts voyaging to America, and extraterrestrial travellers building pyramids in Egypt and Mexico, on the grounds that such claims are not based upon solid archaeological reasoning and that they are lacking in corroborative artefactual evidence. While I would totally agree with many of the points raised by Mr. Wellman, I am somewhat disturbed by his apparent inability to differentiate between, for instance, the lunatic fantasies of Erich von Däniken and the evidence of Dr. Robert Schoch regarding the age of the Sphinx. I am also disturbed by the fact that certain misleading statements and even gross inaccuracies are incorporated into the text and used as a basis for dismissing anything and everything that contravenes established archaeological doctrine.

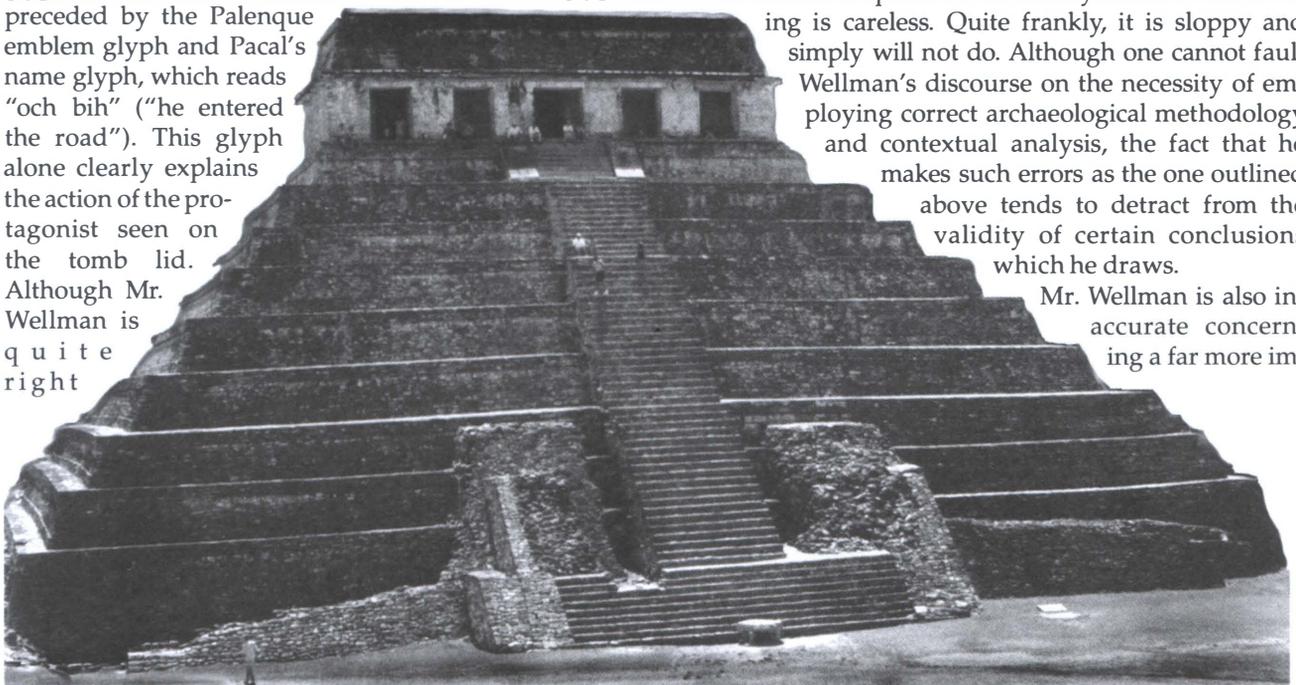
Firstly, I am in full agreement with Mr Wellman's remarks concerning von Däniken. He is totally correct to state, regarding the tomb in the Temple of the Inscriptions at Palenque, that the iconography carved upon the lid of the sarcophagus can be understood by anyone willing to take the time to read Maya glyphs. Furthermore, I should like to point out that people such as von Däniken and Graham Hancock have failed abysmally to interpret the iconography correctly by not looking at the glyphs on the side of the lid. Here there is a glyph, preceded by the Palenque emblem glyph and Pacal's name glyph, which reads "och bih" ("he entered the road"). This glyph alone clearly explains the action of the protagonist seen on the tomb lid. Although Mr. Wellman is quite right

to admonish von Däniken, his own explanation is inaccurate in certain vital details.

Howard Wellman says that Pacal is "climbing the tree of life which grows from the mouth of the Earth-monster." The action is, in fact, one of falling, not climbing, and the tree is not the "tree of life" but the "World Tree" known to the Maya as the Wakah Chan, (literally, "raised-up sky"). The "World Tree." with its roots in the underworld and its branches in the heavens, connected the planes of sky, earth, and underworld. For the Maya it was the centre of the cosmos. The day of creation when the Wakah Chan was raised by the First Father (corresponding to February 5th in the Gregorian calendar) was celebrated by the Maya as a time of renewal. Pacal is shown at the moment of death falling down the World Tree into the Maw of the Earth. The expression the Maya used for this action was "och bih," (bih in Cholan Maya and beh in Yucatec Maya both mean road). The Sac beh, (literally "white road"), was the great white road in the sky - the Milky Way, sometimes known as Xibal beh, "the road of awe." In Maya iconography the sac beh was synonymous with the Wakah Chan. Pacal has to fall down the World Tree (the Milky Way) into the underworld where, according to Maya lore, he must do battle with the Lords of the Underworld (the Lords of Death), after which he will emerge resurrected and victorious.

While the above may seem inconsequential when viewed within the wider sphere of Mr. Wellman's discussion, it nevertheless serves to demonstrate a fundamental flaw in his overall presentation. To say that Pacal is climbing is careless. Quite frankly, it is sloppy and simply will not do. Although one cannot fault Wellman's discourse on the necessity of employing correct archaeological methodology and contextual analysis, the fact that he makes such errors as the one outlined above tends to detract from the validity of certain conclusions which he draws.

Mr. Wellman is also inaccurate concerning a far more im-



portant point; the dating of the Maya pyramids. He states, "The Maya pyramids were built circa A.D. 800." Admittedly, Mr. Wellman qualifies his statement with the word *circa*, but even this falls far too wide of the mark. One could forgive the statement if it had come from a pseudo archaeologist, but coming as it does from someone with an MA in archaeology from Boston University, who one would expect to give accurate information, this date is in reality totally misleading. Anyone who is not versed in Maya archaeology and history is led to believe that the Maya pyramids were conceived, constructed, and completed all within the span of the 9th century. This is not the case at all.

A.D. 800 marked the beginning of the Terminal Classic period for the Maya. The great Classic period (A.D. 250–800), during which most of the great Maya cities and pyramids had been constructed, had come to an end. Many such centres, such as Cerros, had their roots in the Late Preclassic Period (B.C. 300–A.D. 250). In the words of Norman Hammond (professor of archaeology at, by a strange coincidence, Boston University), "The pyramids that form a significant element of Classic period architecture began to assume monumental proportions during the Late PreClassic." Regarding the pyramids at Tikal, Professor Hammond states, "It was assumed that these structures were built about A.D. 700. Excavation has shown that they were constructed at least 400 years earlier" [1].

I should like to add that the pyramids at Teotihuacan were constructed during the first two centuries A.D., and the pyramids at its sister site at Cuicuilco were constructed during the first two centuries B.C. The important Olmec site at La Venta, which contains an extensive and planned architectural layout including pyramidal structures, dates from the first millennium B.C. (It is important to note that the Olmec are now regarded among Maya archaeologists as being proto-Maya).

Mr. Wellman also states that the Egyptian pyramids were designed and built primarily as tombs while Maya pyramids were designed and built primarily as temple platforms, any tombs later incorporated during subsequent building phases. Two points come to mind here.

First of all, some Maya pyramids were almost certainly constructed to encase a tomb chamber. The prime example is the Pyramid of the Inscriptions at Palenque, which was built by the above mentioned Pacal as his final resting place. The fact that Pacal designed the pyramid primarily as a tomb is obvious because the sarcophagus is too big to have been passed through the door of the tomb chamber at the base of the pyramid. The tomb chamber would have had to have been constructed first and the pyramid built around it. Therefore, the tomb could not have been incorporated at a later building phase. While some burials in Maya pyramids would have taken place long after the pyramid had been built, it is certainly not the case in every instance.

Secondly, pyramids, wherever their location, quite likely served a number of functions. Their primary purpose appears to have been to serve as some form of astronomical orientation. This is true of both Maya and Egyptian pyramids. Furthermore, it is perhaps interesting to note that the Maya word for pyramid was *witz*. In Maya, *witz* also means "mountain." The Egyptian word

for pyramid was *MR*. With vowels included, this could be read as *MeRu*, possibly derived from the Sanskrit name of the Holy Mountain of the Hindus.

While one can fully appreciate that Mr Wellman is trying to make the point that the Mesoamerican pyramids appeared far too late to be linked to the pyramids of Egypt, his basic facts concerning Maya culture and history are over-simplistic and often inaccurate and misleading.

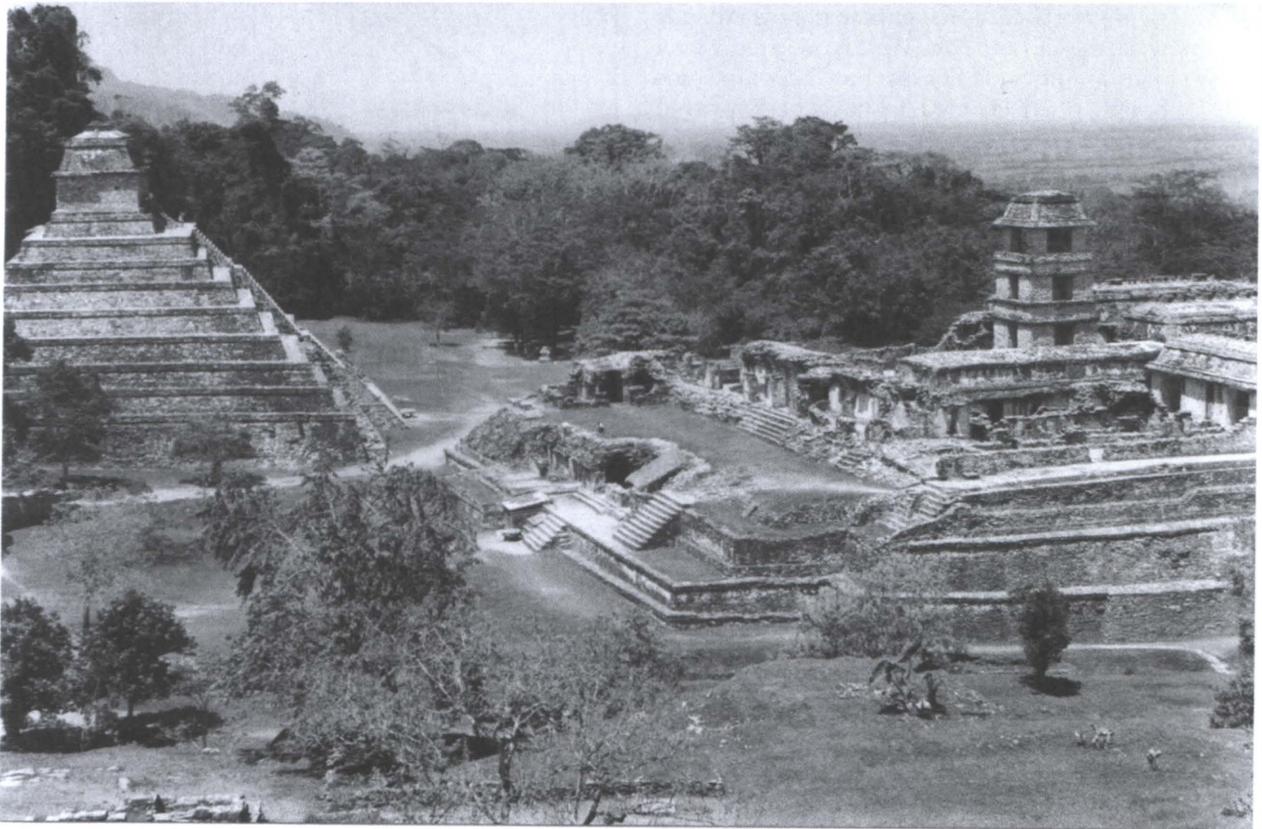
This brings me to another area of Mr Wellman's article where I wish to take issue; the subject of pre-Columbian trans-oceanic contact. Indeed, I wonder, considering the inaccuracies outlined above, whether Mr. Wellman is fully equipped to debate upon this topic.

Mr Wellman states that because both the Egyptians and the Maya built pyramids, pseudo-archaeologists have used this as a means of trying to prove that there was some contact between the two cultures.

Firstly, it is inadmissible to use arguments which are inaccurate and incomplete in their factual context as a means of negating any possibility of pre-Columbian trans-oceanic contact between the Old and New Worlds. While Howard Wellman quite rightly observes that "analogy is the weakest form of argument" and that "it is also the weakest form of archaeological proof," it is unreasonable to pick on some weak elements and dismiss the possibility of pre-Columbian trans-oceanic contact on these grounds alone. I would quite agree that the fact that appearance pyramids appear in both Egypt and Mezoamerica in itself does not constitute evidence of contact. I would also readily admit that there have been many outlandish, totally unsubstantiated, and ridiculous claims made concerning trans-oceanic contact. But once again it is important to distinguish between an absurd conjecture and one which is intelligently presented and which is at least worthy of reasonable discussion. Howard Wellman does not allow for this distinction, and this is another fatal flaw in his argument.

A serious student of Amerindian cultures would not suggest that the ancient societies of America were the direct result of Old World contact, as it is plainly evident that Amerindian cultures had a unique intellectual momentum of their own. There are, however, certain aspects that would suggest that some form of early contact indeed occurred. With this in mind, I should like to refer to a statement made by Michael D. Coe, Professor of Anthropology, and Curator of Anthropology in the Peabody Museum, at Yale University. Professor Coe's statement reads as follows:

....it must be admitted that there has been some recent scholarship on the possible transmission of certain cultural traits from Asia across the Pacific Ocean which must be considered seriously. In particular, there are features of the Mesoamerican calendrical system which argue for transpacific diffusion; for example, it is probably no accident that the Maya eclipse calendar in the Dresden Codex operates on exactly the same principles as the one previously developed in Han-dynasty China. How and when such diffusion from East or Southeast Asia took place is not known. Some features suggesting Asiatic origin could have been brought via Siberia into Alaska.... Some cultural traits, however, cannot be this old:



As a good example, Paul Tolstoy has convincingly demonstrated that the complex technology used to produce bark paper in the New World tropics (for instance, the bark paper books of the Maya) must have originated in Southeast Asia and Indonesia, specifically the Celebes and Moluccas. [2]

Obviously a degree of caution would need to be exercised before proceeding to accuse Professor Coe of indulging in pseudo archaeology. I include the above quote to illustrate my point that not all theories concerned with the possibility of pre-Columbian trans-oceanic contact are lacking in evidence. Not all can, nor indeed should, be designated to the realms of pseudo archaeology along with the fantasies of Donnelly and von Däniken, and the like.

