

Volume 14 Number 2

# The **Skeptic**



**Would we be better off stupid?**

*Also in this issue:*

**Simon Hoggart's life as a skeptic**

**Is your mobile phone killing you?**

**Close encounters of the fireball kind**

*Plus:* News • Book Reviews • Comment • Humour

## *Hilary Evans' Paranormal Picture Gallery*



“Ask about the neighbours before you buy the house.”

– Yiddish proverb



**Hilary Evans** is co-proprietor of the Mary Evans Picture Library, 59 Tranquil Vale, London SE3 OBS

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## Skeptic in Chains

Wendy M. Grossman

I WAS wittering on last issue about how great it is to see skepticism finding its footing in academic circles, what with Chris French's unit at Goldsmiths College and the many experiments Richard Wiseman is carrying out at the University of Hertfordshire. Two things have happened since.

First of all, an anonymous donor is handing over £500,000 to set up a course in astrology in the UK. Second of all, according to the *Financial Times*, India's education authority has decided to recognise astrology as an undergraduate and graduate degree course, despite protests from Indian scientists. Is this a double standard? One rule for courses taught by people we agree with and another for courses taught by people we don't?

The essential difference has to be how something is taught and what legitimacy is given to belief systems. Parapsychology is a discipline that involves testing; researchers search for psi. It seems to me entirely legitimate for people to learn how to carry out such research. The claim implicit in calling oneself a parapsychologist does not require major changes in our understanding of the inner workings of the universe. Parapsychologists do not claim to be psychic nor that their training uniquely qualifies them to become so.

A degree in astrology is rather different. As far as I can tell, no one is talking about giving people degrees in researching astrology – developing the science to determine whether it's true or not. What they seem to be talking about is training people to be astrologers, presumably in a great deal of detail. This is more akin to teaching someone to become a creation scientist than to teaching them how to research the origins of the earth.

I was going to say more about this, but...

49.

While I was in the middle of writing this column, the news came through that Douglas Adams had died of a sudden and massive heart attack, sustained while exercising in a gym as part of a regime to control his high blood pressure, an irony that, as his friend Michael Bywater noted, he would have been the first to appreciate.

Adams was not someone the skeptical movement claimed as its own, though he probably influenced more of our thinking than most official skeptics. I know few people who haven't adopted at least some of Adams's lines as part of their everyday vernacular, so familiar that no glossing is needed. ("Life. Don't talk to me about life.")

We spend acres of ink discussing why people believe;

Adams went to the heart of the matter with his *Electric Monk*, a machine designed to relieve people of the necessity of believing and which had, of course, somehow gone wrong so that it had begun believing things more or less at random. Meanwhile, Adams's scientists were as confused and dominated by venal motives as everyone else in his novels. This is life as we know it: so much of why people believe precisely what they believe is chance.

But Adams was, by all accounts, consumed by a rampant curiosity about all things, a personality trait that ideally would characterise everyone coming out of university. If there's only one thing wrong with teaching astrology as a degree course, that's it. You don't learn curiosity by learning astrology; instead, you are taught that the universe has order and logical principles which can be projected outwards. Adams's little old man talking to his cat seems more realistic.

### Hail and farewell

It's time to thank a bunch of people again.

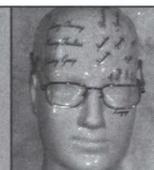
First of all, with Scott Campbell back in the UK, he has resumed running the well-attended and entertaining *Skeptics in the Pub* series (usually the first Thursday of every month at the Florence Nightingale Pub on Westminster Bridge Road, London). Thanks to Marc LaChapelle and Robert Newman for keeping the series going so successfully while Scott was back in Australia.

Second of all, and closer to home, *The Skeptic's* production is moving to Buffalo, NY. A not-too-close look at the masthead will reveal that the magazine's DTP and publishing chores, beginning with this issue, will be assumed by the staff at the Center for Inquiry, where the Committee for Scientific Investigation of Claims of the Paranormal has its home (this is not coincidental). Part of the reason is cost: it is simply cheaper to print and publish in the US, even when you add in postage costs. The administration, marketing, and finances of *The Skeptic* will henceforth be managed by CSICOP's representative in the UK, Mike Hutchinson. We want to thank Dave Martin, who has done a lot of hard, dull, and devoted work to maintain the subscription database for the last ten years, and also Toby Howard, who has managed a great deal of the administrative work. Toby will continue editing the reviews section (email him at [toby@cs.man.ac.uk](mailto:toby@cs.man.ac.uk) if you want to join the team).

Editorial control of *The Skeptic* remains with us.

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

## Hits and Misses



### Computer firings

WE WERE intrigued by the story that appeared in every newspaper in late April about the plight of the B&Q employee who was fired by a computer. Of course, he wasn't *really* fired by a computer – he took one of those awful personality tests that was scored by a computer, and since he'd failed it he was sent a standard rejection letter. The fact that he'd already been hired and was on the job, apparently satisfactorily, didn't count.

People seem to be very confused about this – an editor on a major newspaper phoned to ask how computers assessed people's personalities. He was pretty disappointed to be told that personality tests have been around for decades, and that all that's happened is that the *scoring* has been computerised. After all, any scoring system assigns a specific number of points to each answer, and adding them up is exactly the kind of boring, repetitive calculation job that computers were designed to do. Too bad. What he wanted was to be told that computers are now making life decisions about humans. Sad to say, even though it's 2001, they're just not smart enough yet. Where's HAL when you need him? Him. There, you see? Does *your* computer have a gender?

### The myth of the Jedi

BUT PEOPLE love myths. That, at any rate, is the only way we can explain the curious and often-repeated belief in the month leading up to the national census that if



10,000 people listed "Jedi" as their religion the authorities would be required to accept it as a religion. The claim is not unique to the British isles – it's been circulating as advice to Australians, preparing for their national census in August and to New Zealanders, due to be counted in September. In the UK, at least, part of the myth's persistence may be due to the fact that religion is the only voluntary question on the census form. The best theory we've heard as to why it won't work is that the census forms will be read by optical scanning software that is "trained" to recognise only certain words. In any event, the 10,000 threshold seems to have been entirely made up by the kind of prankster who thinks it's funny to circulate fake Associated Press stories alleging that Microsoft has bought the Catholic Church (actually, we think that's funny, too).

The purpose of the question, according to the Office of National Statistics' own information on the subject, is to "support resource allocation and service provision for ethnic and minority groups by local authorities and health services." Think, pilgrims. Did you really want the local authority to go around issuing your neighbours with light sabres? Would that improve the overall safety on your street?

### This way to the Egress

PETER LAMONT, a former president of the Magic Circle and now a researcher at Edinburgh University's Koestler Parapsychology Unit, announced in mid-April at the local science festival that the Indian rope trick was . . . a hoax. Just like you always suspected. Few people in India have apparently ever heard of the trick, which was originally described in the *Chicago Tribune* in 1890. You remember how the trick went. A fakir (note the spelling, now) coaxes a rope from a basket, and a boy climbs to the top and disappears. In some versions of the story, a man with a sword followed him to the top and disappeared, and shortly thereafter parts of the boy rained down, falling into a basket at the foot of the rope. Finally, the man appeared and emptied the basket, which contained the boy, alive and in perfect health.

A number of explanations have been offered over the years. For example: there were twin boys, one of which was murdered and the other of which hid in the basket. If you believe that, there's this Egress I'd like to show you.

Lamont's revelations were two-fold. First of all, the rope was a pole; pole-balancing was, according to Lamont, a common street trick of the time. Second of all, the story about the boy parts raining down . . . well, that was made up by the *Chicago Tribune* as part of a

publicity drive to increase its circulation. A hint might have been taken from the story's byline: Fred S. Ellmore. Apparently, not only did readers miss that subtle bit of newspapering, but the note in which the paper 'fessed up. How come we here at *The Skeptic* never think of pulling stunts like this?

**Oink, flap, oink, flap . . .**

PEOPLE ALWAYS ask skeptics what it matters if people want to believe that the stars govern our daily lives, that the moon is made of cheese, or that the laying on of hands promotes healing. Like skeptics are just being mean to care about such things as truth and evidence.

An example of why it often does matter turned up in mid-May, when an American doctor presented the case for cellular memory at a London conference intended to discuss the question of whether the wishes and feelings of organ donors should be taken in account when matching organs and recipients. From unsupported belief to public policy: you can see why the belief that organs have "minds of their own" would appeal greatly to people trying to make the case that their deceased child's heart should only go to a member of the same religion.

It's clear few doctors believe such a thing, or they wouldn't be talking about xenotransplants as a way of making up the shortfall in the number of available organs. On the other hand, it's intriguing to speculate whether, if you fed a lot of chicken to a pig you could finally get one of them to fly.

The doctor promoting the idea on Radio 4 that morning cited the case of an eight-year-old girl who after receiving the heart of a murdered 10-year-old was able to give police so many details about her donor's death that they were able to track down the murderer. We'd be interested in hearing from anyone who knows more about this case and can explain it.

**Maria Duval continued**

APPARENTLY Maria Duval, whose ads for lucky talismans in the UK and Australia have been noted before (*The Skeptic*, 13-2), is active in many more countries than we realised. Long-time *Skeptic* reader Adam Buick sent in a full-page ad (in French) from a Belgian free newspaper from January 1997. Like the English language ads, this one provides testimonials from satisfied customers and promises a free talisman to change your life. One item we hadn't seen before is the little questionnaire the ad asks respondents to fill out. "Do you feel that people do not understand you?" is one of the questions, followed by "Do you urgently need money?" If you do, you are supposed to circle one of three amounts, from Fr20,000 to Fr200,000. "Do you think you have a sixth sense?" is

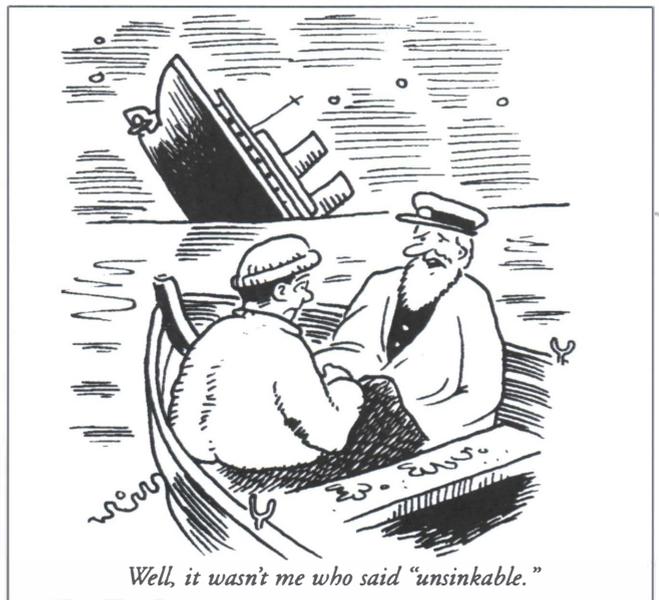
another of the questions. We have to presume that what she's really getting at – other than your income bracket – is trying to figure out what your gullibility orientation is.

Of course, that was four years ago. These days, you can just click onto her Web site (<http://www.maria-duval.com>) and read the testimonials in ten languages. Oh – and receive your free talisman in return for answering more or less the same questionnaire, with the addition of boxes for you to write in your greatest wish and your biggest current trouble. Oh, yes, and you have to fill in your street address and email address, though there is a box to check to opt out of "offers" from "reputable companies that may be of interest". What a way to build a mailing list.

Oh, yes: psychic as she is, Duval knows telepathically when you saw her Web page. The form notes, "I am responding within five days." What a useful skill it would be to be able to tell whether that's true.