The interesting point regarding the Chinese and Maya eclipse calendars is that they not only work on the same principles, but also on the same errors. The Han dynasty eclipse calendar predicted that 23 lunar eclipses would occur in 135 lunar months, and the Maya calculated that 69 eclipses would occur in every 405 lunations. The Maya figure is exactly triple that of the Chinese, but of precisely the same proportions. Also the Chinese calculation that 23 lunar eclipses would occur in 135 lunar months is virtually one and a third times as many as actually occurred, and two and a half times as many as could actually have been observed by the Chinese astronomers.

Professor Coe also draws attention to the work of University of Montreal archaeologist Paul Tolstoy. In his study, Tolstoy compared the techniques used for bark cloth and paper making in Southeast Asia and Mezoamerica. Of 121 steps identified in the process, 92 steps correspond. Of those 92 steps, 42 steps are not dependent upon previous steps [3]. As Tolstoy pointed

out, "China and Mezoamerica clearly share a common background.... But it is India and Southeast Asia that provide the most fine-grained correspondence.... It should be noted that calendrical permutation cycles occur not only in China, but in Southeast Asia and Indonesia as well" [4].

Also, studies by Stephen Jett, Professor of Geography at the University of California, Davis, have determined that the development and use of the blowgun in South and Central America, including the hemispherical mouth-piece, are very similar to those in Southeast Asia, where it was probably invented [5]. Once again, Southeast Asia would appear to be an important link with regard to the possibility of early trans-oceanic voyaging.

Howard Wellman also makes extensive reference to *Fantastic Archaeology* by Stephen Williams. Here again, I share Professor Williams's concern over the wild and fantastic theories that are often passed off as fact to an unsuspecting public. Indeed, I feel an acute sense of dismay when I see books such as *The Mayan Prophecies* by Adrian Gilbert and *The Supergods* by Maurice Cotterell on sale alongside scholarly works by Coe and Schele, among others, in bookshops at Maya archaeological zones. Unfortunately, one cannot take everything that Williams says as the truth, the whole truth, and nothing but the truth. In order to illuminate upon some of the unreliable aspects inherent in Williams's book, and also Williams's inability to take seriously any of the subjects he discusses, the reader is referred to a review of Williams's *Fantastic Archaeology* by David H. Kelley, Professor Emeritus of Archaeology, University of Calgary [6]. Among other things, Kelley points out that Williams "does not know where the Hopewell people lived" (p. 327). Kelley's review also contains a rational and informative discussion on a particular inscribed stone which, along with

many others, is often used as evidence that trans-Atlantic contact between the Old and New Worlds occurred. Many of these stones are obvious hoaxes, but there are some which, although often claimed to have been proved fraudulent, in fact have not been proved so. In all fairness, they have not been proved as being genuine either, but the truth of the matter is that the situation is far more complex than some commentators would have us believe.

Far too often "diffusionist" (for want of a better term) literature is dismissed as the work of fanatics and extremists, whereas a sizeable percentage is by established and respected archaeological and anthropological scholars. For an excellent, intelligent, balanced, and academic discussion of the cases, both for and against pre-Columbian contact, the reader who is interested in such matters is strongly advised to obtain "Explorers of Pre-Columbian America? The Diffusionist-Inventionist Controversy" by Eugene R. Fingerhut, California State University [7]. Herein, the reader will find a far more informative and accurate discourse than those provided by Williams and Feder. Certain genetic evidence for early contact is provided in a recent paper "Human Lymphocyte Antigens: Apparent Afro-Asiatic, South Asian, and European HALs in Indigenous American Populations" by Dr. James Guthrie [8].

One may argue, as Mr Wellman quite rightly does, that evidence of an Old World presence on the pre-Columbian American continent would also require the presence of Old World artefacts in horizontal association with the structures. Although it may seem as if I am skirting the issue, it is important to consider that Old World intrusions into the Americas via the Atlantic, if they occurred, would probably not have been of the nature of extensive migrations. Therefore, artefactual remains would not be extensive either. I admit that the problem is a difficult one. In *American Epigraphy at the Crossroads*, McGlone, Guthrie, Gillespie, and Leonard have discussed this matter in some considerable detail.[9] One interesting fact that emerges from their discussion is their observation with regard to the expedition of Hernando de Soto in Florida during the early 1540s that despite extensive searching it was not until the late 1980s that a small number of 16th century Spanish artefacts began to be found in Tallahassee, Florida. Even then, it was only possible to link them specifically with de Soto because bones from pigs that only he had with him were found in the artefact stratum.

It should also be pointed out that some Old World artefacts have been found in America. One notable example is a small terracotta pot moulded in the form of a head of a bearded man and considered by experts as belonging to the Hellenistic/Roman culture, which was professionally excavated from a truncated pyramid at Calixtlahuaca in Mexico. Thermoluminescence has confirmed the date of the artefact as being A.D. 200. Of course, the question of how and precisely when it arrived in Mexico is another matter altogether. In his paper "Ein Römischer Fund aus dem Vorkolumbischen Mexiko", anthropologist Dr. Robert Heine-Geldern proposes a Pacific route stemming from Southeast Asia [10]. Note the appearance of Southeast Asia yet again



Finally, I find that Mr. Wellman's comments concerning the age of the Sphinx also leave much to be desired. Dr. Schoch does not claim that the Sphinx is 10,000 years old as Mr. Wellman states. Dr. Schoch said that erosion patterns observed on the Sphinx were typical of precipitation (rain) induced weathering which pointed to the possibility that the Sphinx had originally been carved somewhere between 5000 to 7000 B.C. It was John Anthony West who proposed the 10,000 B.C. date. Yet again, Mr. Wellman has his facts wrong.

Mr Wellman also accuses Dr. Schoch of ignoring the documentary, architectural, and archaeological contexts of the Sphinx. Firstly, there is no direct or indirect reference, or documentary evidence that Chephren, or indeed any other Pharaoh, built the Sphinx. The stela of Tuthmosis IV was already severely flaked when it was first excavated, and the only supposed reference remaining to Chephren was Khaf, the first syllable of his name. Even if this syllable was intended to be the first part of Chephren's name, there is still no mention on the stela that Chephren was the builder of the Sphinx. Moreover, a stela discovered by Mariette describes Cheops, precursor to Chephren, as having discovered a temple of Horus in the vicinity of the Sphinx. From this, one can surely be forgiven for logically assuming that the Sphinx was already in existence during the time of Chephren.

Secondly, the architectural evidence is also nonexistent. (What else resembles the Sphinx in ancient Egypt other than something that was directly copied from it? Also, to say that the face of the Sphinx resembles carvings of Chephren merely invokes the analogy of similarity which, as Mr. Wellman reminds us, is the weakest form of argument and archaeological proof.)

Thirdly, to my knowledge, no irrefutable archaeological evidence has been forthcoming to support any age for the building of the Sphinx. If there is, why does Mr. Wellman not present it? In fact, Dr. Schoch's data is the only hard evidence we have for any date for the construction of the Sphinx. While there may be no archaeological, architectural, or documentary data to support Schoch's findings, there are certainly none to invalidate it either.

Is it so unreasonable to propose that the Sphinx was built between B.C. 5000 and 7000 by a proto-Egyptian people, and later remodelled by Chephren? Is it so unthinkable that its builders may have oriented it in an astronomical alignment? Should it incur that much skepticism? If it was that early, there is no need to resort to claims that Martians or men from Atlantis were the builders. I note with interest that an assembly of huge stone slabs found in Egypt's Sahara Desert at Nabta, first discovered by a team led by Southern Methodist University anthropologist Professor Fred Wendorf, that date

from 6,500 years ago have been confirmed by scientists (in particular J. Malville, Professor of Astronomy at the University of Colorado at Boulder) to be the oldest known astronomical alignment of megaliths in the world. Malville also suggests that the Nabta culture may have stimulated the growth of the society that eventually constructed the first pyramids along the Nile.

In conclusion, I would suggest that while healthy skepticism and, more importantly, an ability to be discerning are essential facets of intelligent reasoning, skepticism for its own sake is of little value and, when mixed with inaccurate and incomplete facts, runs the risk of simply becoming "fantastic skepticism." If for no other reason than out of respect for the capabilities of our ancient forebears, there are certain matters discussed by Mr. Wellman that require more extensive analysis and which do not deserve to be consigned to the waste bin along with the inane ravings of the "supergods brigade." The balance of some of Mr Wellman's conclusions needs to be redressed somewhat, and a little more care and attention to detail would not go amiss.

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TEOTWAWKI*

Wendy M Grossman

IT'S ONLY EARLY DECEMBER, so it would be tempting fate to suggest that the evidence is that humanity will survive through the turn of the Millennium. I'm still going to risk it (how skeptical) to look back at what some of the apocalypse-mongers said was supposed to have happened by now.

The scene: computer specialists were examining the prospects for TEOTWAWKI, many not convinced that the computer systems could be remediated to keep working after January 1, 2000. One schedule posted to Usenet went like this: small failures due to end-of-year financial projections start January 1, 1999; non-US failures start April 1999 as the fiscal year turns over; European crash fuels US crash; people start to panic in US and food, cash, and petrol all become scarce and bank runs become common; panic renews in July 1999 when state fiscal years turn over; September sees the beginning of business computer failures and food riots in larger cities; further crashes on 9/9/99 and federal computer failures in October mean major cities start to burn; December power outages and brownouts; New Year's Eve kills off 400 billion embedded chips sparking failures in water, power, and transportation and a five to ten year period of complete anarchy worldwide. If we're lucky and no one sparks a nuclear war, only four-fifths of the world's population will die. And they will be the smart ones, the prepared ones, the ones who fled the cities by the end of 1998 and set up self-sufficient homesteads.

With typical apocalyptic relish, "We are heading for a disaster greater than anything the world has experienced since the bubonic plague of the mid-14th century," wrote Gary North on his Web site, adding that all jobs are doomed that didn't exist before 1945 except that of software programming. If you didn't believe him and others like him, you were dubbed a "pollyanna," too full of denial to examine the evidence objectively.

There was much discussion about money. Financial collapse means you need something better than paper currency. Gold? Ah, well, now, in the US, they can seize that in a national emergency. Real estate, then, and silver, platinum, or bicycles, perhaps. (I say CHOCOLATE.)

"If there is no recovery or this is not the Return of Jesus Christ," one poster wrote, "then it may get pretty hairy for a long, long time." (Not everyone is pleased about this: "I could have had a full life if not for Y2K; instead I will die at the age of 25, at the cusp of starting an independent life.")

Damien Thompson, author of *The End of Time: Faith and Fear in the Shadow of the Millennium*, commenting on the mix of endtime beliefs and survivalism, explained some of the gleeful attention to detail: "Y2K is perfect, because it actually provides the mechanism for everything breaking down."

Wendy M Grossman is editor of *The Skeptic*. A longer version of this article originally appeared in the *Daily Telegraph* in August 1998.

* The end of the world as we know it

Skeptical Stats (part 2)

1. Cost of a 40" x 40" tabletop Vedic Observatory (including table) which allows one's Self to be attuned with the eternal order of cosmic life: **\$2,950.**
2. Cost of book explaining the knowledge and purpose of the observatory: **\$17.95.**
3. Number of American prime-time TV shows featuring aliens: **2.**
4. Difference between "safest" and "riskiest" mobile phone, in terms of radiation emissions: **20:1.**
5. Amount of unquestionable evidence that these levels of radiation are at all risky to users: **none.**
6. Percentage of the UK population that bought National Lottery tickets 1994–1998: **over 90.**
7. Frequency, on average, with which you would match all six numbers if you spent £1,000 a week buying Lottery tickets: **once in 270 years.**
8. Number of guns, per month, residents are allowed to buy according to a new California law: **1.**
9. Actual capacity of a 1.44Mb floppy disk: **1.4Mb.**
10. Amount lost on the Mars Orbiter because NASA thinks in metric and its contractor, Lockheed Martin, thinks in feet and inches: **\$1.25 million**
11. Amount Anthony Robbins pulls in every year from sales of books, tapes, and seminars: **more than \$80 million.**
12. Market value of Robbins's share of the publicly traded GHS, Inc, of which Robbins is now majority owner (Robbins put no cash into the deal, and the company has yet to launch its Web site, which Robbins says will be "the eBay of personal and professional empowerment"): **\$276 million as of 9/13/99.**
13. Amount of time average worker spends in a working life waiting for technical support: **one year.**
14. Number of National Lottery draws to date: **359**
15. Percentage of the public that have bought lottery tickets: **91**
16. Percentage of the public that gambled before the National Lottery: **69**
17. Ranking of AIDS among world's killer infections: **1**
18. Ranking of AIDS among all killer conditions: **4**
19. Number of deaths worldwide due to AIDS in 1998: **2.3 million**
20. Length and height (when extended to chew leaves) of the newly identified *Jobariatiguidensis* species of dinosaur, that roamed the African landscape 135 million years ago: **60 feet, 30 feet.**
21. Number of comets Nostradamus predicted would appear to destroy the Earth "in the year 1999 and seven months": **1**
22. Number of Mystery theme parks to be set up by Erich von Däniken and business partners in the Swiss Alps by 2002 to allow visitors to explore "unexplained" phenomena such as the Egyptian pyramids in Giza or the Nazca drawings in Peru via computer animations: **1**
23. Number of visitors von Däniken hopes to attract the first year: **300,000–400,000**
24. Number of independent health food retailers in Britain: **about 1,700**
25. Number of shops visited that gave correct advice in when approached by a customer describing symptoms that could indicate a serious condition: **1 out of 30** (two more gave reasonable advice, but the rest sold herbal "treatments".)

Sources: 1,2 <http://www.city-net.com/~dkrieger/gifs/observe1.jpg>; 3 *Entertainment Weekly*; 4,5 Study by the Institute for Satellite and Mobile Communications, reported in the *Independent*; 6,7 *Taking Chances: Winning With Probability*, by John Haigh; 8 Personal communication; 9 Do the math!; 10 Cited by Molly Ivins, whose columns appear regularly at <http://www.star-telegram.com/columnist/ivins2.html>; 11,12 *Business Week*, 13/9/99; 13 Press release from System Management Partners Ltd, 17/6/99; 14,15,16 *Independent*, June 4, 1999; 17,18,19 UN report by the World Health Organisation; 20 *Independent*, November 12, 1999; 21 Any collection of the quatrains; analysis at <http://www.escape66.org/KingOfTerror.htm>; 22,23 Reuters; 24,25 Which? report.

Thanks for production help to Scott Campbell, David Morton, Rachel Carthy, Marc LaChapelle, and Richard Hall.

What Really Happened?