**Sinking logic**

THE BIGGER ship, the greater the hubris, or so went at least part of the message of James Cameron's 1999 movie *Titanic*. But equally, the bigger the ship, the greater the mythology. Martin Gardner has already debunked, at length, the myth that the wreck of the *Titanic* was predicted in Morgan Robertson's sea novel *The Wreck of the Titan*, published fourteen years before the *Titanic* went down. More recently, Richard Howells, a lecturer at Leeds University, documented in his book *The Myth of the Titanic* the fact that its makers never claimed it was unsinkable, using only the term "practically unsinkable" in a couple of publicity leaflets, a claim that was repeated only once, in *The Shipbuilder*. It was not, as the movie and countless other stories would have it, promoted far and wide by its manufacturers as sink-proof. It was only dubbed unsinkable *after* it sank. How's that for logic?



Thanks, as always, to our clippings contributors: Tom Ruffles, Stuart Campbell, Jock Cramb, Rachel Carthy, Wayne Parker, and Adam Buick.

# Skeptiquette

Simon Hoggart explores the consequences of taking too deep an interest in the paranormal.

I USED TO KNOW the late Brian Inglis, the TV presenter and writer, who was a charming man, but who could believe 15 impossible things before breakfast – and, come to that, before lunch and dinner too. Poltergeists, crop circles, telepathy, astrology, faith healing – you name it, Brian believed it. And he liked to bang on about them. Once we invited to dinner his then girlfriend, a lovely, intelligent, delightful political correspondent called Margaret van Hattem. (Margaret died of a brain tumour while Brian, who was about 30 years older, was still alive. Sadly she was never able to get in touch with him from the beyond, but that didn't begin to shake Brian's belief in spiritualism).



Once we had invited Margaret round for dinner with a well-known Labour politician and his wife. She brought Brian. Like most Labour MPs, the Labour politician loathed Tony Benn, and said with relish about some election, "Benn hasn't got a ghost of a chance!" to which Brian replied, "There's an awful lot more evidence for ghosts than you might think. . . ."

In other words, he was at times a paranormal bore. I often think of that moment when I get involved in conversations about the weird and wonderful. It's all too easy to become an anti-paranormal, or a skeptical bore. And what do you say when people tell you their own experiences?

**Friend:** it's all very well for you to pooh-pooh ghosts, but a few years ago I was lying in bed, and I could see my mother standing at the foot of the bed, talking to me. And she died five years before that! What do you say to that?

**Self:** Oh, right, I didn't realise. Yes, of course I'll happily believe that all the laws of physics were suspended to bring a vision of your mother to your bedroom.

But you can't do it. It's much too rude. It marks you down as a skeptical bore and a boor as well. So what do you say? The other day I was chatting to a friend who had been on holiday in France with her husband and children. She snores loudly some nights, and had agreed to go to the spare room next door. In the morning she heard a dog barking, very loudly, under her bed. Of course there was no dog there. Going into her husband's room she found him wrapped in the bedsheets, as tightly as a mummy. Various other spooky things happened. What did I think about that?

Some people get very upset if you imply that there

may be less than meets the eye. I merely said that I thought she'd probably heard a dog barking while she slept, and in her dream state it had seemed much closer. At the point we awaken, we often find it difficult to distinguish between real sensory input and dreams. Her husband had had a disturbed night, as she knew, and had rolled around in such a way as to wrap himself up. She inclined to agree, which was a great relief. Many people wouldn't.

For instance, what about the person who goes to a spiritualist or fortune teller and reports back, "She knew my uncle's name was Ambrose. It's such an unusual name! How could she possibly have know that?"

The correct answer is, "Are you sure she said your uncle's name was Ambrose? Or did she just say, 'I think



I see an Ambrose in your life? How do you know she didn't know his name anyway? This is a small town. She might have looked you up in the phone book, and found an Ambrose with the same surname. Then she'd have a punt. It worked. Even if he wasn't your uncle, there was a good chance you'd know of an Ambrose with your name. And how much did she hint at that wasn't true?" But that all sounds rather aggressive. You don't want to do it. After all, you're sitting next to the person. He or she is a friend, or a friend of a friend. You wouldn't talk so knowingly and disparagingly if they voted differently from you, and certainly not if they had a different religion.

Then there's the paranormal fancier who asks you to be generous. "How do you know that all crop circles are hoaxes? Can't you admit that some of them might have been made by aliens? Why do you have to be right every single time? It's not fair."

That's an easy one: "You want me to believe that creatures intelligent enough to manage interplanetary flight come all the way to earth, stamp on a few crops, then go straight home again. I merely want you to believe that there are a lot of people who have fun hoaxing other people. It's you who are being unfair."

But it can be harder. "I know she was in touch with my little boy, who died three years ago. She passed on something he said, which was exactly like him. I knew it was him. It was such a comfort, knowing he's out there and waiting for me. . . ." There's nothing you can say to that, except something vague and non-committal – "Yes, I can see how good that must have felt."

Sometimes I try replying with a little example of the

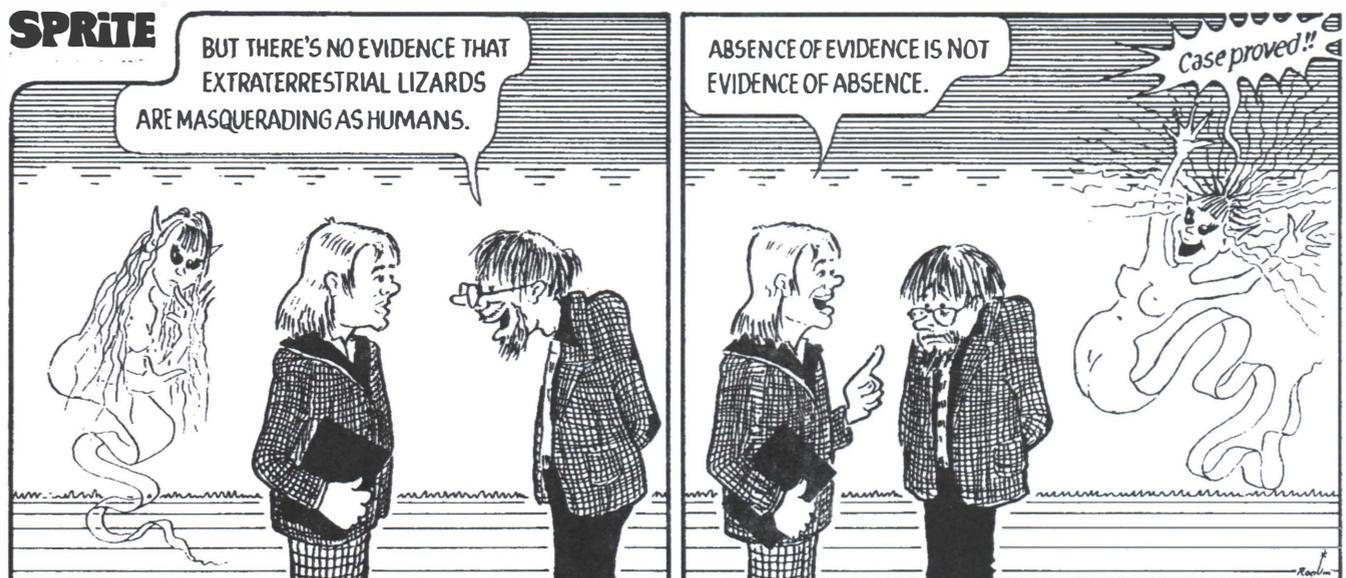
paranormal. I tell them about our haunted house. There were mysterious creakings in the night, a rhythmic thump, thump, thump noise very near our bedroom. A terrible stench in the kitchen. A sudden ear-splitting noise which ended just as quickly. The cat came running in from the garden in a panic, its fur on end. By this time ghost-hunters will be quivering with excitement. So you tell them that the creaking noises were just the house cooling as the central heating cut out. The thump thump noise was our son kicking the wall in his sleep. The stink was from a broken drain. The ear-splitting racket was a child who turned on the radio too loud and, frightened, turned it straight off. And who knows what the cat had seen? A dog, perhaps?

Or you can try this one. "I woke up in the middle of the night, and I could hear my brother's voice, speaking very distinctly, even though I knew he was in Australia. He was telling me that he was in trouble and needed help. It was chilling. Then in the morning, my mother phoned to tell me that my brother needed us to wire him money because he'd been robbed. He'd phoned her in the middle of the night as well..."

Because real science builds on its discoveries. Radio waves make radar, television and allow your family to phone you from Australia. Bent spoons are just bent spoons. Telepathy means that some people, just conceivably, might spot a wavy line or a star 0.000001% times more than chance would predict. Television allows me to watch the dead, Marilyn Monroe or John Lennon, walking around in my living room. It's just a matter of finding a polite way of making the point . . . oh, and not getting a reputation as a skeptical bore.



Simon Hoggart is a columnist for *The Guardian* and co-author of *Bizarre Beliefs*.



# It's Dangerous to Talk

Is your mobile phone really killing you? **Wendy M. Grossman** looks at the current scare.

IF YOU ARE the kind of person who reads the medical encyclopedia and promptly develops all the symptoms and you own a mobile phone, you probably wouldn't have enjoyed reading the newspapers for the last few months. Almost every day, it seems, new research may or may not link mobile phone use to brain cancer. By June 1999, a Mori poll found that 43 percent of British people using mobile phones daily were concerned about health risks; 62 percent said they were interested in devices that would shield them from radiation. In mid-2000, the British government annoyed the industry by first auctioning off licenses for third-generation mobile networks for £22 billion (more than \$32 billion) and then releasing a report suggesting that it would be safer not to let children use mobile phones excessively.

This type of mixed message is what happens when science, politics, and new technology all collide over a safety issue. Scientists are notoriously cautious about making pronouncements in advance of adequate research, while politicians want short, sharp answers. In the UK, this significant culture gap helped create the scandal over bovine spongiform encephalopathy. When it was first discovered in about 1987, scientists were uncertain whether BSE could cross the species barrier from cows to humans. Politicians, under powerful economic pressures, insisted British beef was safe. A decade later, new-variant Creutzfeldt-Jakob disease emerged. This time around, politicians and health organizations are reacting much more cautiously. Meanwhile, the mobile phone/brain cancer claims have had much greater play in the media, perhaps because the story sensationally unites a rapidly spreading hot new technology with a known, near-primeval fear. And yet, BSE had scientists grappling with a complete unknown, radiation has been extensively studied.

The problem, however, is that "You can't prove a negative," as Simon Rockman, founder and publisher of *What Mobile?*, Britain's first mobile phone magazine, says. Because of that simple reality – and because stories that find danger are inherently more interesting to the media than stories that do not – there may always be a lingering doubt in the public mind over this subject. No one can prove conclusively that radiation is safe; new research could theoretically, however, prove at any time that it is dangerous. It is the same problem that characterizes research into paranormal claims: you can never prove conclusively that ghosts don't exist, only that on a particular occasion there is a natural explanation for what observers saw. Given that everyone is afraid of being sued, no one will take the plunge and say mobile phones are safe.

So governments are taking the claims that mobile phone radiation can harm human health seriously enough to commission major reports and issue warnings. At the end of January, an official report for France's health authorities recommended that radiation from mobile phones should be reduced as much as possible. In mid-2000, a British government report (the Stewart report) recommended discouraging children from using mobile phones even though the report agreed there was no scientific evidence to support the idea that the radiation is dangerous. The British government accordingly rushed a warning leaflet to press so it could be distributed by mobile phone shops during the Christmas season.

## Follow the research

Huge corporate and financial interests are at stake. Start with the network operators, the guys who put up all those billions to buy licenses to run third-generation networks in Europe. Next, the various telephone companies and content providers who are sinking more billions into creating services and portals so wireless users will have something to do with their new toys. Finally, the handset manufacturers, who are first in line for lawsuits. The consequence is a rightful distrust of half-digested media reports of the research. As *Wall Street Journal* writer Cynthia Crossen documented in her 1994 book *Tainted Truth*, corporately funded research tends to produce the results desired by the organization that's paying for it.