Peter Ward investigates claims of satanic abuse

DID A CULT of Devil-worshippers abuse children in Nottingham in 1994? Or was the truth more mundane, though no less horrifying?

When, in spring 1994, social anthropologist Professor Jean La Fontaine released her Department of Health report *The Extent and Nature of Organised and Ritual Abuse*, the conspiracy-cult of devil-worshippers who sexually abuse and sacrifice children in their diabolic rituals seemed consigned to the dustbin of unfounded mythologies [1].

Certainly, press and politicians alike welcomed her report, the *Daily Mail* proclaiming that families torn apart by such accusations were the victims of a "modern-day witch hunt [by] overzealous social workers" [2]. Professor La Fontaine had collated 84 alleged cases across England and Wales, and found evidence of a ritual element in a mere three. Crucially, the ritual in these three cases was not directed towards any magical or religious objective but was secondary to the sex offence itself. Put another way, very, very occasionally a paedophile dances widdershins and prays to the devil or some such ritual before assaulting his victim, but only as a means to sex. No case verified child sacrifice or sexual abuse to further any belief-system popularly designated as "Satanic".

Not everyone was enthusiastic, however. Feminist writer Beatrix Campbell said the report was "wrong" and emblematic "of a great schism between those who can

contemplate what may be happening to children and those who cannot," while the House of Commons was the venue for a press launch of the self-explanatory *Treating survivors of Satanist abuse* [3]. Given that there is such a strong foothold of opinion both for and against the existence of Satanic ritual abuse, it was probably inevitable that old schisms would not fade away. While it is now beyond doubt that some Rochdale children, for example, did not eat sacrificed cats but pasta creatures in their soup [4], one notorious case remains shrouded in secrecy: Nottingham.

Never far away from the headlines, its spectre was raised again in the summer of 1997 when three journalists put a "Joint Enquiry Team [or JET] Report" on the Internet, a highly critical denouncement of social services' handling of the case. The underlying question is, quite obviously, did Satanic (or) ritual abuse occur in Nottingham?

Conflicting claims

It is beyond dispute that some of the most vile child sex offences known did take place. On 2 February 1989 seven men and two women were jailed for some of the most horrific crimes against children imaginable, the trial judge describing the case a "vortex of evil" [5]. Most offenders came from an extended family living on the run-down Broxtowe council estate. Their children were not only





these allegations seriously, Ms Campbell went where authorities feared to tread. In a tunnel by the cemetery her household torch found an "altar" resplendent with candles and wall scratchings, and in the dead of night she stole into the cemetery lodge and discovered paraphernalia such as a pornographic magazine, sado-masochistic literature and a pamphlet on fostering and adoption. A few days later Ms Campbell enjoyed another platform in the left-wing *New Statesman & Society* with an accompanying article by Mrs Dawson. Eighteen items were listed under the heading "The evidence of ritual abuse." All bar one of the 18 can be expressed as "the children said they were..."

routinely sexually assaulted, they were deprived of the most basic care, locked in their urine-soaked and excrement-stained rooms, let out only to be passed around as sexual playthings at parties. One daughter was reduced to eating flies from a toilet bowl.

Shortly afterwards Judith Dawson, leader of the specially formed "Team 4" group of social workers, added a new element. She announced she was planning a conference "to investigate the incidence of child sex abuse cases linked with devil worship" because:

They [the Nottingham victims] told of being penetrated orally and anally by adults in strange costumes and made to sit in circles around candles. At first we thought this was a way for the children to symbolically describe the horrors of sexual abuse. It seemed implausible this could happen in suburban Nottingham. But we consulted experts about their descriptions, and our research confirms that they were probably involved in ritual abuse." [6]

Her terms "experts" and "research" are worth tagging, as otherwise "ritual" would not have entered the arena. A month later the social workers' magazine *Community Care* included a feature, "When the truth hurts," written by Mrs Dawson and her colleague Christine Johnstone, describing the abuse as "fodder for the gratification of those interested not in sex itself but in its use as a tool for the promotion of acts which could only be described as Satanic" [7]. This analysis is important. Rituals, they declare, were not a means to the offences but an integral part of a larger scheme of "Satanic" activity, contrary to Professor La Fontaine's findings. This view was soon given another uncritical airing to a much larger audience on television's *The Cook Report* [8], and later by Beatrix Campbell on Channel 4's flagship *Dispatches*. Ms Campbell claimed that the abuse took place in the basement and tunnels around Rock Cemetery and Wollaton Hall museum, and that the bodies of sacrificed children were secretly buried beneath coffins in existing graves. She was supported by some of the victims' foster mothers, who claimed they had heard independent and consistent accounts. Then, after accusing the police of failing to take

For example, one item said they were forced to take "orange liquids and tablets that made them feel strange" to a background of "Latin chants" [10].

Nottingham also featured heavily in the first British book on satanic ritual abuse, *Children for the Devil* by Tim Tate, Roger Cook's researcher [11]. Mr Tate similarly claims that the victims spontaneously said they were forced into rituals involving robes, candles, torture, and animal and baby sacrifice, and that they had been transported to large houses for even more grotesque ceremonies with "posh" people. Not only did independent details tally, but their testimony was supported by three adult prosecution witnesses. However, the police disagreed, accepting that the offenders occasionally dressed as Santa Claus or witches at their parties but saying there was no ritual, Satanic or otherwise. In response, Mr Tate not only accused the police of negligence, but he implied they were part of the Satanic-cult conspiracy. Later, in *Treating Survivors of Satanist Abuse*, Mr Tate acknowledges he had to apologise, pay damages, and withdraw *Children for the Devil* because of the implications but says, "In the detailed and cautious work carried out by Team 4 lies the best archive of contemporary social work focused on ritual abuse – and it is now locked away for ever" [12].

That, in a nutshell, is the crux of the dispute. That some of the most appalling child sex offences took place is beyond doubt but was it ritualised and, if so, was it in pursuance of some "Satanic" objective? While informed analyses have been proffered, evaluating them is difficult if not impossible because confidentiality prevents their publication. However, much information – such as the JET Report – has been leaked, and the case's distinguishing features make it stand out when it's referred to anonymously in professional journals. With this in mind, it can be confidently asserted that Nottingham is not one of Professor La Fontaine's three proven cases of "ritual, not Satanic abuse." In other words, the leading report says no ritual and no Satanism befell the Nottingham victims. This view is not shared, however, by Dr Kirk Weir, a child psychiatrist consulted by social services delineating it as "probable ritual abuse" [13]. Similarly, during a ward-

ship hearing in February 1988 Mrs Justice Booth described the abuse as "Satanic" when, to police chagrin, he ordered the children's disclosures be entrusted to foster parents. Philosopher Mary Midgeley was also consulted, and she likewise surmises, "Ritual practices, such as black masses, certainly do occur. So does vicious child abuse. Why would it be especially surprising if these two things were combined? Common elements actually make the combination quite likely" [14].

By contrast, Professor John Pearce, a psychologist at Nottingham University, concluded that the children claimed "Satanic" abuse only after coaching by adults and commented, "What there certainly is evidence of is panic or hysteria. Anxiety is incredibly infectious. It was generated by one or two people and caught by other professionals working in the field" [15]. Finally, of course, comes the JET Report. Commissioned by Nottinghamshire's Chief Constable and Director of Social Services, it was written by two CID officers and two senior social workers working full-time on the case for five months, supported by specialists such as a Police Support Unit and Home Office pathologist. Its authors say they started with an open mind that, if anything, was biased towards the existence of Satanic ritual abuse, but that they soon doubted its existence. Locations such as Wollaton Hall were strenuously reinvestigated, but the tunnels and other objects so vividly described could not be found. The only potential corroboration was some animal bones that forensic tests showed to be a discarded museum relic. The JET authors conclude, "At the end of these investigations we could not find any evidence to support the children's disclosures and in our view the apparent corroboration ... was illusory."

The pontificates, then, are as divided as the investigators.

Weighing the evidence

Who is right? It can be said immediately that no hard evidence confirming the testimonies of Satanic ritual abuse stands up to scrutiny. This is poignant, as the allegations, if true, would surely leave some evidence, but there are no remains of a sacrificed baby or animal, no videotape, no candle, no tunnel, no "posh" house, no sheep's head, no witches' robe, no nothing corroborating the allegations. The apparent evidence presented on *Dispatches* by Ms Campbell can be swiftly disposed of as either having a more plausible explanation or being just too inconclusive – her "discoveries" were obviously staged, and there was insufficient clarity to decide whether the "altar" was diabolic or, say, a Christian grotto. The fact that the accused went unnamed has the effect that no one defends themselves, which is all very convenient for Ms Campbell but limits its weight to, at best, inference and innuendo. Local Chief Constable Dan Crompton called this the "ducking stool" form of justice, adding that the lurid objects were litter picked up by the cemetery caretaker from land frequented by glue-sniffers, winos and prostitutes. Further investigations by journalists such as Rosie Waterhouse were equally revealing. For example, a social worker skeptical of Satanic ritual abuse was ostracised by Team 4 while one witness was prone to changing her testimony [16].

Believe the children

The main issue then turns on whether "what the children said" is to be believed. Although, as mentioned above, a critique of the foster parents' interviews and their diaries is impossible, some general observations can be made about children's testimony. Experiments confirm absolutely that an adult questioning a child is often an exercise in coercing a response that satisfies the questioner's expectations rather than being a reliable fact-finder. Children are invariably brought up not to contradict their elders and betters, while body-language and negative feedback are all the more compelling against those yet to understand the terms. In one study, leading and suggestive questions such as "other kids have told me he kissed them, didn't he do that to you?" and "he touched you and he wasn't supposed to do that, was he?" produced attitudes and accusations not only conforming to the new script but leading to the point where many children made yet more sinister accusations against an adult who had done nothing untoward [17].

A classic miscarriage of justice illustrates further these vulnerabilities. In 1972, an 18 year-old man with acute learning difficulties and two semi-literate boys were convicted of the murder of Maxwell Confait, unquestionably on the strength of their confessions which, although retracted, the prosecution argued contained information that could be known only to the murderers. The details had in fact come from cues such as the interviewer's incentives to give 'right' answers. Those incentives breached the then meagre rules protecting suspects, and the Court of Appeal quashed the three convictions [18]. Thus the emotive and simplistic "should the Nottingham children be believed?" is the wrong question to ask. Rather, the right question is whether anything casts doubt on their testimony. It is significant that in similar cases (Rochdale, Orkney and Epping Forest in Britain, and the McMartin pre-school in America [19]) children made false allegations of Satanic ritual abuse only after relentless expectation-led questioning. Paradoxically, the miscarriages of justice were caused by children not being believed when they denied Satanic ritual abuse, the interrogations stopping only when the children "admitted" to being victims. Put succinctly, keep asking a child the question in a certain way and the "right" answer will emerge, but what emerges is not necessarily the truth.

So what, if anything, did Team 4 and the foster parents expect to hear and did it contaminate the victim's testimony? Expectations could have been raised by the "experts" consulted. One was Pamela Klein, a controversial American psychologist since criticised by an Illinois judge for her questioning technique that used leading questions to coerce children into making untrue ritual abuse allegations [20]. Another was Maureen Davies, then working for the Reachout Trust, a church organisation with a self-appointed mandate to evangelise followers of "cults and the occult [*sic*]" [21]. In September 1989, Mrs Davies shared a platform with Nottingham social workers at a Reading University conference on Satanic ritual abuse that was attended by over two-hundred social workers, police officers and other professionals, all presumably at state expense [22]. While it is probably impossible to say precisely what Mrs Davies advised and

when, it was activated by the victims' saying snakes were inserted into their anuses. Rather than Team 4's phallic symbolism, she claimed it really was a snake because similar accounts were made elsewhere [23]. Now, Mrs Davies rarely if ever presents verifiable details of her blood-curdling and extremely serious criminal allegations, but the weight of evidence that convinces her of the existence of Satanic ritual abuse is particularly illuminating. When asked by a journalist, "Do demons exist as objective entities?" she replied, "They are very real. When you've got a child or adult being sexually molested by an incubus, then you know it's not imagination" [24].

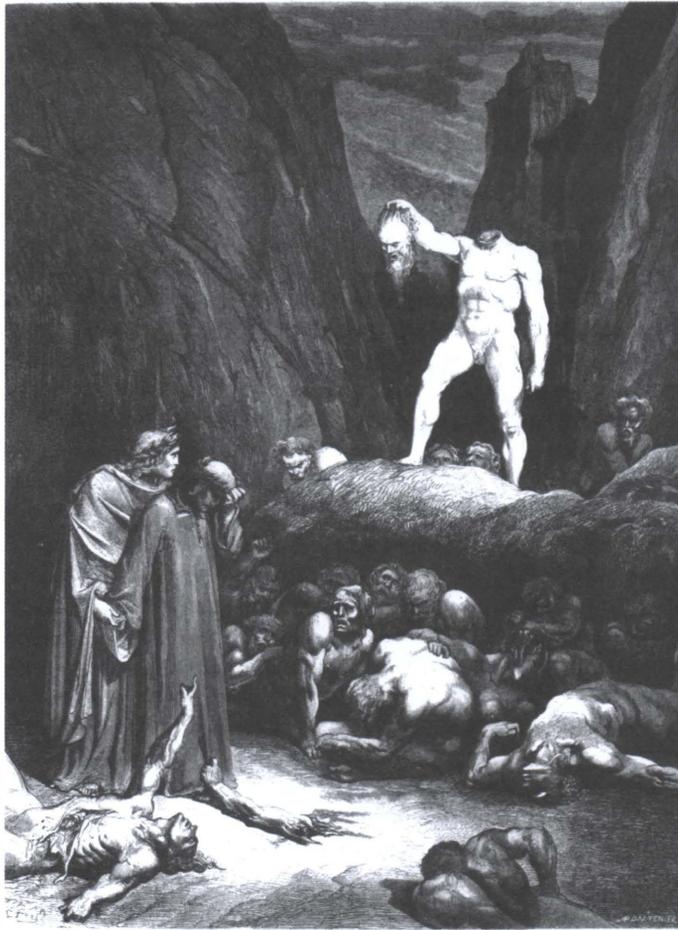
So in her own pamphlet, *Satanic Ritual Abuse*, police and social workers are called on to kowtow to church counsellors as "Spirits have been invoked upon the children in the rituals." Similarly, on a withdrawn Reachout Trust tape of her lecture "Report of American Trip Re Satanic Child Abuse," she berates the Chicago requirement that church counsellors must have a psychotherapy degree as they "do not rely on the Holy Spirit" [25]. While in a free society Mrs Davies is entitled to believe mumbo-jumbo worthy of the medieval Inquisition, it beggars belief that any state agency, let alone Team 4, considers someone who believes more in diabolic spirits than human paedophiles to be an "expert". Yet that is what happened in Nottingham.