But much research into the health impact of mobile phone use is sponsored by governments: the US, the UK, Australia, Sweden, France. The mobile phone industry has also funded research, not all of it exculpatory, and set up the Washington, DC based Wireless Technology Research group, which ate up \$25 million in funding over four years ending in December 1999. Either way, some hundreds of research projects have either been completed or are studying the matter.

The two components that emit radiation, the antenna erected by the network operator to ensure coverage at your location, and the mobile phone you hold to your ear (which also has an antenna) transmit and receive data (the voice stream) just like any other pair of radio devices. That is, of course, what they are: today's mobile phones operate near the microwave part of the electromagnetic spectrum (roughly 800MHz to 2100MHz, varying depending on you're talking about the US or Europe), adjacent to radio frequencies; the next generation of mobile phones will operate at substantially higher frequencies. Energy in this frequency range is known as "non-ionizing," unlike radia-

tion known to be able to damage the atomic structure of living tissue, such as X-rays. Non-ionizing radiation can damage living tissue – say, by heating it the way a microwave oven does – but the dosage required is far higher than that emitted by mobile phones. Most countries, including the US, have guidelines as to how much radiation is allowed, specified as an allowable level of specific absorption rate (SAR, see box).

Antennas are often mounted on masts sited on buildings, including schools. Although there is some public concern about the placement of antennas, particularly in the UK, government reports and research generally say that the power around these masts is insufficient to damage human health. There is a movement in the UK to remove masts from school buildings, but as is pointed out in the UK government's so-called Stewart Report, the present situation may actually be safer than the alternatives, as a good bit of the radiation immediately below a mast is absorbed by the building itself.

Most of the public concern and the research has been directed at handsets. According to Gary Taubes, writing in *Technology Review* in November 2000, the mobile phone scare began with a talk show. In 1992 widower David Reynard appeared on *Larry King Live* claiming that cellphone use had caused his deceased wife's brain tumor. The suit Reynard filed against the cellphone companies was dismissed in a federal court in 1995 because of a lack of scientific evidence to support his claim. More recently, in late 2000 Maryland neurologist Chris Newman filed an \$800 million lawsuit against his handset manufacturer (Motorola) and several other telecommunications companies. However, the fact that some mobile phone users develop brain cancer is not in itself significant. There are roughly 17,000 cases of brain cancer diagnosed in the US each year, according to the National Institutes of Health, and 107 million mobile phone users. It would be surprising if there were no overlap between the two sets.

An even more curious set of research results was published in the UK in mid 2000 and concerned the hands-free earpieces often sold as a safer alternative to holding the phone to your head. A number of laboratories tested these kits, and all but one found that they

reduced the amount of radiation received by the body. The remaining one, however, conducted by *Which?*, found that these kits could actually increase the user's exposure. This was, of course, the study that received all the attention.

In December, *The Times* reported that several lawsuits are due to be filed in 2001 in California, Kentucky, and Maryland, with the plaintiffs being represented by the same law firm that won record damages from the tobacco industry. These cases should prove interesting, though sources familiar with the issues say the most likely outcome is that they, too, will be thrown out, again for lack of scientific evidence. But, again, as Rockman says, a legal decision against the plaintiffs still won't prove that mobile phones are safe, only that they have not been proved dangerous.

## Examining the data

There are two ways of researching an alleged health hazard like this. First is epidemiological studies. In these, you look at patterns of disease among selected populations, trying to

select groups so that you isolate the variable you're trying to study. Research of this type into mobile phone use has generally shown there to be no adverse consequences to human health. For example, a US study published in December in the *Journal of the American Medical Association* matched a group of brain cancer patients to a control group and found very little difference in mobile phone habits. Similarly, a Swedish study published in the *International Journal of Oncology* in 1999 matched a group of brain cancer patients with a control group from the surrounding area and found no increased incidence of brain cancer

that could be attributed to mobile phone use. However, this report got a lot of airplay for a different finding: a statistically weak observation that cellphone users were more likely to develop a tumor on the same side they used for phoning. An American study, funded by Wireless Technology Research, a Washington, DC based research group funded by the mobile phone industry, found the same thing – but found it also applied to users of wired phones.

### Measuring radiation

The numbers you are beginning to see published as indicators of how much radiation a particular mobile phone gives off are known as SAR, for specific absorption rate, and what they stand for is the rate at which radio frequency radiation is absorbed by the human body. More specifically, it's the rate of energy absorption per unit mass: in the case of mobile phones, watts per kilogram. The higher the number, the higher the absorption rate. Governmental agencies around the world – the FCC in the US, the National Radiological Protection Board in the UK – set limits for how much radiation the public may be exposed to and use these limits in determining the size of the exclusion zones around the base of TV transmitters and mobile phone masts.

Bear in mind that a high SAR still does not mean that your phone can kill you. The maximum allowed by the FCC, for example, is 1.6; all phones come in below that, some a great deal below. However, measuring a phone's output is tricky because of the variations inherent in network design: the phone's output varies with its distance from the base station, as one example.

In science, what matters is the ability to replicate results. A second study carried out at the UK's University of Bristol around the same time also found an association – but it was between mobile phone use and increased reaction speeds. Yet another, carried out by the US's National Cancer Institute covering the mid 1990s and published in early 2001 in the *New England Journal of Medicine*, found no indication of higher risk of brain cancer associated with mobile phones, nor with increasing minutes of use per day, age of the user, nor cumulative use. The NCI study found no association between tumor location and the ear used for phoning.

Those who are convinced that mobile phones are dangerous point to similar reports of various ailments that pop up around the world. A 1999 Swedish study, for example, surveyed 11,000 users and found that almost half reported symptoms such as headaches, fatigue, dizzy spells, memory loss, burning skin, and ear problems, even when using mobile phones for less than two minutes a day. Does this mean that mobile phones cause these symptoms? Or does it mean that some people have these symptoms for other reasons and attribute them to mobile phone use, perceiving causality where none exists?

The second prong of investigation is research into the impact of radiation by exposing animals or tissue samples to known amounts of radiation over controlled periods of time. One such study carried out at the UK's University of Nottingham, for example, looked at the impact of microwaves on nematode worms. Worms that were exposed to microwaves overnight – the equivalent of exposing a human continuously for a decade, according to the researchers – grew five percent faster than those that had not been exposed, suggesting that the radiation sped up cell division, considered a factor in tumor development. The general consensus is that studies of this type suggest that if there is any effect it is extremely weak.

### What happens next

One emerging issue is the nature of digital signals. Analog mobile phones use a continuous but relatively low-powered signal. Digital phones send data in bursts, and some critics have complained about the industry technique of averaging the peaks and troughs to get an apparently acceptable rate. It is true that the SAR – for specific absorption rate – for digital phones is averaged but the reason is that radiation's effect is not immediate. In a microwave oven food does not heat instantly, and bursts are how ovens achieve low-power settings.

The increased speeds that have been promised for next-generation mobile phones will require higher power. British technology journalist Barry Fox, writing in *New Scientist* in November, quoted industry sources

saying that to keep the amount of radiation down the industry will limit the speed – a solution no one likes. Meantime, the investment climate for network operators is worsening rapidly as they grapple with the huge sums they have bid for third-generation licenses, the amount they will have to spend to build out their networks, and increasing public demands to be given more control over where antennas will be located.

One possibility is that manufacturers and third parties will apply technical fixes, just as monitor manufacturers did in the early 1990s when (based on, again, disputed evidence) public concern erupted over claims that radiation from computer monitors increased women's risks of miscarriage. A number of supposedly effective mobile phone shields have come onto the market already, of which one type, which uses a metallic or metallic-mesh screen inside the case and a guard on the antenna, has passed laboratory tests. The problem is that mobile phones are designed to increase their output as necessary to remain in good contact with the base station – so shielding may not solve the problem. But there are other solutions, such as directing the antenna away from the head.

Patrick Dixon, British futurologist and author of *Futurewise*, has tracked the mobile phone saga in detail on his Web site (<http://www.globalchange.com>), and he believes manufacturers will respond quickly to design lower radiation phones. Eventually, he says, "I am certain that future studies will confirm that there is a slight physiological effect on living tissue from electromagnetic radiation. Scientists will go on debating for the next 30 years how significant it is in long-term human health."

However, David Morton, a former research scientist at the BBC and now a computer consultant believes that the population to look at is antenna riggers. This group has been climbing around and through antenna arrays for more than 30 years, he points out, and have come close to much higher radiation levels than any mobile phone user has ever experienced, and yet they are not known to have health problems as a result. "People have worked at transmitter sites in the presence of fields vastly many orders of magnitude greater than you get from a mobile phone, even with it stuck to the side of your head, and there are no epidemics," he says. "You don't find that all of the transmitter engineers from the early days of TV are dead."

For the moment, the following things are certain. The distraction of driving while talking on the phone, even with a hands-free kit, is far more dangerous than the phone's radiation. Smoking is a far greater health risk. And, according to Britain's Civil Aeronautics Authority, mobile phones do genuinely interfere with some aircraft navigation systems. So don't talk and drive, and do turn off that mobile phone when the stewardess tells you to.

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## Skeptical Stats

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Amount by which the revenue generated from ambient advertising is expected to grow from 1999 to the end of 2001: **100 percent**

Amount by which complaints about ambient advertising increased during 2000: **1000 percent**

Length of time NASA's newest design, the "Scramjet," would take to fly from London to New York: **40 minutes**

Length of its first test flight, to be held in May 2001: **10 seconds**

Number of people who died of thirst in 2000 trying to cross the Mexican border to the US: **22**

Amount donated to the Sophia Trust to fund the UK's first MA degree course in astrology: **£500,000**

Amount ONdigital is spending per year in development costs for digital TV: **£300 million**

Number of ONdigital subscribers as of January 2001: **1,012,000**

Speed at which billion-ton clouds of electrified magnetic gas are hurled into space by solar eruptions: **up to 4.5 million mph**

Average lifespan of established writers: **61 years**

Length of time, according to a central London estate agent, that a "well-known singer" spent staring out the window of a flat prior to purchase "testing the karma": **10 minutes**

Amount Randice-Lisa Altschul thinks her design for a mobile phone whose circuits could be printed onto a long sheet of paper-like material, could sell for, including 60 minutes airtime: **\$10**

Percentage of British women who have a bank current account: **79**

Percentage of British men who have one: **83**

Price analyst Thomas Bock at the broker SG Cowen expected shares in the online auction house QXL.com to reach in two years: **£44**

Price at which they were selling when he made the prediction, in early April 2000: **£2.80**

Price on April 30, 2001: **6p**

Number of doses of smallpox vaccine the US government has ordered as preparation against bioterrorism: **40 million**

Cost: **\$343 million**

Number of dogs born blind with a condition resembling Leber congenital amaurosis in humans who became able to see after experimental gene therapy: **3**

Total compensation received by Apple CEO Steve Jobs, including bonus (\$90 million) and stock options granted, in 2000: **\$638,317,504**

Salary Jobs takes from Apple: **\$1**

Court date for David Irving's appeal of the court's ruling against him in his libel case versus author Deborah Lipstadt and Penguin Books over comments in her book *Denying the Holocaust*:

*The Growing Assault on Truth and Memory*: **June 11, 2001**

Amount by which Warren Buffett's Berkshire Hathaway underperformed the stock market in 1999: **20.5 percent**

Amount by which it outperformed the market in 1998 and 2000: **19.7 percent and 15.6 percent, respectively**

Number of proteins thought to dictate the way our bodies actually work: **300,000 to 3 million**

**Sources:** 1,2 Advertising Standards Authority; 3,4 *Independent*; 5 *The Guardian*; 6 *Independent on Sunday*; 7,8 ONdigital; 9 *Independent*; 10 *Financial Times*; 11 *Guardian Weekend*; 12 *FT The Business*; 13,14 Financial Services Authority; 15,16,17 ZDNet UK, UK-Invest.com, Motley Fool UK; 18 *Independent on Sunday*; 19 University of Florida (research with Cornell and University of Pennsylvania); 20,21 Apple Computer; 22 <http://www2.prestel.co.uk/littleton/irving-v-lipstadt.htm>; 23,24 Berkshire Hathaway Annual Report 2000; 25 *The Independent on Sunday*.