Also consulted by Team 4 was Ray Wyre, a well-known consultant on child sex offences. According to the JET Report he handed them a list of what are called "Satanic indicators," which were then passed to foster mothers, creating a milieu in which the victims were effectively brainwashed into believing the abuse was Satanic and ritualised [26]. These indicators are behaviour patterns noted in children who supposedly are Satanic ritual abuse victims, and the argument goes that other children exhibiting the same behaviours ergo are casualties too. First published in California Psychologist in 1986, the portfolio of "indicators" is reproduced in volumes such as the academic *Out of Darkness: Exploring Satanism and Ritual Abuse* [27] and Maureen Davies' *Satanic Ritual Abuse*. Some of these "indicators" could be reasonably expected to be displayed by genuine abuse victims (such as saying that someone told them to remove their clothes so an object could be inserted into their private parts), but others may have perfectly inno-

cent explanations. The following examples — by no means exhaustive — illustrate this:

- frightened of bathrooms
- preoccupied with urine and faeces, perhaps using "baby" words preoccupied with "passing gas"
- excessively changes underwear
- frightened of the police, the doctor, "robbers", "ghosts, monsters, witches, devils, Dracula, evil spirits, etc"
- having a poor attention span
- reciting nursery rhymes with indecent overtones

Although it's mind-numbingly obvious, it should be pointed out that such "Satanic indicators" can be seen in a healthy and happy non-abused child. On top of that, no



weighting is given to these "indicators". There is no indication of what is, for example, "excessive"; nor even how many of these indicators should be present before the child is diagnosed as a victim of Satanic ritual abuse. The mind boggles as to how any professional could take the "indicators" seriously, but these were distributed at conferences such as the one at Reading University and they consequently featured heavily in other notorious cases such as Rochdale [28].

Whether these were handed over by Mr Wyre to social workers and/or foster parents is a moot point. After the *Independent on Sunday* revealed the JET Report's findings, he complained, "I did not give any written or typed lists of Satanic indicators to foster parents. I gave [Mmes Dawson Johnstone

of Team 4] information relevant to any suggestion of organised abuse, including as much about police reservations. I gave out no religious material or any that supported Christian organisations such as Reachout" [29].

If this appears unequivocal it should be compared to what Mr Wyre told Tim Tate in *Children for the Devil*: "I told [Team 4] not to give me any details. I simply said that in my experience if there was Satanic ritual abuse present some of a list of indicators would figure. I gave them an outline of the most common allegations: it matched indicator for indicator. After that I agreed to see the foster parents...[emphasis added]" [30].

Reconciling these two statements is not easy, yet the latter (incidentally by an author sympathetic to Mr Wyre, as the two co-later authored a book on child abuse) says explicitly that the dreaded 'Satanic indicators' were used

as a diagnostic tool. Just as disturbingly, having thus "diagnosed" Satanic ritual abuse purely on hearsay and a pseudoscientific methodology he then briefed foster parents.

So then, even without reference to the JET Report it can be seen that the so-called "experts" and "research" indeed caused the Satanic ritual abuse allegations, but not because they elicited stories of genuine activity. Rather, what the questioners expected from their briefings by Ray Wyre and Maureen Davies et al. is what they inevitably heard. However, to be certain of this hypothesis it must be shown that the children's statements were contaminated after the "indicators" and "experts" were consulted. This, perhaps surprisingly, is where commentators with access to the primary documents tend to agree. Both Dr Weir and the police found that later allegations such as videoing the abuse for child pornography were untrue, explicable by adult contamination. The JET Report interestingly also particularises how innocent statements were converted into allegations of Satanic ritual abuse. Consider the following allegations made by Craig (not his real name), a four year-old with speech and learning difficulties, supposedly remembering events some 18 months earlier followed by the JET Report's analysis:

"Daddy dressed as a witch." Craig called anyone who hurt him a witch, monster or clown. The witches were obviously fantasy, as his descriptions followed popular imagery, such as having long hair and fingernails and flying on broomsticks.

Killing sheep and babies Like most children of his age, Craig had no real concept of death. The sheep were supposedly killed by sticks and bare hands and recovered in hospital. He also referred to witches and relatives and even himself being killed – by a social worker.

Blood in the bath This accusation, actually first made against his foster mother, followed his watching her give a blood sample at hospital and came on the same day as watching the film *Jaws*

Satanic names and practices He mentioned "Selina", a name credited with Satanic significance. In fact, it originated with Craig's fascination with "Superman", whose girlfriend, Lois Lane, he referred to as "S'Lina". Likewise, he once mentioned a little puppet that was misconstrued as "poppet", a witchcraft effigy rooted more in popular anti-occult literature than actually used by genuine practitioners

Then, after Craig tells his foster mother about sheep being killed at witch parties and so forth she consults Ray Wyre and then asks another foster mother who, sequentially, asks her ward if she had seen any sheep being killed at witch parties and so forth. The desired confirmation emerges, so Team 4 and their supporters proudly announce to the world that they have independent corroboration, when it is anything but. Even if this dynamic is rejected the Report also notes that Craig was visited regularly by other victims and their foster parents, again providing a potential well-spring for contamination.

Can the JET Report be trusted? Critics include, predictably, Tim Tate, who says there is "hardly a solid fact in the document," while Beatrix Campbell describes it as "discredited...[and] rejected by the county council and

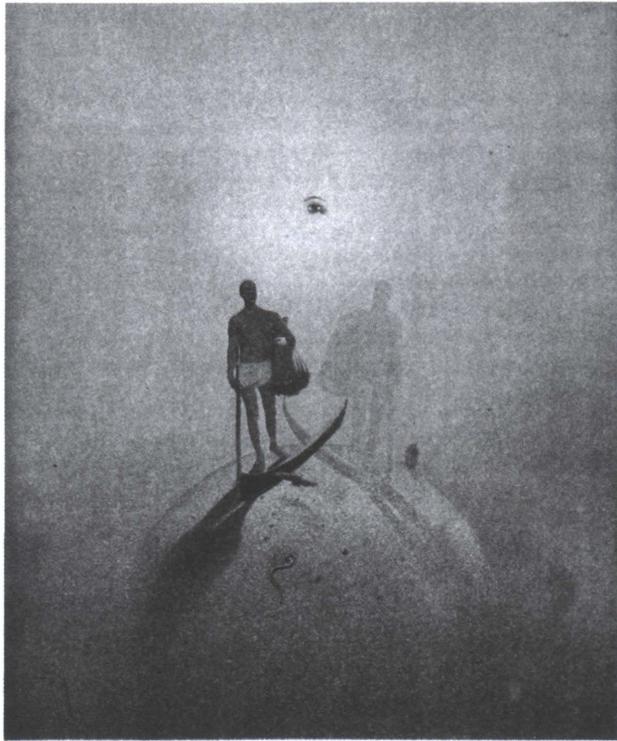
the courts" [31]. This is putting it somewhat strongly, as what actually happened was that Team 4 refused to accept its criticisms and pressured their social services director into a volte-face. The Council adopted his 21-page report that concluded, "It would be unwise not to accept the possibility that there were ritualistic elements." However, he also accepted that there was no definite evidence of satanic rituals [32]. So in fact this analysis is little different from the conclusions reached by Dr Weir, the police and Professor La Fontaine, namely that the ritual element lacks corroboration.

Furthermore, for all the hyperbole, no Team 4 supporter details why the JET Report is so wrong. Indeed, their choice of wording while criticising the report is significant. For instance, Beatrix Campbell slammed Private Eye for its coverage, as the victims "had already described their parents and others dressing up and abusing them" before the "Satanic indicators" were used [emphasis in original] [33]. Note that the pre-indicator element is limited to dressing up, which hardly constitutes a ritual let alone devil-worship. So again, the consensus that there is no evidence of ritual prevails.

On top of that, some doubts raised in the JET Report seem irrefutable, and Team 4's hostility might be better explained by the report's exposing what must have been conscious decisions to ignore evidence staring them in the face, not because it was groundless but because it challenged their presumptions. For instance, some children's statements are plainly untrue and raise doubts about the associated allegations. "I'm Superman and I kill the witches" is but one. Besides, the crime scenes hardly lend themselves to Satanic ritual abuse. They were archetypal tumble-down council "semis" with paper-thin walls and adjoining gardens; many residents were being unemployed and most had lifestyles that tended to keep them at home. Consequently, in such an area everybody knows everybody else's business, and while the deprivation, parties and abuse were common knowledge, no neighbour or visitor witnessed anything remotely resembling these allegations. Even common sense would doubt whether sheep could be slaughtered in a room measuring 14 by 12 feet while eight witches danced round singing and, even if this were physically possible and could be carried out without anyone's noticing, the fact that not a scrap of evidence or spot of blood remains pushes the contention into cloud-cuckoo land.

Further still, the so-called corroboration by three adult "witnesses" must be doubted. One had already retracted her statement which, significantly, was originally made after twenty interviews with a social worker leading with accounts of witch parties and big houses. By comparison, another boldly stood by her vivid claims of tunnels, underground rooms and an outdoor swimming pool at a "posh" house, remarking that the police must have been blind to miss it. In truth, most of these sites simply do not exist, and while the house had a swimming pool it was indoors and had not been built yet at the crucial time. Clearly, not only children may be misled by zealous myth-makers.

In sum, then, although at first blush all analyses vary, the universal view is that no evidence for satanic ritual abuse exists, and that the evidence that has been pre-



sented does not stand up to scrutiny. Exceptionally, Mrs Justice Booth designated it the abuse as "Satanic" abuse, but this was at a wardship hearing in which her only purpose was to decide what was best for the children on the balance of probabilities, not to decide the case by the usual criminal standard of beyond reasonable doubt. Although all relevant factors were undoubtedly taken into account, the learned judge was not finding facts pertinent to whether the abuse was "Satanic". Rather, there is infinitely far more evidence of contamination and evidence-tampering by the foster parents and Team 4, who in turn were goaded and guided by Christian and American "experts" and pseudoscientific research into presuming Satanic ritual abuse that did not take place.

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- [4] An account of the key judgement is published in the law reports at Rochdale Borough Council v. BW and others [1991] FCR 705-731.
- [5] *Daily Telegraph*, 3 February 1989.
- [6] *Sunday Telegraph*, 26 February 1989.
- [7] 30 March 1989.
- [8] 18 July 1989.
- [9] 3 October 1990.
- [10] 5 October 1990. The exception is a "fear of dangerous fingers and fingernails." Whatever these are, this smacks of the "Satanic indicators" (see below).
- [11] London. Methuen (1991).
- [12] p. 190.
- [13] Allegations of children's involvement in ritual sexual abuse clinical experience of 20 cases' *Child Abuse & Neglect* 19(4) 491-505 (1995) and personal communications.
- [14] *The Times*, 7 November 1990
- [15] *The Evening Standard*, 25 April 1994
- [16] *Independent on Sunday*, 7 October 1990, and *Independent*, 20 July 1994. See further Hough, P. *Witchcraft: A Strange Conflict*. Cambridge: Lutterworth (1991) pp.140-142.
- [17] Nathan, D. and Snedeker, M. *Satan's Silence: Ritual Abuse and the Making of a Modern American Witch Hunt*. New York: Basic Books (1995) pp. 147-148. See further Ceci, S J & Bruck, M. *Jeopardy in the Courtroom: A Scientific Analysis of Children's Testimony*. Washington: American Psychological Association (1995). Also see Spencer, J R and Flin, R. *The Evidence of Children: The Law and the Psychology*. London: Blackstone Press (1993)
- [18] Gudjonsson, G H. *The Psychology of Interrogations, Confessions and Testimony*. Chichester: Wiley (1993) pp.2139-240. Mansfield, M. *Presumed Guilty*. London: William Heinemann (1993) p.95. Woftinden, B. *Miscarriages of Justice*. London: Hodder & Stoughton (1987) p. 210.
- [19] See for example Aiming, N. "Court Out," *New Statesman & Society*, 29 November 1991; Black, R, Orkney - a place of safety? Edinburgh. Canongate (1992), Earl, J 'The dark truth about the 'Dark Tunnels of McMartin,' Issues in *Child Abuse Accusations* 7(2):76-131 (1995); Eberle, P and S, *The Abuse of Innocence: The McMartin Pre-school Trial*, New York. Prometheus (1993); Reid, D H S, *Suffer the Little Children*, St Andrews: Napier Press (1992).
- [20] Victor, J S, *Satanic Panic: The Creation of a Contemporary Legend*, Illinois: Open Court (1993) pp 242-246, *Mail on Sunday*, 21 October 1990.
- [21] From its letter heading.
- [22] *Mail on Sunday*, 16 September 1990.
- [23] *Independent*, 20 September 1989.
- [24] Hough op. cit. pp 118-119, see further *Sunday Telegraph* 7 April 1991.
- [25] A transcript with commentary was published in *Orcro*, April/May 1990.34-49.
- [26] See further *Independent on Sunday*, 7 April 1991.
- [27] D K Sakheim and S E Devine (eds), New York: Lexington Books (1992), from which the indicators are taken.
- [28] *Independent on Sunday*, 16 September 1990.
- [29] Letter to *Independent on Sunday*, 5 May 1991
- [30] p 309. Later in *Treating Survivors of Satanist Abuse* Mr Tate says the allegation that Mr Wyre "handed to either foster parents or social workers a list of "Satanic indicators" is "untrue" (p.187) Although possibly accurate, this statement is misleading; certainly Mr Tate is conveniently forgetting his earlier work.
- [31] *Children for the Devil*, p. 315; letter to *Private Eye*, 11 July 1997.
- [32] *The Times* and *Guardian* 3 November 1990.
- [33] Letter to *Private Eye*, 11 July 1997.

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SPRITE



Rhyme and Reason

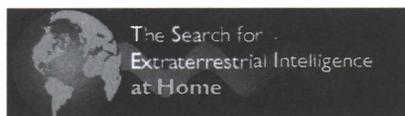
Steve Donnelly



Skepticism for the third millennium

AS THIS IS MY LAST COLUMN OF THE YEAR, the century and the millennium (assuming that you regard 1 January 2000 as the first year of the new century/millennium) I feel that, even in *The Skeptic*, it might be fun to engage in a bit of crystal-ball gazing and try to predict how some selected topics of current paranormal or pseudo-scientific interest may fare in the new century.