Skeptical Stats was compiled by **Wendy M. Grossman**, with thanks to **David Morton** and **Rachel Carthy** for additional assistance.

# Emergent Stupidity

Is tool-using intelligence really the evolutionary advantage we imagine it to be? David Hambling considers the question.

*“In the classification of the animal kingdom, hominids represent the highest level of evolution.”*

– Grzimek’s *Encyclopaedia of Mammals*, vol 2.

INTELLIGENCE HAS made humankind the dominant species on the planet. Mankind is evolution’s crowning triumph, QED, looking down on the lesser species. This attitude is so deeply ingrained that we hardly notice it; perhaps we should examine it more closely. We may find that, for a species, intelligence is not necessarily an asset for survival in the long term. If this is the case it would explain why our attempts to find other intelligence in the universe have so far met with failure. It would also have serious implications for the future of mankind.

## Is there anyone out there?

Frank Drake formulated a famous equation for calculating the number of civilisations in the galaxy. One unknown factor is the proportion of planets with life where intelligence evolves. Can we make some estimate of this from life on earth?

There are currently something like 35 million species on the planet, of which one is intelligent. If we look back over 500 million years, the ratio is even worse. Only one intelligent genus, the hominids, has ever evolved. This makes intelligence rare indeed. Flight evolved completely separately several times in creatures as diverse as dragonflies, birds and pterodactyls. Even something as exotic as the ability to generate electric shocks appeared independently in three different groups of fish.

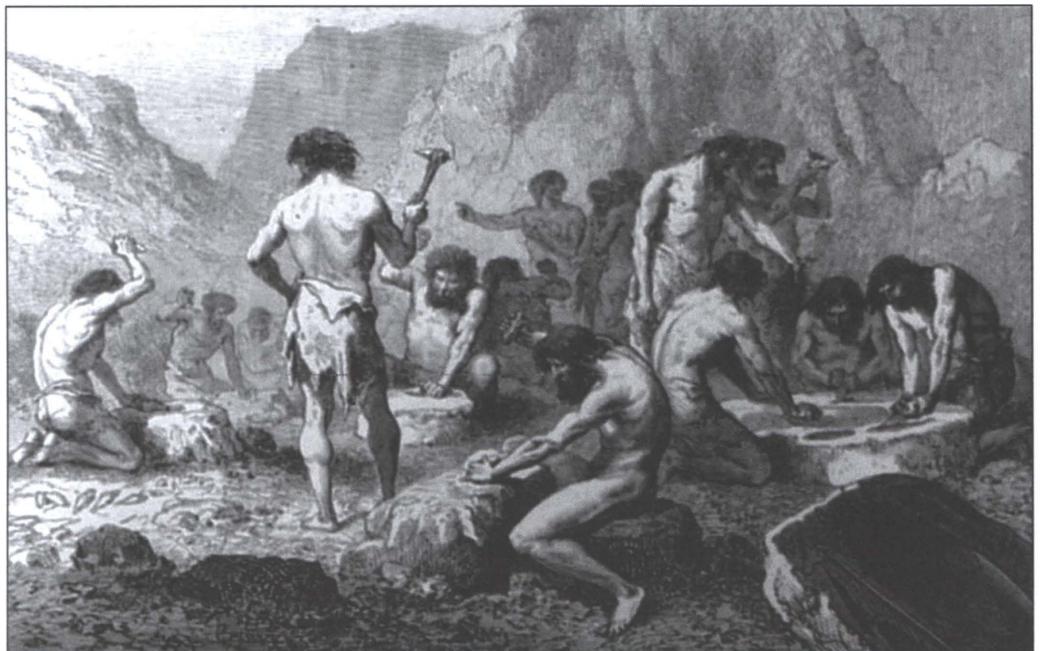
If intelligence is a survival trait, its rarity is curious. It is not as though a great evolutionary leap is required. All vertebrates possess a brain, and in principle they could steadily evolve bigger brains and more intelligence; but

antelopes have not become incrementally more clever or leopards more cunning over the aeons. Even among 200 species of primates with hands – arguably necessary if intelligence is to be useful – intelligence is scarce. There are more species of mammals with wings than there are with intelligence.

There have been something like a dozen species of hominid which we might allow to be called intelligent. All but one of these is extinct. Some researchers argue that bonobo chimpanzees, orangutans and gorillas possess something approaching human intelligence. All of them are endangered. Intelligence has only worked out for one species.

An intelligence that makes tools clearly brings some benefits. In spite of our being slow, weak and clumsy compared to many creatures, we have done pretty well so far. Making tools is our speciality – and this is where the trouble starts. Tool-making turns survival into an unusual sort of Russian Roulette, where each new development is a spin of the wheel. Every time we play we make a small gain, and in the last few millennia we have made a whole series of them. But every spin carries the risk of a catastrophic loss.

Even the simplest tools change the environment. Inventing the spear allows us to hunt the largest prey and see off the fiercest predator. This is wonderful and there



*Primitive craftsmanship – making and polishing silex at Pressigny (engraving after Emile Bayard reproduced in Figuiet, L Homme Primitif)*

is meat for all, until we start to run out of mastodons to kill and the extinction of the sabre-tooth tiger is causing ecological havoc. Discovering fire gives rise to slash-and-burn agriculture, for better or worse. Every time a new technology is mastered, it gives rise to a change in our environment. Everything from the plough to pesticides to nuclear power has an effect. Every one is a spin of the wheel. We have not been playing the game for long; how long can any species keep playing and survive?

### Selfish brains and emergent stupidity

In his book *The Selfish Gene*, Richard Dawkins explores the idea that organisms do not act in their own self-interest. Rather, they are the puppets of their genes. The genetic imperative that drives animals can destroy them. This applies to a mother bear defending her cubs, a bee making a suicidal assault on a threat to the hive, or a squid leaving the safety of its hole to find a mate. The instinctive action helps to ensure the survival of the genes, not the individual.

A brain gives you the freedom to make your own decisions, and while you may be influenced by instinct, it does not necessarily have the final word. You have a choice on whether or not you want to reproduce. You are not compelled to defend the women and children of the tribe at all costs. You have stopped working for the good of your genes and are living for yourself. The two interests will generally coincide, but this is not a given. You may decide that you prefer a bachelor life of smoking, drinking, and fast cars to the lure of a healthy diet and 2.4 children.

This selfish brain may take some lines out of the gene pool, but more significant is our collective impact. We need our environment to stay roughly as it is for us to survive. As a species, we cannot make the planet uninhabitable. This may sound obvious, but it is a difficult concept for people to grasp, leading to a form of behaviour which might be described as "emergent stupidity."

Emergent behaviour describes the activities of social insects like bees and ants. Each individual follows a simple set of rules with no idea of the big picture. When an ant finds a food source, it makes its way back to the

nest, following a generally haphazard route, leaving a trail of scent. Others follow this path, reinforcing it. The small random deviations of each ant passing along the trail tend to bend it towards the shortest route. I have seen leafcutter ants following a straight path for 50 metres between their nest and food. In spite of the lack of intelligence of the individual ants, they all end up following an optimised route.

All sorts of behaviour from nest-building to food-gathering follow the same pattern, where a large number of dumb workers adds up to an effectively intelligent hive.

Human societies have a different sort of emergent behaviour. Because of our intelligence, we can weigh up the factors rationally and use our judgement to calculate what is best for us as an individual. We do not, as a rule, have a very strong attachment to the good of the species as a whole. The result is emergent stupidity.

For centuries the waters off Newfoundland were the most prolific fishery in the world. The cod shoals were said to be so numerous that you could practically walk across them. Overfishing destroyed the cod population



*Polishing silex at the Grand-Pressigny site (unattributed engraving in Cleuziou, Creation de l'Homme)*

in Newfoundland and it has never recovered. When the stocks began to fall off, were fishermen keen to limit their catch? Far from it; each was more jealous than ever that he should continue to draw out his share of the dwindling stocks. The result was disaster for all.

Even when we can see our collective stupidity we are helpless to change it. An alien observer would conclude that while individual humans may have brains, the race as a whole does not show any intelligence.



*Prehistoric man builds one of the first boats, using heated stones to hollow out a log (engraving by C Laplante after Emile Bayard in Figuiet, L Homme Primitif)*

### **“In order to save the world it was necessary to destroy it”**

The ability of the individual to make decisions which do not benefit the species is one thing, but there are more powerful forces at work. They are political ideologies, religions, nation states: the immortal products of our intelligence.

The Cold War saw two competing power blocs, both prepared to use weapons that, as one commentator put it, “would lead to the extinction of humanity if used correctly.” Although both sides were human – all too human – between them they managed to imperil humanity. It would be optimistic to believe that warring nations will never again threaten to use nuclear weapons or worse.

Religions, too, can be actively genocidal. Witness the recent slew of apocalyptic cults: Aum Shinrikyo, Heaven’s Gate, and the Solar Temple. None of these has threatened the species yet, but the potential is there. Perhaps the Roman Catholic church, with its insistence on procreation at all costs, will in the long run prove to be the most destructive of the lot.

There is no reason why institutions should help the species as a whole when it is not part of their brief. The failure of governments to agree on measures to cut carbon dioxide emissions demonstrated this very well. It is a sobering thought that there is no body with any influence to speak for humanity as a whole.

### **Adverse side-effects**

We can measure our success as a species by the way that we have spread across the surface of the globe. There are some six billion of us on the planet. This has its disadvan-

tages. Ten thousand years ago the population was between five and ten million, in settlements scattered across all five continents, and a plague that devastated one area was unlikely to spread far or quickly. Today there are a thousand times as many bodies, each of them a potential breeding ground for new diseases. New pathogens can spread across the planet in a few years. AIDS may be just the first example.

Another measure of success is how far we have moved from the

simple life on the African plain: no more digging up roots and grubs for us! Unfortunately what we want is not necessarily what is good for us. In affluent countries, technology may provide for all our needs and wants, but in doing so it stealthily replaces meaningful activity like gathering food and staying alive with pseudo-challenges like shopping and watching sport. This threatens our

### **THE PARKING LOT IS FULL**

by Jack McLaren and Pat Spack  
<http://www.plif.com>



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A UFO, a night of drunken passion,  
 and Steve Rand’s life is changed forever.  
 Pray *you* never have to go through a ray-gun wedding.

mental ecology, to the point where clinical depression is at epidemic levels in developed countries. We cannot afford to undermine our collective motivation to keep the species going.

### The next few million years

The risks to an intelligent species come from its own collective behaviour, aggravated by the effect of institutions. The danger to humans looks remote. Global warming, ozone layer depletion and pollution do threaten our existence. Pro-

liferating nuclear and biological weapons are not going to wipe us out soon, nor have Internet shopping and virtual sex sapped our will to live. However, we have set ourselves some tough challenges for the next few centuries. Genetically modified organisms, nanotechnology, and the advance of artificial intelligence will ensure that there are even more interesting times ahead.

Some have suggested that our situation is new and the risks will soon go away. But things are much as they have always been. In Roman times, an ecological disaster in the Sahara was triggered by overgrazing, a genocidal war with Carthage, and a decline into decadent inactivity and "bread and circuses". We will face the same problems every century; but the penalty for failure is worse than before. Now we can do more damage more quickly than ever before. And unlike the Romans our culture is global; there are no understudies waiting in the wings to take on the role of lead civilisation.

Two possible scenarios present themselves for long-term survival.

One is that technology will somehow plateau out into a kind of Wellsian utopia of peace and stability, where all risk to humanity has been erased by the wonders of Science. This view seems to me to be founded on nothing more than naive optimism from a more innocent age. There is no reason to expect that technology will ever solve political problems or provide a solution to the human condition. The social sciences are bending more towards questioning our frame of reference than creating universal harmony.



*Iron age industry – various metal work processes (engraving by Laplante reproduced in Figuier, L Homme Primitif)*

The other possibility is an abandonment of the technological drive. The aboriginal Australians survived for 40,000 years without technological innovation and without affecting the environment. There is no reason to suspect that the same culture could not survive another 40,000 years, or in fact indefinitely. A more "primitive" existence might be the result of choice: techno-skeptics save the world. Equally, it might be forced by a variety of catastrophes. Either way it could virtually guarantee the survival of the species. It might mean a return to a pastoral Eden, or at any rate a deliberate rejection of material culture for permanent Glastonbury or Taransay experience. Life could be very different from earlier cultures, and low-tech does not necessarily mean unsophisticated. On the other hand, many might find that life was "nasty, brutish and short": what is good for a species is not necessarily good for the individuals in it.

At any rate, it is only by quitting the game of technological Russian Roulette that we are likely to achieve stability, and hence longevity, as a species. Intelligent aliens will likewise have stopped developing ever more powerful gadgets to avoid extinction. It is all very well to speak of alien races harnessing the power of entire stars, but you have to ask how many centuries elapse before accident, miscalculation, war or sabotage cause that power to snuff out the race. By opting for the low-tech route aliens might even have managed to survive as well as the lesser species – the ones which have been around for hundreds of millions of years.

David Hambling wrote about Nazi UFOs for *The Skeptic* 13.3–4.

# A Close Encounter of the Fireball Kind?

Steuart Campbell proposes an explanation for a 1995 UFO sighting

IN FEBRUARY 1996, it was announced that the pilots of a British Airways Boeing 737 had seen an unidentified object about a year earlier. On 6 January 1995, at 18:48 UT, their aircraft was descending to land at Manchester Airport when they reported a lighted object passing close to their aircraft at high speed from the opposite direction. But there was no sound and no wake. The first officer instinctively “ducked” as it “went by”. They had it in sight for about 2 seconds.

Because the pilots (Capt. Roger Wills and Co-pilot Mark Stewart) reported the event as an “airmiss”, the incident was referred to the Joint Airmiss Section at Uxbridge in Middlesex. JAS was a joint Civil Aviation Authority and Ministry of Defence service; it is now known as Joint Airprox (P) Section. The latter passed the report to the Joint Airprox Working Group for investigation. JAWG spent about a year studying the report and their conclusions are contained in their Airmiss Report No. 2/95, released on 1 February 1996.

The aircraft was at the position shown in Figure 1 (about 15 to 17 km east of the airport), at a height of about 1220 m and flying approximately north-east (040 degrees) at 180 to 210 knots (about 360 km/h). It was dark with visibility about 10 km with a fairly strong NW wind (340/30). They were flying just above the tops of some ragged cumulus.

The pilots described the object as illuminated, having a number of small white lights, “rather like a Christmas tree”. Otherwise it was dark and wedge-shaped with what could have been a black stripe “down the side”. The object’s size was estimated as between that of a light aircraft and a Jetstream. The object did not attempt to deviate from its course. They were certain that it was a solid object, not a bird, balloon or kite. Manchester Air Traffic Control reported no other traffic in the area and saw nothing on radar except the BA aircraft.

The incident featured in various news reports and in the *Out of This World* television programme on BBC1 on 6 August 1996. Some sketches of the “triangular craft” were shown in the programme.

The report features regularly in the UFO literature, where it is regarded as evidence that secret triangular aircraft are exercising over the UK and the Continent

of Europe. Alternatively it is regarded as evidence of alien visitation.

## The investigation

The information available to JAWG included reports from the pilots, transcripts of the relevant RT frequencies, a video recording (presumably of the radar screen) and reports from the air traffic controllers involved.

JAWG investigated by talking to the pilots by telephone. They did not visit them or ask them to go to Uxbridge. Nor, apparently, did they ask to see sketches of the object, which it was reported that each pilot subsequently made. Such sketches were not included in

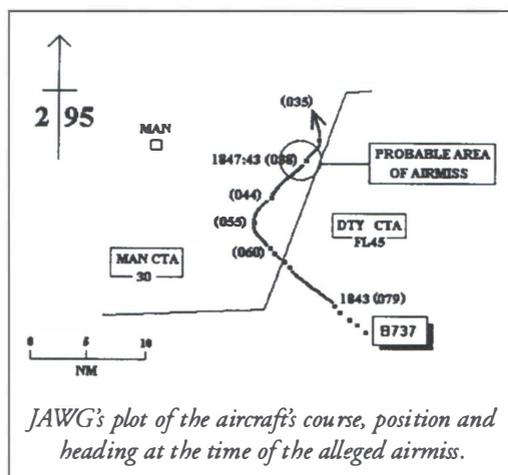
the pilots’ reports. When I queried this lapse, Joint Airprox gave no explanation. However they told me that they could not have released the sketches “even if we held them”. They stressed that anonymity is important and that this would extend to the release of “original evidential material”. They recognized that, in this case, BA had decided to release the names of the crew involved and that there was no anonymity. None of this explained why

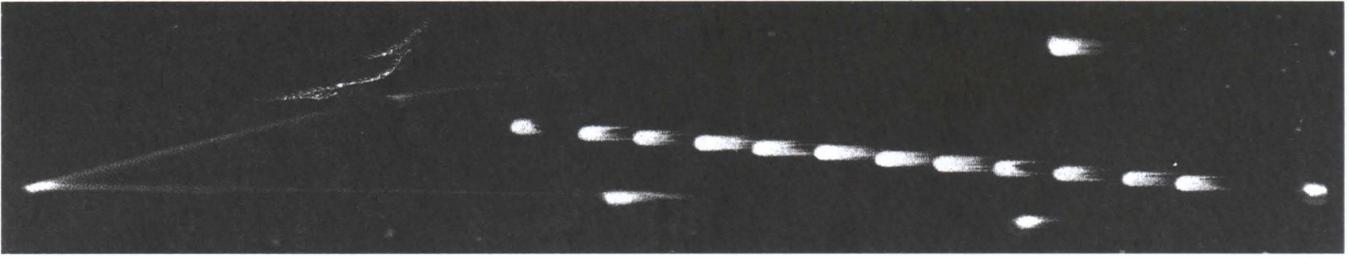
JAWG did not even ask to see sketches, or ask for some to be made (if they did not exist). Sketches by the pilots might have helped to determine the cause.

In an attempt to obtain sketches, I approached BA. However my enquiries went unanswered and it seemed impossible to obtain whatever sketches existed. The only sketches available are various artists’ impressions (see Figure 2).

JAWG claim that their “exhaustive” investigation considered and dismissed: a hang glider, a paraglider, a microlight, a large model aircraft and a commercially operated remotely controlled craft. They concluded that none of these was likely to be flying in the dark in an area of high ground in very windy conditions. In any case, none of these vehicles is normally lit. They could find no evidence of military activity, which in any case, would have shown on radar. An incident on 22 June 1996, when a BA aircraft approaching Glasgow Airport had to take action to avoid a microlight aircraft, shows that such aircraft are recognisable both visually and on radar (as an intermittent blip).

In the absence of any “firm evidence”, the Group con-





*An artist's impression of the object reported by the pilots based on their description and a crude sketch which appeared in the Daily Mail of 3 February 1996. (Fortean Times).*

cluded that they could not assess either the cause or the risk. The incident was “unresolved” and both the degree of risk and the cause were “unassessable”. JAWG emphasized that they took the report seriously and commended the pilots for their courage in making the report. They wanted to encourage other pilots who experienced unusual sightings to report them “without fear of ridicule.”

It is a serious matter when experienced airmiss investigators cannot determine the cause of such an alleged close encounter, especially when they cannot assess the degree of risk involved. It is almost as serious as a crash investigator failing to find the cause of an aircraft accident. Every effort should be made to find the cause and all possibilities should be considered, however unlikely.

### The fireball hypothesis

JAWG noted that “almost all unusual sightings can be attributed to a wide range of well known natural phenomena”. This is true. However they do not appear to have considered the full range. The fact that the object was not observed on radar and that it made neither sound nor turbulence suggests that it was at some considerable distance. This in turn suggests that the crew observed the brief astronomical phenomenon known as a “fireball”. This term is used to define large meteors, those which flare with an intensity which rivals or surpasses the brightness of the planets, and in particular Venus.

Because of the lack of reference, it is common for meteors of any size to be perceived as being closer than they really are. Meteors rarely last for more than 3 seconds, entering the atmosphere at speeds between 11 to 70 km/s. Their average height is 120 to 130 km at the time of appearance to 70 to 80 km at the time of disappearance. Applying these parameters to this event (and

assuming that the fireball appears on the observer's horizon), it could have been as far as 1000 km away, somewhere over Southern Norway. The appearance of the object is consistent with a large fireball meteor breaking up into several pieces, forming a “train”.

The Earth periodically intercepts major meteor streams, when there is higher probability than usual of seeing meteors and fireballs. From 1 to 6 January each year we experience the Quadrantids, which always appear from the constellation of Ursa Major. At the time, the aircraft was aimed in the direction of the constellation of Leo Minor, just below Ursa Major. The British Astronomical Association, which keeps records of any meteors seen over the UK, confirmed to me that a fireball was recorded at exactly the time of the pilots' report (although they refused to give me any further information and were not interested in noting the crew's report).

### Conclusion

The coincidence that the crew saw an object resembling a fireball train at a time when a meteor shower was in progress and in the direction in which such a meteor should be seen suggests that this is exactly what they saw. This conclusion is reinforced by the fact that others saw the fireball at the same time. No object flew past the aircraft and there was no “airmiss”. The crew's reaction is understandable if they had no training in the observation of such astronomical phenomena. But why would aircrew be unable to recognise such common phenomena? Crew unfamiliar with such sights might risk their aircraft in unnecessary manoeuvres to avoid imaginary objects. More serious is JAWG's failure to explain the report; it raises questions about their competence and their ability to eliminate trivial airmiss reports.

**Steuart Campbell** is a science writer based in Edinburgh.

### **SKEPTICS IN THE PUB**

JULY • AUGUST • SEPTEMBER

*Skeptics in the Pub* meet on the 3rd Thursday of every month at the *Florence Nightingale Pub*, Westminster Bridge Road. Contact **Scott Campbell**, (0115) 846 6964, [scott.campbell@nottingham.ac.uk](mailto:scott.campbell@nottingham.ac.uk).

Special Edition—Wednesday, July 18: **John Ronson** from Channel 4's “The Secret Rulers of the World” show.

Thursday, August 16: **Scott Wood**. Topic: Sex and Dogs and UFOs: A Meze of Strange Beliefs and Outsider Ideas.

Thursday, September 20: **Dr. Charles Paxton** (Univ. of St. Andrews). Topic: Sea Monsters? Science and unknown giant aquatic animals.



## Rhyme and Reason

Steve Donnelly

### Death on the brain

A RECENT (extremely unscientific) survey on the BBC TV programme *The Heaven and Earth Show* yielded the result that 91 percent of respondents believed in some kind of an afterlife. While this is certainly an exaggerated result, in that believers are much more likely to respond to surveys of this type than skeptics, it probably correctly indicates that the majority of people in the UK believe in life after death. Another way of phrasing this is that the majority of people in Britain believe that human consciousness can exist in a form that is independent of the grey wet stuff in which it normally seems to be resident. And this means that musings on the soul, “survival,” and even spirit communications are inextricably linked to the ongoing quest amongst scientists and philosophers to determine the origins of human consciousness. Perhaps because of all this, two pieces of (nominally) scientific research recently attracted a large amount of coverage in the British media. The first, which I will discuss here, was a paper, to be published in the journal *Resuscitation*, concerning a pilot study carried out at Southampton General Hospital into the incidence of near-death experiences (NDEs) in cardiac arrest patients. The second, which I’d like to discuss at length in the next issue, was a study published in the *Journal of the Society for Psychical Research* by scientists at the University of Arizona of the abilities of mediums to communicate with the dead.