UFOs and aliens

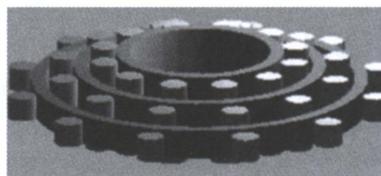


UFOs and associated phenomena have been a growth industry worldwide

since Kenneth Arnold's famous sighting in 1947 and it is unlikely that the sociological phenomenon is going to go away as we begin the new century. As far as objects in the sky are concerned, the number of satellites in orbit around our planet will of course continue to increase and an astronomer colleague tells me that the early years of the new century should be good ones for meteor showers so I predict that bright lights in the skies will continue to be seen and interpreted as sightings of visiting aliens for at least a decade or two. I don't imagine that human psychology is likely to become suddenly more rational in the near future either, so that imaginary visits from gynaecologically and proctologically obsessed alien kidnappers are unlikely to wane any time soon. But what about the possibility of genuinely being contacted by extraterrestrial life? Is this possibility on the cards for the 21st Century? The late Isaac Asimov once suggested, in the context of life in the universe, that "2" was an unlikely number — it is perhaps believable, and philosophically acceptable to some, that we may be the only life in the universe (i.e. "1" is a possible number) but the idea that there might be just two examples of life in the universe is not likely. In other words, we have the choice between an anthropocentric universe (with possible religious overtones) in which we are the only lifeform and a universe which, in some senses, is teeming with life (albeit spread over immense distances). I have to say that my beliefs strongly tend to the latter alternative, which isn't to say that I believe that the Earth has been visited by triangular-faced aliens in metal saucer-shaped craft or other varieties of ET. And whilst not ruling out the possibility, nor do I believe that this is likely to occur in the new century. No, in my view and that of many scientists, given the immensity of the universe, a far more likely means of coming into contact with extraterrestrials than

meeting them in our backyard is to detect their signals in the electromagnetic noise that permeates all space. The SETI programme (Search for Extraterrestrial Intelligence) has been searching for such signals for many years but there is an awful lot of bandwidth to monitor, a great deal of space to search and the requirement of not only time on radio telescopes but also a significant amount of number-crunching computer power. The SETI@home programme (discussed by Toby Howard in *The Skeptic* 11.4) enables individuals all over the world to contribute the power of their idle home computers to this search and I would encourage all *Skeptic* readers with home computers to consider signing up (information at <http://www.setiathome.ssl.berkeley.edu>). I am not a betting man but if I were, I might be tempted to place a five-bob bet on the possibility of discovering an intelligent extraterrestrial signal sometime in the next ten decades.

Free Energy

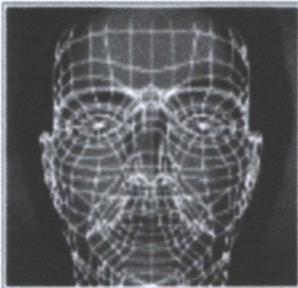


Perpetual motion machines have long been popular with amateur inventors but since it became impossible to patent

devices whose description includes the words "perpetual motion", the nomenclature has changed — the popular terms currently being "Free energy" or "Zero-Point Energy" rather than "Perpetual Motion". I guess that the whole debacle of cold fusion gave a boost to the idea that a retired British Rail fitter working in his garden shed might make a breakthrough that would enable him to tap into some hitherto unknown source of energy. Of course, Fleishman and Pons were far from being BR technicians, but their apparatus was sufficiently simple that it was easily possible for amateur scientists to build similar rigs (and they did). This is in stark contrast to the vastly expensive and hugely complex doughnut-shaped and building-sized tokomak reactor, in which reactions taking place in the sun are replicated and which is the design of reactor which is possibly the most likely contender to produce energy from controlled fusion. Having spent time in recent weeks reading some of the information published about "free energy" devices on the www and in various books on my shelves, I have to say that I do not feel over optimistic that we are about to see a major breakthrough in our energy supply system in the near future. The typical designer of free-energy devices, whilst being rather keen on quantum mechanical termi-

nology, seems firmly locked into technologies with which Victorian engineers would have felt very much at home. Large rapidly rotating devices resplendent with magnets and emitting copious quantities of sparks seem the order of the day — and as a by-product may also produce anti-gravity as in the “Searl-Effect Generator” or “Searl Levity [sic] Disc” the inventor of which, (who has now been promoted to *Professor John Searl* on his web pages) was formerly a BR technician. And as for cold fusion itself: research into this purported phenomenon continues in various laboratories around the world (real ones, not just garden sheds) but my advice to anyone intending to rely on this technology when fossil fuels run out in the next century would be to buy some warm woolly sweaters.

ESP



A hundred years of research into extra-sensory perception in general and telepathy in particular have resulted in little or no experimental evidence that the phenomena exist and certainly nothing has come out of the parapsychological laboratories in recent years that indicates that

unassisted telepathy is ever likely to help you reduce your mobile telephone bill. Nonetheless, direct brain-to-brain communication is an area of human activity in which I am certain that great progress will be made early in the new century — but not in the way that proponents of the paranormal have been predicting for most of the old century. In common with many other advances (or at least changes) in our modes of communication such as fax machines, email and mobile phones, however, the developments will be the result of silicon microchip technology rather than a biological extension of the powers of the human brain.

Professor Kevin Warwick, of Reading University, announced at the British Association Science Festival earlier this year that he was intending, in the near future, to implant a chip in his body which would enable him to record and eventually replay nervous impulses. His hope is that the signals giving rise to a moment of happiness or of anger could be recorded and played back at will and would give rise to a replay of the original feelings — but now totally detached from the circumstances that gave rise to them in the first instance. He also hopes that he may be able to replay motor signals so that his arm will spontaneously move in response to a recorded signal played back by computer. But even if this particular implanted microchip does not live up to Prof Warwick’s expectations there is no doubt that other devices — perhaps detectors in a skull cap — will one day do the job. Of course if the signals giving rise to emotions, limb movements and even thoughts can be recorded and replayed such that they give rise to a repeat of the original thoughts or movements then there is no technological barrier to transmitting those signals to other recipients. The big question that then arises is whether the signals that give rise to a particular sensation in my brain will give rise to the same sensation in someone else’s. Effective communication could be somewhat hampered if a transmission

of my nervous impulses resulting from experiencing the smell of fresh-roasted coffee were interpreted as a feeling of redness, the sound of an A minor chord or an urge to go to the toilet, when replayed in another brain. But even this problem has a technological fix, as a microprocessor could instantaneously translate the signals appropriately — provided that it had a look-up table of the signals giving rise to the relevant sensations for the two people involved.

If you currently have investments in companies manufacturing mobile phones or speech activated control systems for computers, you might want to consider selling them in the first decades or so of the new century as thought-controlled telecommunications and computer systems become the norm.

Divination



This field is, in my view, long overdue for some serious modernisation. Tarot cards, crystal balls and the *I Ching* might be alright for the second millennium, but we definitely need some updated systems for the third. In my opinion, a suitable new divinatory system could be based on the wisdom encapsulated in contemporary mystical scriptures such as the lyrics of all Beatles’ songs (although actually Van Morrison’s lyrics might do the job better). Individual lines could then be randomly selected by the electronic equivalent of yarrow stalks (the random number generator) as the divinee sat cross-legged in front of the laptop, contemplating his or her specific problems or overall future.

Lines such as “You’re holding me down, turning me round, filling me up with your rules” or “If I ventured in the slipstream, between the viaducts of your dreams . . . could you find me?” could provide much more specific insight into aspects of the human condition than selecting the “Hermit” card or producing an aesthetically pleasing arrangement of tea leaves in the bottom of a cup. Of course if the technology were to abandon the random element and to use detected emotions (as discussed in the previous section) to trigger the selection of lines containing relevant key words, then the result would be a more useful divinatory system than anything available in the 20th century. I should probably be constructing and marketing this system rather than simply writing about it. Just remember that you read about it first in *The Skeptic* — and stop worrying about that tall dark stranger. But do watch out for those rockinghorse people with their marshmallow pies!

Steve Donnelly is Professor of Experimental Physics at the University of Salford.



Philosopher's Corner

Julian Baggini

How does studying philosophy affect what you believe in?

IVE ALWAYS ASSUMED that philosophers and skeptics share a natural affinity. Both operate as a kind of nonsense police, critically examining widely-held beliefs and showing them wanting. For that reason, I also assumed that a training in philosophy would foster a more skeptical outlook.

To put this hypothesis to the test, *The Philosophers' Magazine* conducted a poll of nearly 1,000 visitors to its web site to see what kinds of beliefs were altered by studying philosophy.

The results are intriguing. The first clear finding is that philosophy makes no difference to the religious beliefs of monotheists. The proportion of philosophy lecturers who believed in a personal God and that the first human beings were put on earth by God was about the same as philosophy students and 'others'. I have to admit this came as something of a disappointment to me, as I have to believe that thinking clearly about God can only weaken faith in him. I mean, come on, the all-powerful überbeing requires the sacrifice of his son in order to forgive us for sins committed by our ancestors? He allows events like the Holocaust because it's good for us in the long run?

But I'm in a minority here. In the first issue of *The Philosophers' Magazine*, skeptic Wendy Grossman wrote, "It is not possible to tackle religion with the tools of skepticism and produce any useful results. The reason is that religion is a matter of faith, which is not something that can be tested." Substitute the word "skepticism" with "philosophy" and "tested" with "rationally justified" and you can see another way in which skepticism parallels philosophy.

Our survey suggests Grossman is right – the religious way of thinking is impervious to philosophical scrutiny, so studying philosophy makes no difference to your religious beliefs. This only applied to monotheism, however. Belief in Karma – "what goes around comes around" – falls off dramatically the more philosophy you've done. About a quarter of 'others' believe in Karma, while only around one in ten lecturers agree with them.

One possible reason for this is that you can actually demonstrate to most people's satisfaction that quite clearly what goes around routinely fails to come around. For every bastard who gets their comeuppance I'll show you ten that don't. And for every long-suffering saint who gets their reward in the end I'll show you dozens who just continue to suffer.

However, the most interesting results come when we turn away from religion. An encouragingly small number

of all respondents believed that aliens have visited the earth from other planets – around one in ten. But the figure was more like one in twenty for philosophy lecturers and graduates. Here we seem to have a good example of philosophy simply knocking away some of our more natural credulity.

Another interesting result is the number of people who agreed that "Darwinian evolution accounts for the emergence of complex organisms, including humans." Astonishingly, one in four of all respondents don't agree with this statement, and, again, it is those without a philosophical training who are most likely to reject this thesis, despite the overwhelming scientific support for it.

The poll's results thus support the thesis that philosophers and skeptics are on the same side. But there's a sting in the tail. The poll also asked respondents if they were male or female. To the embarrassment of female philosophers and skeptics, the women proved less likely to follow the philosophical-skeptical line than the men.

For example, about a sixth of women believe aliens have visited the earth against a twelfth of all men; one third of women reject evolution against one fifth of men; one third of women believe in Karma against one-sixth of men. These are massive differences which can't just be fobbed off as statistical quirks. It's a systematic and significant pattern.

The better news is that the gender differences all but disappear with education. Once you get to lecturer level, no significant male/female split can be detected.

What are we to make of these results? Could it be that, on average, women are just less likely to be persuaded by appeals to evidence than men? Does that mean that women tend to be "less rational" than men or that our paradigm of rationality is essentially masculine? Are the differences the product of nature or nurture?

Whatever the implications of the findings are, I'll leave it to others to decide. However, I did run one check on the accuracy of the survey. If accurate, it would suggest that skepticism is more likely to appeal to men than women, which would lead you to expect that *The Skeptic* has more male than female readers.

And guess what? It does.

Julian Baggini is editor of *The Philosophers' Magazine* (www.philosophers.co.uk).

A four-issue subscription to *The Philosophers' Magazine* costs £11.80 (UK) and can be ordered on (0171) 538 8288.

Reviews

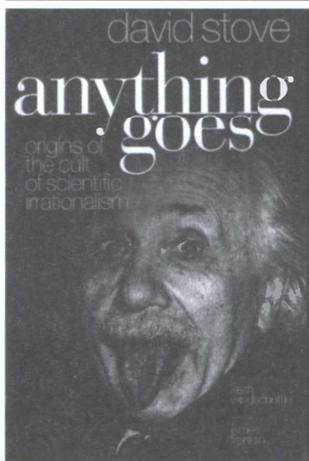


IRRATIONAL PHILOSOPHY

Anything Goes: Origins of the Cult of Scientific Irrationalism

by David Stove

Macleay Press, \$14.95, ISBN 1-876492-01-5



This is a re-issue of the classic book *Popper and After: Four Modern Irrationalists*, by the late Australian philosopher David Stove. Stove lays bare the absurdity of the dominant views in twentieth-century philosophy of science, exemplified in the four "irrationalists" he attacks: Sir Karl Popper, Thomas Kuhn, Imre Lakatos and Paul Feyerabend. A lot of the modern skepticism about science can be traced

back to the views of these philosophers. Stove shows that a less evasive presentation of their views makes it clear that they all entail that scientific knowledge is impossible to obtain, a clearly ridiculous position.

The reason why the Popperian view (from which the others are derived) entails skepticism about science is because it repudiates the rationality of induction, the making of claims about the unobserved on the basis of what has so far been observed, which is ordinarily supposed to underpin science. Popper holds that only pure (deductive) logic, combined with basic observation statements, can tell us anything about the world – but all it can tell us, as Popper famously pointed out, was which scientific theories have been refuted. This means, though, that we have no reason for thinking that any scientific theories are true; what's more, they must have the same probability as self-contradictory statements, namely zero. And it means that ordinary probability statements, such as "The probability that a baby will be female is 50%", cannot be made. Popper tried desperately to worm his way out of these corners that he had painted himself into, but manifestly failed, as Stove quite hilariously shows.

Stove's analysis of the worthlessness of such theories is devastating. But what made his book so potent, and one so disliked by his enemies, was his brilliant polemical ability and his biting wit. His style won't be to everyone's taste, but this book is simply required reading for anyone interested in the philosophy of science. No-one who reads it will ever think the same way again about Popper, Kuhn, and the sociology of science.

Scott Campbell

BIBLE READING

Bible Prophecy: Failure or Fulfillment?

by Tim Callahan

Millennium Books, £15.99, ISBN 0-96550-47-00

Many best-selling books have been published on the truth concealed in the Bible, claiming that the ancient prophets predicted many important events in history with amazing accuracy. Some of those authors even went as far to "calculate" the odds against those predictions to come through. This book is an answer to those claims and proves them to be no more than illusions or twisting of facts.

The author takes you on a tour of the Bible, its origins, its history, the different versions and interpretations and the later additions and "corrections" by reviewers. Inconsistencies are pointed out. Several chapters are written as a dialogue between the arguments of a fundamentalist or creationist interpretation and the rational analysis and answers to them.

In a systematic and chronological way, Callahan explains the prophecies, gives the fundamentalist interpretations, and analyses the biblical sources and puts them into historical context. He demonstrates that so called prophecies were either written centuries after the facts (Book of Daniel), were self-fulfilling or were a matter of wishful or even incorrect and selective interpretation of very vague statements. The chapter on the apocalyptic books and the many times they were used in history to predict over and over again the end of the world is very instructive, certainly in the light of the approaching end of the millennium. For those who believe that the Bible is the word of God, this book must come as a shock. For those who want to know more, or who want to engage in the debate with the blind believers, it is an extremely valuable source of information.

The subject is not easy, but the author manages to cover it in a clear and entertaining style. The first chapters read fluently, the others should be seen more as source of information, to be consulted for in-depth analysis or discussions. To be recommended.

Willem Betz

MUMBO JUMBO

Magic and Mystery in Ancient Egypt

by Christian Jacq

Souvenir, £9.99, ISBN 0-28563-462-3

From the outset, Jacq tells us that great and/or pure science can achieve nothing if only reason is employed.

The greatest scientists have “insight into the mysteries of the universe”. Luckily, you get this on the first page; I had to read on – on through the balmy night with the temple walls outside flushing red as the author ate with his hosts – snake charmers and magicians. I have not read any of Jacq’s “best selling novels”, but I got a taste here. He tells us one cannot separate magic and religion. You may be pleased to know that although there is predestination, you can escape it through magic which is “intended to maintain the world order”.

I am sorry this is not really a review; just an attempt to stop you from wasting your time and money. “Certainly, there is a way to become a magician, but it cannot be approached rationally.”

The chapter on magic and medicine was a bit easier to read until I realised I was translating it into today’s terms as I went along – another lot of mumbo jumbo, the laying on of hands and casting out of demons. Mind you, the idea that doing something to the feet can cure a headache sounded a bit familiar although if it’s migraine you need several hundred serpents; but as for making an old man young – I don’t think so.

If anyone wants to know how to get a woman going with a scarab beetle and a cup of wine, it’s in there. The god of magic is called Heka – a Heka-va load of rubbish if you ask me.

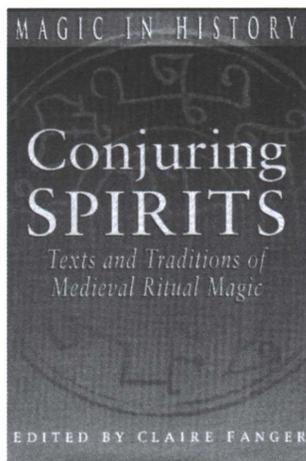
John Bosley

MAKE A MEDIEVAL WISH

Conjuring Spirits: Texts and Traditions of Medieval Ritual Magic

by Claire Fanger (Editor)

Phoenix Mill, £40, ISBN 0-75091-381-9



Looking at the title, readers might be forgiven for thinking that this is a DIY manual for aspiring mediums or a book about magicians in the afterlife. It is the sub-title, however, that describes the true subject of this book: a study of medieval texts detailing rituals to achieve desired results through magic, whether for vengeance, acquiring a lover or absorbing academic knowledge without the hassle of study.

Conjuring Spirits consists of nine essays by academic writers. It is a scholarly book aimed at a scholarly audience. The reader is assumed to be familiar with medieval culture and manuscript studies. This is definitely not a book for curling up with.

Yet despite its difficulty, there are treasures here. For example, several essays deal with a late medieval work entitled the *Liber Visionum*, the Book of Visions, by a monk called John of Morigny.

The text explains how, through prayer and other devices, the practitioner can summon up visions of the Virgin Mary and other members of the heavenly community to petition them for whatever he desires, in John’s

case, mastery over the arts and sciences. Although the ritual described is rigorous – hair shirts and fasting – the attempt to get the result without the work has a very modern ring.

Indeed, this particular text is strikingly reminiscent of a book I once reviewed in these pages called *Ask Your Angels*, a modern American volume giving directions for one-to-one communication with celestial beings. The *Liber Visionum*, in spirit at least, is an ancestor. Both rely on a ritual approach involving meditation and prayer, and both are ultimately interested in the fulfilment of personal desires – academic, financial or whatever.

But the *Liber Visionum* was not greeted with the howls of laughter *Ask Your Angels* now provokes in any rational person. They took such things more seriously in those days; the Book of Visions was burned (although its author mercifully wasn’t). So perhaps one of the things we can learn from *Conjuring Spirits* is that dabbling in celestial communication is, if not any more sensible, a lot safer than it used to be.

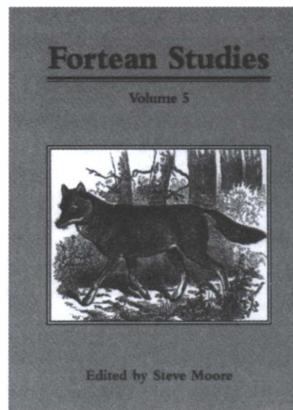
Marjorie Mackintosh

SERIOUSLY WEIRD

Fortean Studies Volume 5

Edited by Steve Moore

John Brown, £19.99, ISBN 1-902212-14-2



The *Fortean Studies* Series contains articles that are too long and detailed to be published in *Fortean Times*, and several chapters in this volume are likely to contain some material of interest to skeptics.

For example, one chapter examines the evidence behind the mystery of out-of-place ships (for example, ships allegedly discovered in coal mines) and finds it rather unconvincing.

Another investigates recent events in ufology from a sociological and political perspective. Each of the articles in the collection is very well-researched and fully referenced, with some of the chapters containing literally hundreds of footnotes.

A second part of the book contains Steve Moore’s incredibly detailed index to the 1997 *Fortean Times*, cross-indexed by author, topics, organisations, book reviews, places and dates. Some skeptics may be frustrated by the fact that some of the chapters present an examination of the folklore of certain phenomena, rather than the evidence for the phenomena themselves, but at the end of the day I think the *Fortean Studies* series is a wonderful outlet for some remarkably well-researched work.

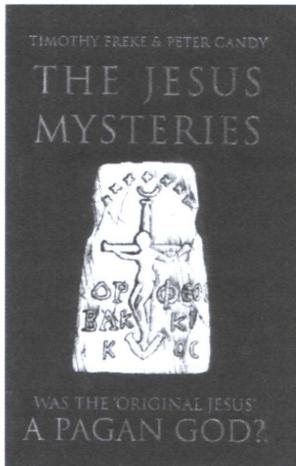
In addition, the *Fortean Times* Index is a valuable asset to anyone wishing to quickly access material in the now world-famous magazine of weird and strange phenomena. If you are serious about research this book deserves a place in your library.

Richard Wiseman

TEACHING AS FACT

The Jesus Mysteries: Was the original Jesus a Pagan God?

by Timothy Freke and Peter Gandy
Thorsons, £16.99, ISBN 0-7225-3676-3



In the early years of Christianity there were numerous Gnostic sects claiming esoteric knowledge. These sects were subsequently declared heretical by mainstream Christians but the authors' thesis is that Christianity was Gnostic at its origin. They suggest that at some time before the Christian era a group of Jews produced a Jewish version of a pagan Mystery cult, based on the Messiah, with a fictional Jesus as a dying and resurrecting godman

resembling Osiris-Dionysus. In time, this esoteric teaching came to be interpreted as historical fact and what they term Literalist Christianity was the result.

As the authors are aware, the major difficulty with this theory is its improbability. Would the Jews of this era have adopted such pagan ideas? It may be true, as the authors claim, that there were many points of contact between Jews, especially Diaspora Jews, and contemporary pagans, but this evidence is all indirect; the only direct evidence for their theory is the Jesus story itself, and that cannot be adduced in support of the thesis without falling into circularity. This difficulty aside, the book contains some surprising information and is well referenced, although curiously the (singularly unappealing) version of the New Testament which they quote is not specified.

Anthony Campbell

A MATTER OF INTERPRETATION

Nostradamus: the Next 50 Years

by Peter Lemesurier
Piatkus, £6.99, ISBN 0-74991-744-X

Why do people still go on about Nostradamus? He spotted a market for vague predictions interpretable as applying to many events, similar to modern horoscopes, and people have frequently proved him right, picking and choosing what seems to fit, arranging them as they like, and duly being astonished at the apparent accuracy.

Lemesurier recognises this, but of course *his* interpretations are accurate! He has retranslated and reinterpreted many predictions (miraculously retaining rhyme and scan – he sometimes admits tampering with the original) and produced a sensational narrative: Asiatic invasion of Europe, the flight and death of the present Pope, the Vatican destroyed. . . But, it may not happen! Nostradamus is only warning of what may happen, it's all avoidable. Lemesurier says of the invasion "if come indeed it does",

and there is also a small-print disclaimer on the back of the title page: neither author nor publishers necessarily subscribe to Nostradamus's predictions, there is no guarantee of their validity – invalidating the book before it starts!

This is an example of what can be done by stringing unconnected, vague predictions together. Lemesurier criticises others for basing attempts at a logical sequence on their own dubious preconceptions, while doing the same himself. But he also uncritically refers to works by others – even Jeanne Dixon! – as "confirming" Nostradamus.

There can be no certainty about the meaning of the prophecies. Their style was archaic even when they were written, and they contain obsolete and apparently invented words and other obscurities. Why, when his other writings show concise, correct contemporary French? Lemesurier follows others in saying he feared the Inquisition if he were too explicit. It is more likely he was simply muddying the waters. If he really did predict Napoleon, Hitler and Mussolini their names would have meant nothing to the Inquisition. Lemesurier even repeats the old chestnut that PAU, NAY, OLORON refers to Napoleon, when they are towns in Navarre, but spares us the matching nonsense that "Hister" is Hitler (it's the Danube).

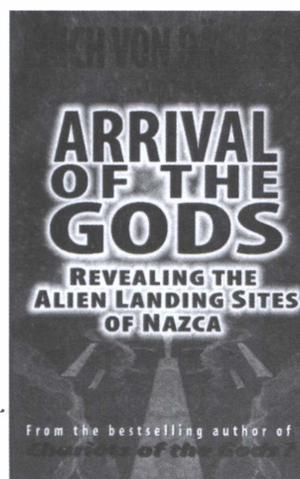
As James Randi said in *The Mask of Nostradamus*, Nostradamus was a brave and clever man, and it's a pity he is remembered only for nonsense. It is similarly sad that Lemesurier wastes his obvious skill and energy in this way. I hope he lives to see the failure of these predictions – but, of course, he'll have an excuse!

Ray Ward

CUT AND PASTE

Arrival of the Gods: Revealing the Alien Landing Sites of Nazca

by Erich von Däniken
Element, £14.99, ISBN 1-86204-353-1



I would certainly recommend this book for the 150 or more photographs it contains, giving spectacular aerial views of the giant markings that cover the plains of Nazca in Peru. Believed to be up to 3,000 years old, the origin and purpose of these enigmatic etchings and geometrical designs remain largely unexplained.

But I couldn't however recommend that anyone bother with the text. It consists mostly of a summary of

existing theories, including those of the German archaeologist Maria Reiche interspersed with claims that von Däniken has been misunderstood and misquoted by critics of his earlier work, *Chariots of the Gods*.

Von Däniken's "explanation" is neither original or credible. Apparently, extra-terrestrials ("Human-like with golden, shimmering skins," naturally) once visited the Peruvian desert to prospect for minerals such as iron, gold and silver and left the first markings as "Visual

Approach Indicators" for subsequent landings. Other designs were added by the locals in an attempt to persuade the visitors to return and so the first cargo cult was born.

The book is rounded off with a few pages on the origins of life on Earth and possibly elsewhere in the Universe which are simply commonplace and unimaginative. *Arrival of the Gods* manages to be both pot-boiler and a scissors-and-paste work at the same time.

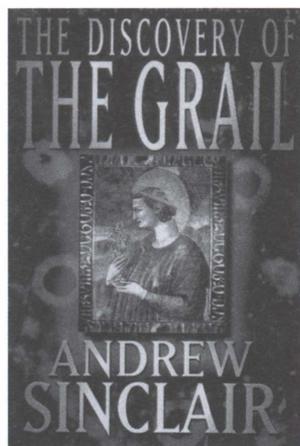
Mike Hutton

GRAIL TRACK

The Discovery of the Grail

by Andrew Sinclair

Century, £16.99, ISBN 0-7126-7729-1



An enjoyable history of humanity's seemingly unending fascination with the symbol of the Holy Grail. While specialists may quibble over some interpretations, the book aims principally at newcomers, taking in the full range of Grail-related topics, from ancient Mesopotamian rituals to the Celts, the Arthurian legends, the Templars, the Cathars – and later exploiters such as Wagner and Himmler – all staple Grail fare.

Sinclair dismisses many best-selling authors of the modern Grail industry as "fantasists". On the other hand, he also criticises "this sceptical age" for implying that "all of the intense faith of the Middle Ages came from nothing and went into nothing." But would any sceptic take such an ahistorical view? The book provides ample evidence of both the continuity and the distortion of ideas and symbols across the centuries. Sinclair's own preference is for the "grail quest as personal, spiritual journey" / "grail as symbolising our search for transcendence" type of analysis.

But is he more than he seems? Interestingly, although, like previous writers, Sinclair details the key role of the St Clair family in Templar/Grail history, he fails to mention that their name was frequently rendered as "Sinclair" – yikes! I feel another conspiracy theory coming on.

John Gilles

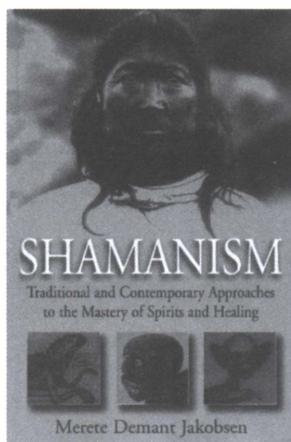
SPIRIT LEVEL

Shamanism: Traditional and Contemporary Approaches to the Mastery of Spirits and Healing

by Merete Demant Jakobsen

Berghahn Books, £13.95, ISBN 1-57181-195-8

This book is presented as an anthropological textbook, and its Danish author has some impressive credentials, including an Oxford doctorate. It is essentially divided into three parts. First, it offers a definition of shamanism. Next, it examines the tradition of the shaman amongst



the indigenous peoples of Greenland. Finally, it compares and contrasts their beliefs and training with that of New Age approaches to shamanism (neo-shamanism).

Ms Jakobsen describes the shaman as a master of spirits, who maintains contact between the spirits and the natural world, using his or her powers to perform supernatural tasks such as healing and prophesy.

The most interesting part of the book, for me, was the section describing the traditions and practices of the Greenland shaman (Angokkoq), though possibly not for the reason the author intended. She describes the spirit journeys, the seances and the healing practices of the shamans in some detail, without any critical comment. To the well-read skeptic, though, the parallels between what the shamans were doing and the activities of the early mediums are striking.

Much of the shamans' power is derived from séances. Before the séance begins, the shaman's hands are tied behind him, and a drum placed beside him. The room is then plunged into darkness, and the fun begins. The drum moves mysteriously about the room whilst being played by ghostly hands. Strange voices are heard and objects move of their own accord, all in pitch darkness. When the lights come on again, the shaman is still bound in the same position.

The similarities between these séances and the famous and long-discredited ones of Western mediums are obvious. Other practices, such as healing sessions and the restoration of lost souls, all smack of the practices of "alternative" medicine (as do the exorbitant prices charged by the shamans). Possibly the most blatant abuse of power, however, is the shamans' claim to the right to sleep with other men's wives.