The Southampton work was reported in a number of newspapers including the *Daily Mail* on 19 February with the following phrase: “Doctors claim to have found the first scientific evidence that patients have experiences of an afterlife when they are clinically dead.” I suppose it would be no surprise to *Skeptic* readers to find that this was somewhat of an overstatement. In fact, having now had the opportunity not only to read the paper but also to discuss it with one of its authors, the neuropsychiatrist Dr Peter Fenwick, I can tell you that the statement bears very little relation to the real conclusions of the paper.

The research consisted of interviewing all survivors of cardiac arrest at the hospital, during a period of one year within one week of their resuscitation, concerning any memories of their unconscious period. The researchers were hoping, among other things, that some patients undergoing NDEs would also report out-of-body experiences (OBEs) and had therefore suspended boards from the ceilings of the wards which had various figures on the surface facing the ceiling. These could not be observed from the floor, so that anyone claiming to have left his/her body and to have been near the ceiling, as is sometimes reported during resuscita-

tion, would be expected to be able to describe the images on the boards – if the OBE indeed represented a real separation of the conscious mind from the body.

The paper presents a statistical breakdown of the cardiac arrest survivors, of whom only 6.3 percent experienced NDEs as measured using some standard criteria (the Greyson NDE scale). However, an important point not generally reported in the media is the fact that as there were only 63 patients in the trial, 6.3 percent represents only four patients so that the study really has no statistical significance. And, unfortunately, none of the patients reported an OBE. This is a real shame as I regard this as a particularly interesting part of the test. That said, I would suggest to the authors that they should contemplate redesigning their boards in any future tests as they really need to avoid any possibility of trickery. Of course it is extremely unlikely that someone undergoing cardiac arrest would be willing or able to conspire to cheat the doctors carrying out the trial. But any properly designed experiment must nonetheless completely exclude the possibility of fraud.

So, with no results on OBEs and a sample size of four patients, what gave rise to all the media excitement? Well, to be fair, if an experiment of this type were able to demonstrate that someone could describe memories from a period during which all brain activity had ceased then this would constitute unequivocal evidence that the mind existed independently of the brain. If the Southampton research had done this, then the media hype might have been warranted.

However this was not the case. Firstly, there was no direct measurement of brain activity and indeed – as stated by the authors themselves – although fixed, dilated pupils can be an indication of the absence of brainstem activity, drugs administered when attempting to resuscitate cardiac arrest patients can also cause pupils to dilate. Therefore, there was no clear evidence that any one of the four patients in the study had “flatlined” as far as brain activity was concerned. Secondly, a cardiac arrest patient loses consciousness fairly rapidly and (if lucky!) recovers consciousness somewhat more slowly. It would clearly be impossible to attribute any experiences reported up to a week later to the specific period when there was no brain activity. Also, there is even the possibility that a brain that has undergone a period of shutdown might retrospectively generate some false memories to fill the gap.

In summary, then, the Southampton research showed that out of 63 cardiac arrest survivors, four exhibited some of the (subjective) attributes of NDEs.

Not much to write home to mother about, really!

**Steve Donnelly** is a physics professor at the University of Salford and an editor of *The Skeptic*.



## Philosopher's Corner

Julian Baggini

**GOD LIVES.** At least, that's what Tottenham Hotspur fans would have us believe, following the appointment of their former player hero Glenn Hoddle (Hod the God) as their team manager. To non-football nuts, Hoddle is less renowned for his sublime skills with a sack of inflated leather and more noted for his bizarre proclamations on reincarnations and disability, which led to his dismissal as manager of the England football team a few years ago. Good riddance, thought many, embarrassed by Hoddle's insistence that his faith healer, Eileen Drewery accompany the team on their travels. Given his history, it is perhaps surprising that Hoddle's managerial rise, fall, and resurrection is actually something of an allegory for philosophical progress. Here's how.

If Hoddle were a philosopher (and the drivel he talks about Eileen Drewery shows that he's clearly not) he would be what is known as a rationalist, the greatest of which was René Descartes (1596–1650). Everyone knows that Descartes thought and therefore he was. What is less known is that Descartes didn't only think he could prove he existed by thinking about it, but that all knowledge could be obtained by enough application of the old grey matter. All the fundamental truths about reality and existence could be discovered in the comfort of your own armchair by the application of pure logic. Experience? Who needs it? Sure, experience could give you a few ideas, but after that, it's reasoning that counts.

When it comes to strategy, temperamentally, Hoddle is the arch footballing rationalist. With his extensive note taking and big ideas, he can conceive in his mind the perfect way to play football. All he has to do, he thinks, is get his players to put the theories into action. Hoddle's flirtation with the sweeper system is a good example of this. Without boring readers with no interest in football, in theory, this is a way of playing that provides flexibility and fluid football. What Hoddle didn't take into account was the fact that England did not possess a naturally gifted sweeper like Germany's Sammer, so the system could not be successfully implemented. Hoddle took his cue from experience, in that he saw what he liked in the great Dutch, Italian and German teams. But he failed to see that their blueprints only worked because they had the players that could put it into practice.

In a similar vein, Hoddle tried to employ attacking wing-backs. In Hoddle's mind, all he needed to do was to get someone out on the pitch to put the great idea into practice. Who cares if the only person available was Graeme Le Saux, about as natural a wing-back as Norman Tebbit is a natural conciliator? He could learn, couldn't he? So just as Descartes tried to prove the table

existed, not by kicking it, but by thinking about it, so Hoddle tried to get the ball in the back of the net, not by seeing who could kick it, but by thinking a priori about kicking. Throughout the 1998 World Cup in particular, it was clear that Hoddle felt he knew what was right in his head, and nothing that happened on the pitch would convince him otherwise.

England fans may feel smug that Hoddle's mistakes come from a Frenchman, but incredible though it may seem, Hoddle's philosophical saviour is a Scotsman, David Hume (1711–1776). Hume became renowned for his fork, which was not an exceptional piece of cutlery, but a distinction between two types of knowledge and two ways of reasoning about them. Hume accepted that some truths can be clearly established just by thinking about them. The problem was, these were only truths of pure logic, geometry and mathematics. We can be certain that  $1+1=2$ , that the angles of a triangle add up to 180 degrees, and that all bachelors are unmarried without having to get up off the sofa.

The problem is that as soon as we do get up off the sofa, such knowledge isn't of much use. It's all abstract. It has nothing to do with the real world. We can only learn about the real world, said Hume, showing Descartes the red card, from experience. You can't prove anything about the world by pure reason and logic. That a win gives you three points, for example, is something we only know by experience. The rules might change, whereas it is inconceivable that  $1+1$  does not equal 2. If you want to think about the real world, you've got to learn how to apply the lessons of experience, which patterns we can assume will always hold and which patterns we can be less confident about. The fact that I haven't played professional football at the age of 30 is good reason to suppose I'll never play professional football in the future. But the fact that Everton have never left English football's top division won't guarantee its not doing so in the future.

This way of reasoning from experience is known as empiricism, and there are signs that Hoddle's resurrection has something to do with his becoming more of an empiricist. As manager of Southampton, he had a limited squad, and had to work out how to get the best from the players he had. Grand theoretical blueprints had no place. And, indeed, Southampton did well under him, avoiding their annual flirtation with relegation quite comfortably. If Tottenham are lucky, Hoddle's empiricism will continue to flourish and his rationalism whither. Fans should hope that Hoddle avoids the classic philosophical mistake of putting Descartes before the horse.

# Reviews



## THAT VOODOO THAT THEY DO SO WELL

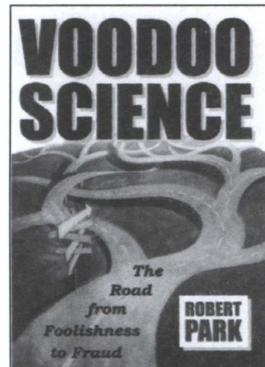
**Voodoo Science: The Road from Foolishness to Fraud**  
by Robert Park  
Oxford University Press, £18.99, ISBN 0198507453

This is an extremely enjoyable and readable book. Robert Park is Professor of Physics and former chairman of the Department of Physics at the University of Maryland. He also directs the Washington office of the American Physical Society. In addition to his output in scientific journals, he also writes regularly for the *Washington Post* and *New York Times*, and this is no doubt where he honed his skills as a fine writer of popular science.

This book presents an engaging account of Park's encounters with various aspects of what he calls "voodoo science." He uses this term to collectively cover four varieties of bad and bogus science. The first is pathological science, during episodes of which even eminent scientists can be prone to self-delusion which leads them to proclaim a great scientific breakthrough on the basis of flimsy evidence. A failure to appreciate the biasing effects of wishful thinking upon judgement often lies at the heart of such episodes.

Secondly, there is junk science, often to be found in the testimony of expert witnesses in the courtroom. Given that trained scientists can be susceptible to pathological science, it should not surprise us that untrained jurors can be easy prey for the practitioner of this brand of voodoo. There is no clear dividing line between junk science and pseudoscience, in which there really is not any scientific evidence at all to support the theory in question. Instead, the practitioners adopt the trappings of science (such as technical jargon) without understanding the central concepts of the scientific method. Finally, there is frankly fraudulent science, often evolving from the other varieties.

This book engagingly provides examples of all four varieties and a lot more besides. It deserves a place on your bookshelf.



**Christopher C French**

## STARCHILD

**Star in the East: Krishnamurti, the Invention of a Messiah** by Roland Vernon  
Constable, £20, ISBN 0094764808

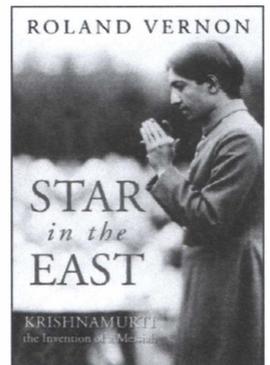
What happens if you are trained from childhood to be a religious leader, and then lose your faith? The life of Jiddu Krishnamurti (1895–1986) suggests that one solution is to stay with the occupation which you've trained for – and continue as a religious leader.

Krishnamurti was born in India, the son of an impoverished Brahmin. At the age of 13, he became the protégé of Charles Leadbeater, a prominent (and somewhat shady) Theosophist, and was groomed for the role of World Teacher, first in the Theosophists' Indian settlement, and later in England.

However, in his twenties, he became increasingly skeptical about Theosophy, and, in 1922, following a love affair with an attractive young woman, he experienced a major physical and psychological crisis. This led him, over the next few years, to break with the Theosophist moment, abandoning its weird and complex mythology in favour of his own, more abstract, ideas.

Supported by wealthy patrons, and by an entourage of devotees, he continued to teach and to write for more than 50 years, appealing particularly to the kind of Westerner who has religious yearnings, and who looks to the East to have them satisfied. Although, in some respects, an egotistical, indeed infantile person (something which his biographer does not try to conceal), his failings were no worse than might be expected of someone with his upbringing. Certainly, his lifestyle seems to have avoided the excesses of some recent religious leaders.

Although it contains some fascinating material about the history of Theosophy, this book will appeal mainly to those who take Krishnamurti's teachings seriously. Unfortunately, the author makes little attempt to explain or paraphrase these, presumably because Krishnamurti himself expressly forbade anyone to do so – and for obvious reasons. Unless treated as Holy Writ, and approached with reverent humility, Krishnamurti's



writings appear to be little more than windy pantheistic rhetoric. He tells us that external facts are of no importance (so the whole of science is of no account). Nor are our thoughts of any importance (though Krishnamurti could scarcely have had the career he did unless he made an exception in favour of his own thoughts). Instead, we are to rely on “pure observation which is insight without any shadow of the past”. This will lead us to see that “the division between the thinker and the thought, the observer and the observed, the experiencer and the experience ... is an illusion.” And so on. ... One reader, at least, is underwhelmed by such “wisdom”.

Nevertheless, despite the unpromising material, Roland Vernon has produced a well-written and thoughtful book. Indeed, it is, perhaps, a better biography than its subject deserves.

Will Stevens

## SOFTLY, SOFTLY

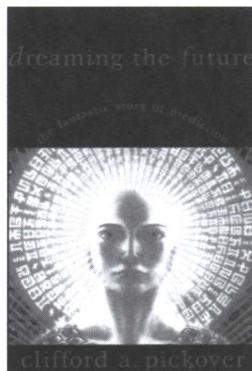
**Dreaming the Future: the Fantastic Story of Prediction**  
by Clifford A Pickover  
Prometheus Books, \$20, ISBN 157392895X

I must confess that I do not like books that are overlong, rambling, repetitive and read like extended schoolboy essays. Unfortunately, this book is all of those things.

Many of the over 500 pages are taken up with annotated lists: catalogues of mantic activities organised by method, “my favorite diviners, sorted into three categories”, favourite popes, favourite saints. Each subject is lovingly described. But a look at the notes indicates that the information has been recycled from similar collections and encyclopaedias rather than researched from first-hand or specialist sources. So a canard like the old “intoxicating fumes” explanation for the Delphic Pythia’s predictions appears yet again despite the continuing lack of archaeological or geological support. It is perhaps this absence of deep knowledge that makes so many of the author’s explanations seem superficial and banal.

And yet Pickover is, in fact, a skeptic. The book reads like a believer’s book: there are even directions for do-it-yourself divination. But once he has the reader’s interest, he begins to question – gently. He admits, for example, to a personal fascination with Nostradamus and goes on to discuss the man himself at length. But he also questions the prophetic value of the quatrains. It’s OK to be fascinated, he seems to be saying, but maybe you ought to think more carefully about this.

By contrast, his quote from Randi that “so many naïve scholars ... have pored over Nostradamus’s writings ... that thousands of pages of drivel are readily avail-



able” reflects a more typical skeptical style. Yet, words like “naïve” and “drivel” insult and disparage all but like-minded readers. Pickover’s softly, softly approach is more likely to encourage reluctant thinkers.

I did not find this book satisfying nor do I think that readers of *The Skeptic* will either. But there is a market out there that many skeptical books fail to reach because they adopt a tone that is off-putting to readers whose beliefs could be challenged if they were approached more sympathetically. These people, I believe, Pickover will reach.

Marjorie Mackintosh

## HARD-GOING

**The Secret Scroll: a Quest for the Grail**  
by Andrew Sinclair  
Sinclair-Stevenson, UKP 24.99, ISBN 0953739864

The cover promises that this book will reveal the links between the Holy Land and Venice and Scotland and North America and Rosslyn Chapel and the Dead Sea scrolls and the Masons and the Ark of the Covenant and...

It will show a secret citadel and how the secret wisdom of the Middle East passed through the Templar Order into all guilds and crafts of Europe and America. It promises at the end a priceless secret scroll and a treasure map and of course also a rock tomb.

It also promises that the Holy Grail will be found at the end of the book in Scotland.

I have a confession to make: after several brave attempts to start again and again, I gave up reading after some 50 pages. Enough is enough. This book was written for people with a higher gift for endurance than mine. It reads as fluently as a telephone directory, but that has at least some alphabetical logic to it.

Every phrase is crammed with names of persons, cities, religions and dark and Gnostic powers that are all linked in a way that would make Erich Von Däniken blush with envy.

If I were given a choice how to discover the Holy Grail: either saddle my horse and leave on a long quest, or chew through this book till the end, I know which I would opt for.

To be recommended to strong readers only.

Willem Betz

## QUESTIONS AND ANSWERS

**Test Your Science IQ** by Charles J Cazeau  
Prometheus Books, \$20, ISBN 1573928518

To get my moan about the title out of the way first: the IQ is a measure of intelligence; this book is about knowledge, and the two should not be confused.

It consists of questions and answers on a great variety of scientific topics, divided into “Outer Space,” “The

Earth,” “Life on Earth,” “The Emergence of Humanity,” and “The Paranormal.” The last topic has some robust dismissals of fairies, Nessie, ghosts, poltergeists, precognitive dreams, Nostradamus, Mother Shipton, astrology, and so on. There is the sad story of Sir Arthur Conan Doyle’s gullibility about fairies and other phenomena: when Houdini pointed out that a communication supposedly from his mother was in English, a language she did not know, Doyle said she must have learned it in the afterlife!

Cazeau makes some good points: with millions of dreams some must seem to fit the future, purely by chance; purported communications with the dead are “gibberish”; only premonitions that come true are remembered. Not only does the section devoted to the paranormal contain comments on such matters: others summarise the differences between astronomy and astrology and say the Tunguska explosion was not a spacecraft; planetary conjunctions are insignificant (“like assuming an elephant would falter ... if you threw a cream puff at its legs”).

Galileo’s experience has echoes in modern times, with attempts to ban evolution from textbooks and foist creationism on students “when it has not one scintilla of scientific merit.” Cazeau notes that there is no face on Mars, and neither are its satellites artificial. And as he observes, if some dowzers claim to be able to find gold, why aren’t they rich?

There are well-aimed blows at iridology, crystals, homeopathy, pyramidiots, mummies’ curses and the Turin Shroud, and an excellent summary of Occam’s Razor.

Ray Ward

## EVOLUTION IS WRONG – ISH

**Deep Time: Cladistics: the Revolution in Evolution**

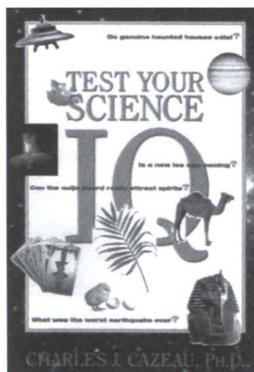
by Henry Gee

Fourth Estate, £7.99, 1857029879

The blurb makes the large claim that Gee “shows us how everything we thought we knew about evolution is wrong.” More trouble for evolutionists?

For some, maybe, but this is not about undermining Darwinism. The title refers to the notion that geological time is so unthinkable vast compared with time as we mortals experience it, that it disallows the sort of storytelling that palaeontology has traditionally employed.

The chronological sparseness of fossils is a deeper problem than their geographical rarity. In a fundamental way, it makes it impossible to establish ancestral relationships other than of the broadest kind, yet we are familiar enough with scientific accounts showing how



one species descended from another. According to “cladists”, evolutionists have been offering genealogical stories which assume too much about cause and effect.

Enter cladistics, which “looks only at the pattern of the history of life, free from assumptions about the process of the unfolding of history” (p.6). It is assumed, of course, that “evolution has happened; species do transmute into other species” (p.134). The central concept is the “sister-group relationship”, which reflects degrees of cousinhood, rather than assumed lineages.

What difference does this make to the Darwinian in the street? Here’s one consequence of the argument: “It can no longer be claimed that the origin of birds is inextricably linked with the origin of flight” (p.190).

This is definitely worth reading, and Gee paints a vivid picture of the science of fossils. There are also engaging tales of the Gang of Four, the cladist clique at the Natural History Museum, and Gee only once succumbs to the Gleick syndrome of telling us what brand of car he drove when visiting a scientist. Whether cladistics “represents a revolution in thought as profound as that of Darwinian evolution by natural selection” (p.135) is a moot point.

Paul Taylor

## MIND-NUMBING

**The Gateway to Atlantis: The Search for the Source of a Lost Civilisation** by Andrew Collins

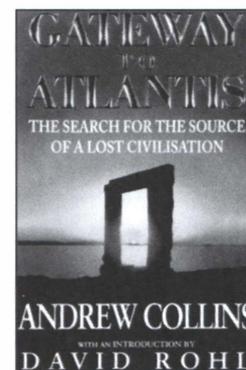
Headline Book Publishing, £7.99, ISBN 0747261377

A search on Amazon.com brings up 170 titles on the subject of Atlantis. The Cincinnati Public Library has 67 including fiction and juvenile literature, and the Ohio library system lists 246 entries. Some of these will be duplicates, but clearly there is no dearth of books on the legendary lost continent of Atlantis.

Andrew Collins, author of *Gateway to Atlantis*, himself mentions millions of copies in print, not to mention movies and comics, and he seems to have read them all (pp. 16–17). Collins is aware “we are still awaiting an unambiguous archaeological discovery” (p. 16) and that “nothing has surfaced to confirm the Atlantis legend” (p. 17).

Most scholars who know classical Greek literature deny that Atlantis represents a legend with an underlying core in reality. The only source on this lost civilisation is found in two essays of the philosopher Plato. Since a true legend would be mentioned more widely, experts consider Atlantis a fiction invented by Plato.

A few scholars have considered the explosion of the volcano Thera, midway between Crete, mainland



Greece and Turkey in about 1500 BCE as possibly reflected in Plato's fiction. Collins locates the lost civilization off the American Atlantic seaboard, on the shallow continental shelf. Here it disappeared beneath the sea when the glaciers melted at the end of the last ice age. This places the end of Atlantis in the period 12 to 20 thousand years ago. To archaeologists the latest among these dates coincides with the invention of agriculture. No remains of civilization, that is towns, writing, or metallurgy, have been found for this time period anywhere on earth.

Collins has a fair amount of interesting detail, but it becomes mind-numbing over four hundred pages. This is especially so when you have to plow through the first 150 pages before you find out just where he thinks Atlantis was located.

**Wolf Roder**

### GOOD NEWS

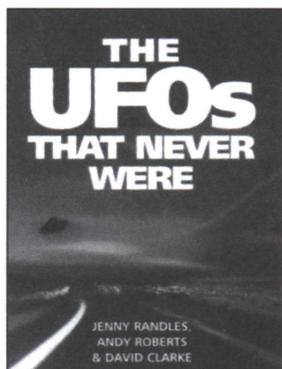
**The UFOs That Never Were** by Jenny Randles, Andy Roberts and David Clarke  
London House, £16.99, ISBN 1902809351

This book is a surprise. The authors are well-known British UFOlogists, with over 75 years' experience of the subject between them. All believe there is something to be learned from studying UFOs. The surprise is that the book is devoted to explaining UFO "sightings" by natural means.

The book has an introduction and nine chapters, each devoted to a major British UFO "sighting". There are also eighteen "boxed features" – short chapters dealing with other UFO events. These include the Roswell "crashed saucer" and the "alien autopsy" film. Other cases are mentioned briefly in passing.

Generally, the authors do a good job of explaining the "UFO sightings". In one case a "UFO" was a lighthouse, in another case the sun shining on rocks, in another burning fuel dumped from a crippled plane. Some UFOlogists are praised for good research. Others are slammed for shoddy fantasising.

The book is worth reading because of the quality of the thought and research, which resembles good skepticism. It does raise the question, though, what is going on? There are hints. Roberts, in his dedication, refers to "the madness which grips UFOlogy". The authors describe the passionate beliefs of UFO buffs that an alien invasion is in progress, and their near-paranoid suspicions of anyone researching the area without this commitment. Instead, the book argues



for a commitment to truth regardless of what that truth is.

From a skeptical viewpoint, this is very good news. It looks as if the UFO community has grown its own rational wing. This might bring some reason to a field rife with florid claims and wild suspicions.

**Martin Bridgstock**

### CAUTIOUS SKEPTICISM

**Alas, Poor Darwin: Arguments against Evolutionary Psychology** by Hilary Rose and Steven Rose (Editors)  
Jonathan Cape, £17.99, ISBN 0224060309

Here's another volley in the so-called "Darwin Wars", an attack on Neo- or Ultra-Darwinists.

Chapters by such as Stephen Jay Gould and Annette Karmiloff-Smith ("Why Babies' Brains are not Swiss Army Knives") will repay closer study, but the collection is marred by the misrepresentations typical of these skirmishes.

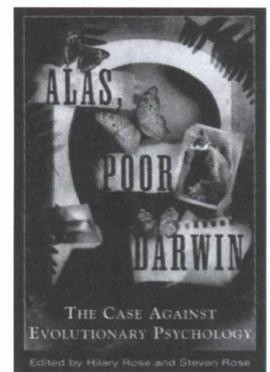
Hilary Rose accuses Gross and Levitt, in their "academically weak" book, *Higher Superstition*, of arrogantly proposing "that their colleagues who teach English and who evidently lack respect for science should be fired. Their certainty that they could then lash up an entirely satisfactory English course takes the biscuit!" (p.127).