The section of the book dealing with neo-shamanism I found rather disappointing. The author attends courses run by trainers offering a form of "instant" shamanism (the Greenland shamans serve an apprenticeship of about ten years, we are told). These courses seem to consist of a lot of drum-banging, rattle-shaking, singing and dancing, as well as "journeys" during which the travellers stay where they are. The practitioners of these courses describe their art with all the usual vague New Age words designed to give them credibility. Thus they speak of "Inner Light", "Life-Energy", "plane . . . of being-ness" in a way that will be familiar to most readers of this magazine.

At first glance, then, this appears a serious anthropological work studying an ancient belief and the way it has been embraced by Western culture. However, I became increasingly uneasy with the author's neutrality on the subject as I read on. She seems to take much of what she is told at face value. She uses the word "spirituality" a lot without ever explaining what she means by it. Experiences of interviewees are described as "supernatural", and, in her accounts of the New Age shaman courses, she describes her own "journeys" to strange and improbable

places as if she believes they actually happened. In the entire book, skeptics get a single mention (page 156).

What, then, to make of all this? Well, Ms Jakobsen has clearly done a lot of research, and has spent some considerable time among the modern practitioners of this art. However, her uncritical treatment of some of the antics she describes does her no credit. I think the skeptic can get two things out of this book. First, an insight into the very odd goings-on that comprise a New Age training course. Second, and more interesting, the agelessness of the art of deception. In the final analysis, though, unless you're a serious scholar of shamanism, give the book a miss.

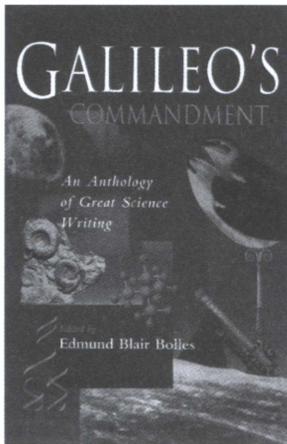
Mike Walsh

SCIENTIFIC SELECTION BOX

Galileo's Commandment: An Anthology of Great Science Writing

by Edmund Blair Bolles (Ed.)

Little, Brown, £20, ISBN 0-316-64828-0



Although the contributors to this anthology of science writing are mostly household names – Newton, Darwin, Pavlov and of course Galileo himself – the selection is nevertheless unusual and inspired. The commandment of the title is from Brecht's *Life of Galileo*: "Contribute to science." Bolles, interpreting "contribution to science" in a broad sense, has included ancient poetry about atoms and an essay in praise of geological

jargon among the more orthodox pieces. The 60 or so extracts are never more than a few pages long, ideal for dipping into, and each has an introduction including a brief biography of the author.

The great events in scientific history are of course covered. Alfred Russell Wallace's essay on natural selection, Robert Boyle's rejection of the four elements, Einstein's famous railway carriage analogy, and James Watson's thinking about the structure of DNA all make fascinating reading. However, this is more than just a worthy collection of write-ups. Other sides of science are seen: Noam Chomsky slates Skinner's behaviourism, Johannes Kepler changes his mind about the moon's seas, George Smoot agonises over when to publish his findings about the microwave background, and Fred Hoyle gets it completely wrong about the Big Bang. As well as the character of Science, the characters of the scientists shine through. Isaac Asimov, with grisly humour, remembers those who died in the attempt to isolate fluorine. Marie Curie recalls chemical bottles glowing "like faint, fairy lights" as she worked late in the shed that served for her laboratory.

There is no sorting by date or subject, but this only emphasises the diversity of the pieces. There is already a queue to borrow my copy – you'll have to get your own.

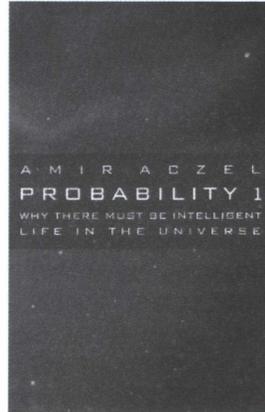
Louise Johnson

E.T. REALLY IS OUT THERE

Probability 1: Why There Must Be Intelligent Life in the Universe

by Amir Aczel

Little, Brown, £17.50, ISBN 0-316-64829-9



In the *Star Trek* TV series aliens often bear an uncanny resemblance to humans. While this book doesn't tell us what aliens might look like, Aczel develops a convincing argument that intelligent life must exist elsewhere in the universe. His conclusion is that the probability of life in the universe (apart from here on Earth) is a number indistinguishable from 1.0. The fascinating part of this book is not so much the conclu-

sion but the material leading up to it.

The opening chapter begins with a brief look at the history of the question of extraterrestrial life, going back as far as the Greeks. It then moves onto the Fermi paradox, which boils down to the question of "Where is everyone?", and the origins of the Search for Extraterrestrial Intelligence (SETI). This chapter concludes with an overview of the Drake equation, a formula for estimating the number of civilisations in the galaxy capable of communicating with other civilisations.

With the scene set Aczel proceeds to explore the premises of his argument. He covers a range of subjects such as chemistry and origins of DNA, the Panspermia hypothesis (life on Earth originating from microorganisms travelling through interstellar space), planetary evolution and interaction with asteroids and comets, evolution of intelligence, and finally some basic statistical issues including the Birthday Problem.

This is a highly readable and informative book that deserves a place on the shelves of anyone who is interested in the big question of whether we are alone in the universe. It is also an exemplar of how to present an idea which draws on many different scientific disciplines.

Dene Bebbington

If you're interested in joining our book reviews team, please email reviews@skeptic.org.uk, stating your interests and any relevant experience.

Correction

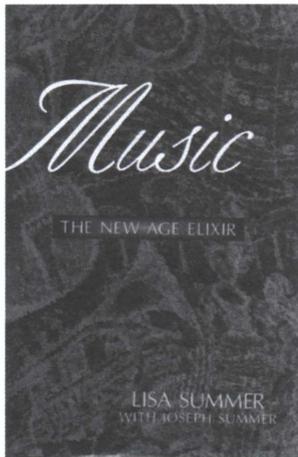
Our apologies to Matthew Colborn, for mangling the final sentence of his event review on page 26 of our last issue. It should have read:

"But perhaps this was inevitable given the recent nature of these results which are already proving highly contentious. A compelling, informative event."

IT'S A MYSTERY

Music – The New Age Elixir

by Lisa Summer with Joseph Summer
Prometheus Books, £22, ISBN 1-5739-2104-1



Having read much of the literature about New Age music and its alleged miraculous cures, I was prepared for this volume and expected the worst. I was very pleasantly surprised! The dust-cover informs one that the author “offers a long-overdue critique of the many groundless claims made by New Age music healers” and she succeeds admirably in this respect, often with considerable humour.

Summer destroys the bogus arguments of the musical ‘gurus’ by applying her substantial knowledge of music theory and theory with detailed technical information.

I had a few minor irritations with the text and printing: the bass clefs are incorrectly placed in the music examples; a wrong note is printed in figure 7 (page 134); and the time signatures of 6/4 and 9/4 are described as simple-triple instead of compound-duple and triple respectively. A more important accusation of not finding a single example of a reputable exponent of New Age Music healing might (alas) be answered by there not being any!

In conclusion I can thoroughly recommend this book to a reader who is fairly well-versed in music theory or who has an interest in the current surge of activity in pseudo-music science. A word of warning: you may be thoroughly disillusioned with the whole business after reading it!

Dr Melvyn Willin

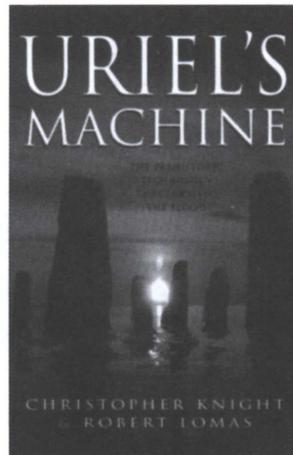
YARDSTICKS

Uriel's Machine: The Prehistoric Technology That Survived the Flood

by Christopher Knight and Robert Lomas
Century Books, £17.99, ISBN 0 7126 8007 1

The same authors wrote *The Second Messiah: Templars, the Turin Shroud and the Great Secret of Freemasonry* as well as *The Hiram Key: Pharaohs, Freemasons and the Discovery of the Secret Scrolls of Jesus*. See the amazon.com reviews of these books and don't miss the author's own web site, www.knight-lomas.com.

In *Uriel's Machine* Knight and Lomas postulate two planet-wide floods caused by comets breaking up and hitting the earth at various points much as we saw happen recently on Jupiter; an advanced civilisation prior to the Biblical flood as evidenced by the oral traditions of Freemasonry; and extensive astronomical knowledge recorded by Enoch (possibly the son of Cain). The *Book of Enoch*, lost around the second century AD, was found



and translated by James Bruce around 1765, and copies were rediscovered after 1947 amongst the Dead Sea Scrolls. Chapters 72–82 deal with the movements of the sun, moon and stars and have recently been disregarded as primitive and inaccurate.

However, the present authors purport to show that, given a bunch of sticks and a flat plain to stick them in, they have by properly interpreting Enoch been able to build a “machine” which accurately measures the position of any bright object in the sky and can be used to predict the equinoxes, eclipses, the waxing and waning of Venus, and so on. The lost physical principal behind the “megalithic yard” is also claimed to have been rediscovered.

As they interpret his writings, Enoch, a nomadic tent dweller in the middle east, was somehow transported by Uriel to the latitude of the British Isles, very probably to Newgrange, the famous megalith in Ireland. Enoch thought Uriel was an angel: the present authors believe he was a representative of the Grooved Ware People who survived the first flood and were intent on teaching others how to predict and survive the next one.

Lots of footnotes and a nine-page bibliography don't make up for lots of typographical errors, lots of word-for-word repetitions, and fantastic leaping to conclusions. Fun to read but not a scientific text.

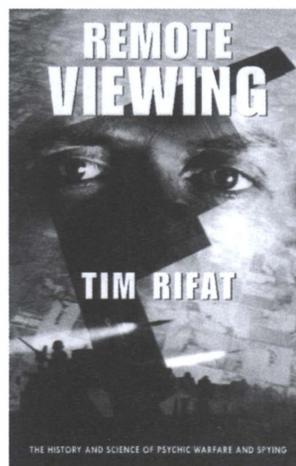
For your own comprehensive astronomy/space/satellite-tracking package, no need to start collecting sticks; just download freeware Home Planet from the Web. Fantastic!

Frank Chambers

FAR OUT

Remote Viewing: The History and Science of Psychic Warfare and Spying

by Tim Rifat
Century Books, £17.99, ISBN 0-7126-7908-1



This book deals with dramatic claims of the use of psychic warfare by the Soviet Union and the USA during the Cold War.

We are told how some of the leading minds of the military convinced their superiors to spend vast amounts of money investigating and developing psychic energy and electronic mind-control technology. The aim was to build a team of ‘psychic agents’ who could help the war effort with practices such as

visualising top secret sites located many miles away, and reading the thoughts of their enemies. Indeed, the power of the mind was deemed to be so great that enemies could even be killed by psychic warfare.

Following this emphasis on how dangerous psychic powers can be, and how seriously the American and Russian militaries took this issue, the reader is invited to follow a rather long and repetitive do-it-yourself guide to remote viewing, which is allegedly 'based on various government programmes'.

Finally, for the benefit of the skeptical reader who doubts the Russian and American military's faith in psychotronic weapons, the remaining two-thirds of the book is made up of appendices containing poorly photocopied 'evidence' in the form of defence intelligence documentation referring to concerns about 'psychic warfare'.

In this reviewer's opinion, the book is sensationalist, one-sided, rather tedious and not even remotely worth viewing.

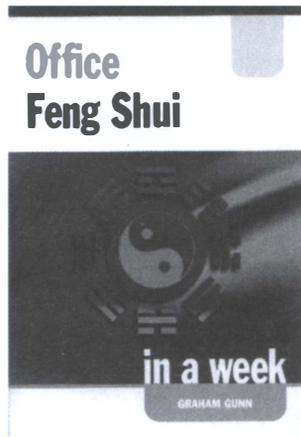
Kate Holden

JOB INSECURITY

Office Feng Shui in a Week

by Lisa Sumner with Joseph Sumner

Institute of Management/Hodder & Stoughton, £6.99, ISBN 0-340-73812-X



Having recently attended an Ideal Homes Exhibition where the showhouse was decorated using the principles of Feng Shui, and being singularly unimpressed, I was quite interested in seeing how Feng Shui principles might be applied to the office.

I would describe this book, if taken seriously, as the fastest way to losing your business, your customers your workforce, and the respect

of your contemporaries that I have seen in a while. It is a typical New Age mishmash of half-truths, misinformation and myths presented as fact.

Office undesirables include "telephones and fax machines, computers, printers, scanners, conversation, perfumes, artificial fragrances, bright or dull colours, desk clutter including floppy discs, books, papers & files, fluorescent lighting, sharp corners, EMF generators, fizzy drinks machines, and pictures of sunsets, waterfalls, historical stuff or black and white prints".

Preferred in your Feng Shui office (that is if your boss has not had you demoted, committed or fired by now) – Neuro-linguistic programming; soft lighting and paintwork; curved or rounded furniture and appliances; pretty pictures; an almost empty desk divided in to nine zones (just one zone being relevant to your career); cork tiles and triple glazing for quietness; a fountain on your desk; eco-friendly deodorants – no propylene glycol or

aluminium – Alzheimers dontcha know; lush plants; humectant cream and spray to combat the air-conditioning and central heating; eco-friendly or home-made office cleaning stuff to avoid all those nasty cancer causing toxins; Bio-energy resonators, macro-biotic diet, energised water, nutritional supplements, a dowser for geopathic stress, crystals to mop up any stray EMF.; feng-shui astrology to be sure you are in the right job for your personality; and a couple of heavy rocks to reinforce or stabilise a situation!

Quite.

Perhaps the book should be re-titled *How to get Fired in a Week or Less*.

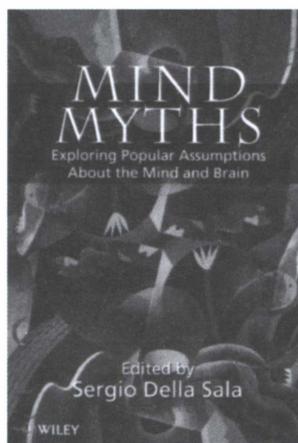
According to the history on the opening page, Mr. Gunn used to deal with the psychological stresses of the astronauts for Europe's first manned spacecraft. Does anyone remember this? I don't. The USA and Russia are the only countries with manned spacecraft I can think of, unless one counts aeroplanes.

Harriett Moore

MIND STUFF

Mind Myths: Exploring Popular Assumptions and the Mind and the Brain

by Sergio Della Salla (Editor)



Wiley, £19.99, ISBN 0-471-98303-9

If you are curious about neurological and cognitive science, or anything to do with the brain, but have the non-expert's problem of separating fact from fiction, then this is the book for you.

But even if you are not that interested now you might well be after reading it. The seventeen chapters, each by different authors,

cover such topics as "Do we only use 10% of our brain?", "Energy and the brain", Hypnosis, and the Placebo Effect, concluding with a review of the ways in which the media present brain/mind stories.

The writing is clear and concise as are the diagrams and tables. Although some of the topics, such as brain function and architecture, are inherently complex, they are made accessible to anyone with some understanding of basic science.

As the title suggests, a number of widespread myths and falsehoods are briskly disposed of while at the same time the authors are careful to emphasise how much we still have to learn about brains and behaviour – the problem may not be what we don't know but rather that "so much of what we do know just ain't so".

The book is well indexed and has an extensive bibliography for anyone wishing to explore further.

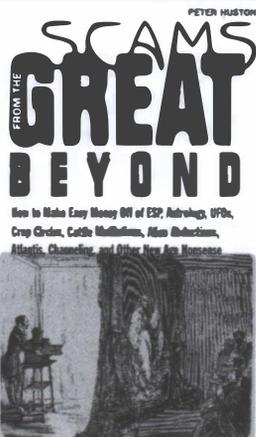
Mike Hutton

BE A NEW AGE BILKO

Scams from the Great Beyond: How to make easy money off ESP, astrology, UFOs, crop circles, cattle mutilations, alien abductions, Atlantis, channelling and other New Age nonsense

by Peter Huston

Paladin Press, \$20, ISBN 0-87364-912-5



Peter Huston's book, ostensibly a how-to guide on bilking one's fellow humans with a variety of psychic tricks and New Age bunkum, has its moments, but is essentially a cut-and-paste exercise over the skeptical canon – *Flim-Flam* and others from the Prometheus catalogue, *Fads and Fallacies*, *Skeptical Inquirer* and so on.

It's the same old info, just edited and written out differently to the last time you saw it.

As an exercise in book-learning and precis the book occasionally exhibits the shortcomings of the genre: it is often superficial, betraying little real familiarity with its subject matter, the accompanying literature or relevant academic disciplines. As is common with works of this kind, the author fancies his work might be a little too cynical for some tastes – or “caustic”, as he puts it – but the light-hearted American Teen style of writing owes more to *Wayne's World* than Voltaire.

In among the magnets and Barnum statements Huston extends his “how-to” approach to phenomena that should possibly be excluded. One such is crop circles. Huston opens with a characteristically smug claim that circlemaking is easy – which, largely, it is – but then goes on to demonstrate that he knows absolutely nothing about it.

Despite the easy availability of information on the subject since 1991, Huston prefers to offer guesses on circle manufacture which are as laughable and inaccurate as anything the croppies have come up with over the years.

One doesn't expect this sort of slovenliness from skeptics.

Robin Allen

REVOLTING WITH STYLE

Twenty Year Millennium Wildcat

by Donald Room

Freedom Press (84b Whitechapel High St, London E1 7QX), £1.95, ISBN 0-900-384-97-2

Regular *Skeptic* readers will know Donald Room as the creator of *Sprite*, which we've had the pleasure of featuring for many years.

Room is also an active political cartoonist, and since 1980 has been contributing the Wildcat strip to the fortnightly anarchist newspaper *Freedom*.



Wildcat, also known as “The Revolting Pussycat” is a snarlingly cynical truth-telling character that mocks the System, the Establishment, accepted political practices – and just about anything else that takes her fancy.

You might imagine that a genre called anything remotely like “anarchist cartoons” would be dull, wordy and smothered in ideology. But Wildcat is about as far from that as you can get.

It's consistently hilarious, the strips are beautifully drawn and Room manages to capture a real sense of energy in his frames, which almost burst out the page.

Room is also a talented caricaturist, and his impressions of the likes of Jack Straw, Tony Blair and Robin Cook are wonderfully irreverent.

Treat yourself to a good – and thought-provoking – laugh.

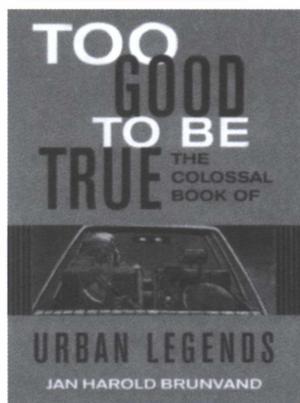
Toby Howard

URBAN MYTHOLOGY

Too Good to be True: The Colossal Book of Urban Legends

by Jan Harold Brunvand

W W Norton, \$18, ISBN 0-393-04734-2



If you want to ask anyone about urban legends, ask Jan Harold Brunvand. He is the Man.

Urban legends are also known as FOAFtales, because they invariably involve events that have occurred to a Friend Of A Friend, or more often a cousin of a daughter-in-law of a neighbour who know someone's ex-wife's uncle's Friend Of A Friend. There's

a certain character to an urban legend, deriving from just enough plausibility to keep us interested – or amused, or shocked, or scared depending on the nature of the tale – and just enough vagueness of detail to stop us ever finding out if the story is actually true or not.

Brunvand's latest book relates several hundred such tales, all written with his trademark humour and panache. There's the dog that jumps out of an open window in a high-rise apartment, chasing a ball thrown by a well-meaning guest; the disgruntled wife who sells her cheat-

ing husband's Porsche for \$50; the damp cat whose owner thought – very mistakenly – that a spell in the microwave would dry it out nicely.

You've probably heard most of these yarns before, but Brunvand lives and beathes them. In this hugely entertaining book he correlates, analyses, traces their first recorded appearances, and tries to unravel the fascination they hold for us.

It might sound dry and academic but it isn't – because all the time he knows that is all really just a huge joke – on ourselves.

Les Francis

Events

23rd International Conference of the Society for Psychical Research

2–5th September 1999, Durham University.

Where is psi? That's a question you might think the talks at the 23rd International Conference of the Society for Psychical Research might answer. But, here at the century's end, a reliable psychic effect seems as elusive as ever.

Some are reporting apparent success in finding something. Suitbert Ertel from Germany kicked off Saturday by describing an experiment which seemed to be getting spectacular results with some subjects. The experiment involved drawing numbered ping pong balls from a bag in response to simple maths puzzles. He claimed that the test worked best in a relaxed home environment, and that he could control for fraud and sensory leakage afterwards by means of statistics.

But his claims failed to convince everyone: Sue Blackmore made some canny points which seemed to cast doubt on the assertion that such statistical analyses could eliminate the possibilities of fraud and error explaining the results.

Whatever the truth about Ertel's technique, other experimenters don't seem to be having much luck. For instance, Simon Sherwood, from Northampton University, presented a paper on an experiment using consensus judging to assess dream precognition. The idea was that a group consensus would be better than individual judges in identifying the targets. The results were negative. To be fair, this was only an exploratory study, and it was small scale, so maybe a small effect would be missed.

Judging the worth of individual experimental results is hard, but collectively their results might help settle the question of psi. Richard Wiseman and Julie Milton have just published a meta-analysis of recent ganzfeld data in the *Psychological Bulletin*, where collective scoring was also found to be negative. Julie Milton herself presented a paper on a electronic debate that had been held in the wake of this finding, between the top Ganzfeld scientists, a full account of which is to be published in the *Journal of Parapsychology*.

In seeming contrast to all this, Adrian Parker showed some of the highlights of his ganzfeld sessions, where the subject's voice was played live over a videotape of the target film clip they were supposed to be picking up by psi. Some of the 'hits' were at least superficially impressive: one subject reported "barbed wire" and a "concentration camp," over a clip from Schindler's list. But my doubts remained. Many of Parker's comparisons seemed to be abstract.

At one point a cloaked character in the target happened to raise her arms so her costume resembled a black square. At that point, the subject said square. I wondered how many of these, even striking correspondences might be due to the selection of coincidentally matching material from a large body of subject transcripts which by and large didn't match the targets.

It was something of a relief to turn from the mire of psi testing to the talks based upon studies of people's anomalous experiences. Sue Blackmore gave an absorbing talk on the possible relationship between sleep paralysis and Out of the Body Experiences.

After this, Jennifer Parker discussed her investigations of paranormal beliefs about dreams. She found the most interesting part of her research was talking to her subjects. One had a dream of her brother, who had died, and subsequently believed that he was always with her, which had made a great difference to her life.

This raises important questions about the role of scepticism in people's lives. If personal beliefs, however irrational, genuinely make a positive difference to a person's quality of life, is the rationalist right to disabuse them of such beliefs?

The experiencers themselves provided the focus of Christine Simmonds' talk on schizotypal personalities and anomalous experience on Sunday. She was finding that those who scored higher than average on the schizotypy questionnaires did indeed seem to report more 'psychic' experiences.

This might be taken by some to imply that the experiencers themselves 'generated' such experiences, but Simmonds was at pains to point out that she considered that her subjects were quite healthy and that her work was not intended to invalidate such experiences, but she chose not to make judgements about their final nature.

So what are we to make of the state of psychical research at the end of the century? It seems clear that the field would benefit from more level-headed dialogue like that facilitated by Milton, especially in view of the replication problems which kept cropping up at the conference.

Second and whatever the future status of psi, the study of strange 'experiences,' and the experiencers is a central and fascinating part of the field. If psychical research is to have a future, it must grow and that means an integration with current knowledge, in all fields, at some point.

Otherwise it is at risk of becoming an antiquated curiosity and we owe it to the experiencers for this not to happen.

Matt Colborn

Letters



Fortean

A skepticism based on doubt, with a belief modified by each new, relevant discovery, rather than the unbelief of skeptical dogmatism propounded by CSICOP and others isn't that far removed from a Fortean stance.

Fort himself said, "I conceive of nothing in religion, science, or philosophy that is more than the proper thing for a while."

Is a true skeptic that different from a Fortean, in the end?

Steve Armstrong
by email

Meanings

Concerning the differing meanings of the word "skeptic" in Britain and the USA, I'd like to suggest a simple solution, which I use myself. If British "agnostic" skepticism is meant, use the variant British spelling "sceptic", reserving "skeptic" with the appropriately hard "k" for the dogmatic "I know it's all nonsense and all I have to do is prove it" school of thought. I also add capitalised "Skepticism" to my list, this term being reserved for the "Torquemada rides again!" elite, whose "those who claim to have these abilities are evil or insane, and those who believe them are stupid, whereas I am good, sane, and wise – how come people would rather buy David Icke's book than mine?" attitude has, in my opinion, probably done more to harm the sceptical cause than anything else.

Yilmaz Magurtzey
Edinburgh

Science matters

I'm not sure how one is supposed to conduct single or double-blind experiments in the "hard" sciences, and suspect that even if one could work out how to do so it would be prohibitively expensive and time-consuming.

For example, it seems that most experiments in particle physics

involve computer analysis of thousands (millions?) of collisions in search of the signature of some particular event. I am under the impression that the raw data in "big science" projects is made available to other researchers (normally via the Internet), and that other people analyse the data and also try to replicate the results under different conditions. Is that correct? In one particular case (the COBE cosmic background experiment), I seem to recall that the conclusions drawn were criticised by researchers who thought that overuse of computer analysis might have introduced experimenter bias, in the sense that the algorithms "extracted" more from the data than was actually there – which indicates, perhaps, that peer review plays the same role for this sort of science that blind methodology plays in experiments involving people as subjects.

On another subject, according to Sven-Ove Hansson, Andrew Brown says in *The Darwin Wars* that there are few "popular chemistry" books because they don't appear to answer religious questions. I would have thought it was because chemistry isn't seen as "leading edge" research (except, of course, when it appears in books on Chaos Theory). As a popular science reader, I tend to go for books that I hope will tell me about the latest discoveries, and (perhaps wrongly) I don't feel that chemistry has much to offer in this department. Or perhaps chemistry just hasn't found its Dawkins yet.

Charles Goodwin
by email

Blind belief

I would have thought that it would be fairly easy to distinguish between experiments requiring blind techniques and those that do not (Rupert Sheldrake's article in issue 12.2).

After all, adding hydrochloric acid to zinc will always produce

hydrogen, whether the addition is made by a Catholic, a Muslim, a black person, or a Chinaman; it is only where judgement is required from the experimenter that subjective effects can enter, and in such experiments precautions against experimenter bias should be routine. Do we really need "experimental investigations" to find this out?

George Wood
by email

Hungry for money

I am delighted to see your excellent magazine in my library. What a great idea to get more folk questioning the paranormal junk which seems to be permeating the media as we approach the year 2000.

As a keen amateur magician and mentalist, I often come across the weird and wacky, but recently I was given a leaflet on "Breatharian and Metaphysics teacher" Jasmuheen. Apparently, she has not eaten since 1993. Although such claims are not new – St Veronica Giuliani claimed similar gifts in the 17th Century – I thought you might be interested (leaflet enclosed).

What offends me is that if what she says is true, why do anorexics and famine victims become so ill and even die? It seems to me that people who claim miraculous powers, instead of taking them to the people that need them most, charge £100 for lectures in the middle of London! And why don't they try to collect the \$1 million from the Amazing Randi?

Ben Whiting
Ipswich

Agnosticism

I was surprised to see a philosopher (Julian Baggini in issue 12.2) exhibiting the common ignorance of the meaning of "agnosticism". It does not mean someone who "sits on the fence"; it means someone

who believes that nothing is known or likely to be known of the existence of God or of anything beyond material phenomena. Consequently it is also inappropriate to apply it (if Baggini was) to scepticism.

**Steuart Campbell
Edinburgh**

Tolerance

My only criticism of the sceptics is that you appear to be more tolerant towards established religion than other brands of superstition, namely what you call "cult religions."

Q: What makes Christianity or Islam or Judaism more acceptable and less obnoxious than, say, Astrology? A: Political influence.

Here in Finland sceptics have teamed up with Christian organisations in order to defend the scientific truths of the Bible against the corruption of, for instance, New Age and UFOlogy. By collaborating with the sceptics, the Christians see a chance to reinforce the hegemony of their belief system.

By collaborating with the Christians the sceptics see a chance

to protect their organisation against criticism; in recent times disagreeing with the Lutheran church too vigorously has come to be seen as one of the most punishable things imaginable in our country. I am as much interested in defending sanity against superstition as any self-respecting atheist, but I refrain from calling myself a sceptic as I cannot accept the hypocrisy of this blatant political profiteering and PR campaigning.

**Matti Tirkkonen
by email**

Gift horse in the mouth?

I am writing in response to your letter regarding the library stocking *The Skeptic* magazine.

It is the policy of the Newham Library service to evaluate all material that is stocked in the Borough. In this way, donations from individuals or organisations are not just accepted, but are assessed in line with the Library

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We have decided not to accept your offer of a complimentary copy of *The Skeptic* magazine for two reasons. Firstly we have recently completed a three month customer survey regarding magazines. During this period we did not receive any requests for this title. Secondly, because we feel it does not meet the criteria set down in our stock policy.

**Helen Dowling
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