Here's what they actually said: "If, taking a fanciful hypothesis, the humanities department of MIT ... were to walk out in a huff, the scientific faculty could ... patch together a humanities curriculum ... It would have obvious gaps and rough spots ... and it might with some regularity prove inane; but on the whole it would be, we imagine, no worse than operative." (op. cit., p. 243) Where's that biscuit?

The contributors stayed at one of Charles Jencks' opulent residences, which may be why that architectural critic's "stylishly ironic essay" appears. Here's his insight about sociobiologist E. O. Wilson: "so far as I was concerned, he was at the same time a closet postmodernist, because he also gives very passionate sermons on biodiversity" (p.37). Then there's this gem about Bill Clinton, who got "sex (S) because he had ... power (P), and as a consequence he lost ... money (M), all of which can be mathematicised as  $P - S = -M$ . Or, moving the integers across:  $+S$  and  $+M = -P$ " (p.32).

There are important arguments here, of great interest to advocates of natural selection, but readers should be cautious, i.e., skeptical.

**Paul Taylor**



## BEING MORE LIKE HIM

*Dancing Naked in the Mind Field* by Kary Mullis  
Bloomsbury Publishing, £7.99, 0747545537

Someone once observed that the real title of every book ever written is *How To Be More Like Me*, and Kary Mullis's book is a good example. It is a free-ranging (or, if you prefer, shapeless) series of reflections on a disparate range of topics, somewhat in the style of Richard Feynman, whose entertaining memoirs were similarly untainted by modesty or self-doubt.

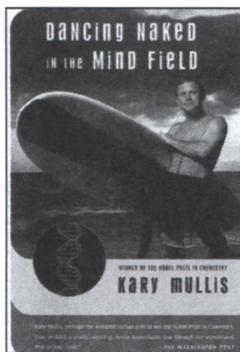
Awarded the 1993 Nobel Prize for Chemistry, Mullis has become most celebrated for his claim that HIV is not the cause of AIDS. Other things of which Mullis is skeptical include: "fancy" nutritional theories ("Some people eat too much; some people eat too little. Nothing else about diet really matters"), the case against OJ Simpson ("I just hope that I don't ever get arrested back there") and human impact on climate change ("We can stop worrying about whether we can control it because we don't have anything to do with it").

Things which he is less skeptical include: astrology (three different strangers have independently and correctly identified him as a Capricorn), astral projection (his life was once saved by a passing astral traveler – whom he later married) and alien abductions (his own being heralded by an encounter with a luminescent talking raccoon).

By his own account, Mullis has taken more than his fair share of legal and illegal mind-altering substances but he seems unimpressed – or perhaps skeptical – about their likely role in some of these events.

I found the book irritatingly self-congratulatory and superficial but, then again, nobody is ever going to propose me for the Nobel Prize and the book jacket does carry effusive tributes from reviewers: "a Renaissance Man for the new millennium...", "his magical mind . . ." etc., so perhaps I just need to join Kary in dropping some acid, hitting the surf and generally learning to chill out.

John Gillies



## A BASKETFUL OF DEMONS

*The Man Who Found the Missing Link: the Extraordinary Life of Eugene Dubois* by Pat Shipman  
Weidenfeld and Nicholson, £25.00, 0297842900

This is not a biography in the classical sense nor a novel in the ordinary sense. We will have to call it a fictional biography, where the thoughts of the protagonist and his con-

temporaries are freely sketched, and other material to which the author could not have had access is interpolated.

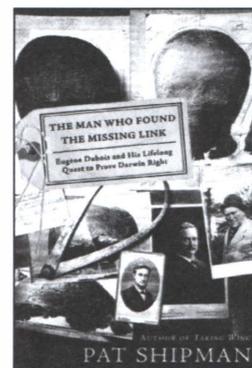
Although Shipman utilized the Dubois Archives, which contained letters, manuscripts, diaries, and so on, all of which are credited in the end-notes, she states that after Dubois' death his daughter spent days burning materials that she did not want to be archived. What did these contain? Shipman once or twice hints at homosexuality as a young man, although she never actually comes out and makes the statement. In describing his later life, however, she portrays him as having liaisons with housemaids and others.

Some criticism could be levelled at the author's style: "They both could see the idea dancing at the edge of their consciousness like a shy woodland creature that hesitated at the edge of a clearing." She is not above filling space with a three-inch list of the attendees at a conference. Her list of acknowledgements includes her cat and her horse. She refers to Piltown Man, *Eoanthropus dawsoni*, as if it were a real discovery and not a proven fraud.

As painted, Dubois was a man who carried a basketful of demons throughout his life. He was vain, jealous, always suspicious of the motives of his friends and co-workers, and had all the race prejudices common to the era (born 1858, died 1940). Early in his professional career he was exposed to a boss who took sole credit for his work, and he learned enough from that experience to use it later when he was top dog. The author categorises him as "irascible, paranoid, brilliant and stubborn". After the initially bad reception of his claims to have discovered *Pithecanthropus erectus*, his name for the missing link, he became a recluse for many years and refused to allow other scholars to study the fossils he had collected. His relations with assistants were always stormy and he seldom gave credit for work well done and never allowed himself to be corrected if in error.

This book is a good read but has no specific interest for skeptics. If the subject matter intrigues you, I would recommend borrowing it from the library.

Frank Chambers



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# LETTERS

## The media and Dr. French

Having spoken at the same Society for Psychical Research conference at which Chris French gave his paper "The Paranormal and the Media" I found myself agreeing with much of what he said.[1] My complaint was, and remains, about his selectivity. He focused on *The Paranormal World of Paul McKenna* to support his thesis that the media generally presented a false picture of so-called paranormal events, but it is unfortunate that he should have given such prominence, and support, to an experiment by Richard Wiseman et al into the allegedly paranormal powers of a now celebrated dog called Jaytee. Chris ought to have been aware of the far more extensive tests undertaken by Rupert Sheldrake showing overwhelming evidence that Jaytee did in fact possess such powers.[7] I don't suppose Chris's precognitive sense could have warned him that Sheldrake was later to show that Wiseman's results were in fact wholly consistent with Sheldrake's. And I don't imagine he could have known that the *British Journal of Psychology*, which published Wiseman's paper[10], doesn't believe in publishing Sheldrake's refutations of mis-statements.[8]

Having sat through two of the McKenna programmes and participated in one, I am surprised that, to maintain the posture of objectivity, Chris couldn't have mentioned a few of the more impressive episodes. There was the chap who raised and lowered the blood pressure of a monitored patient housed in a distant room; or the video clip of Rene Pe'och's celebrated experi-

ment in which day-old chicks were fixated on a robot whose random movements they were clearly able to influence; or well-known distant viewer Joe McMoneagle's demonstration of his capacity to describe with reasonable accuracy a scene being viewed by a third party.

Chris French is among the less dogmatic skeptics, and liable with the rest of us to squirm when confronted with sheer bigotry. At least he doesn't serve as an editorial adviser to that institution of devout disbelief, the Committee for the Scientific Investigation of the Paranormal, as do three of his skeptical colleagues. My complaint is that he follows their practice of either ignoring persuasive but discomforting evidence of the paranormal or, if pinned against a wall, resorting to the excuse that the results, or the phenomenon, might not be immediately consistent with current scientific beliefs, but that it's likely that someone sooner or later will come up with a perfectly rational answer. On that basis, nothing paranormal can ever be demonstrated: the goalposts are infinitely moveable. It also confuses that which can't be explained by our present state of knowledge, with what is inherently irreconcilable to it.

Take precognitive messages. Chris has advanced the usual pseudo-mathematical explanation, that if you multiply all the dreams by the number of nights people have in which to dream them, the chances are that one or other of them will sooner or later bear some resemblance to some corresponding later event in their lives. I've challenged Chris on this spurious get-

out in the past. It is on a par with the notion that seven monkeys with seven typewriters and an infinite amount of ink, patience and incentive, will sooner or later type the whole works of Shakespeare. It sounds unbelievably feeble when the dream, or precognitive message, is highly specific, as in the hundreds of cases where details were correctly given of the contents of the following day's obituary column in *The Times*, or the message on the fifth line of the 65th page of the tenth book on the second row of the sitter's left hand bookshelf.[9]

On the questionable principle that truth decays as iron rusts, people like Chris can argue that most of these cases took place long ago, and hence may be safely ignored; or they can just seek safety in silence. But it is becoming obvious that this cannot continue much longer. There is now overwhelming evidence from laboratory-based research into psychokinesis, telepathy and clairvoyance that the phenomenon of ESP exists. The intensity of criticism that such experiments have attracted in the past has resulted in protocols approved by skeptics and regarded as loophole-free. One has only to see the results as set out by Dean Radin (Radin 1997) to acknowledge that the odds against chance explanation are astronomical. But we are shortly to be presented with the results of a statistical examination showing the evidential worth of mediumistic statements. It is based on three years' study by Robertson and Roy, and has been accepted for publication by the SPR.[4] We shall note with interest

how the resolute skeptic deals with this, just as I will watch to see whether the latest challenge, to explain the famous Dorr-Lethe case, is ignored.[2] It is a challenge which Dr Susan Blackmore, one of the most prominent skeptics, has specifically declined to answer.

Psychology lecturers who wish to give their students a smattering of knowledge about parapsychology rely on standard textbooks. Almost overwhelmingly, they present “nearly incredible falsification of the facts about the experiments.” That was what Irwin Child, the chairman of Yale University’s department of psychology, concluded after examining most of the then (1985) current textbooks. A more recent study (1991) by psychologist Michael Roig and colleagues of 64 introductory psychology textbooks found that one-third of them made no mention of parapsychology. Several of those which did presented Zener card-calling as still typical of current experimental work. All of those which did mention spontaneous psychic cases explained them away in terms of misunderstood sensory processes, coincidence and self-deception, ignoring the methods long since employed to eliminate all of these obvious weaknesses when considering evidential mediumship or independently validated precognitive dreams, or multiple witnesses of poltergeist activities and the like. Of those which did refer to experimental work, nearly all criticised the lack of replication, poor experimental design, and fraud.

Now, average, run-of-the-mill psychology lecturers can be forgiven if they reply on the accuracy and fairness of standard textbooks to guide their students. But for the few who have or present themselves as having first-hand knowledge of

the subject, and who know, or certainly ought to know, that all the last three criticisms are simply untrue, it is difficult to grope around for excuses. Either they know that their students are being misled by information on the subject which is not simply misleading or inadequate but simply false, as Radin’s book, *The Conscious Universe*, makes strikingly clear; or they don’t. In the former case they invite the charge of hypocrisy. In the latter case they face the accusation of incompetence.

It is all very well to proclaim, as Chris does, that he is “generally unconvinced” by the evidence. It is quite another to engage in a frank examination of that evidence to show where it is faulty. As far as I am aware, this is what Chris fails to do. Nor, one has to say, do his equally prominent colleagues, although from time to time one or other of them may seize upon a famous historic case and seek, by piling one improbable and unproven assumption on another, to show how it might all be explained by fraud.

It is healthy and desirable to emphasise the need for the utmost caution in evaluating the evidence, let alone setting up experiments, in parapsychology. It is important to understand the history and psychology of deception in this murky field. It is vital to appreciate the unreliability of human witness, memory and testimony, even of multiple witnesses. But where, over the years, experiments in the Ganzfeld, or in random number-generated psychokinetic tests, have eliminated all of these dangers, and done so to the satisfaction of resolute critics, and the results have nevertheless been highly significant and frequently, replicated, it is verging on the dishonourable to

suppress this information and churn out students with the now traditional prejudices which have so seriously impeded further research.

Of course people like Chris – and there are only a handful of them in these teaching roles – may yet undergo conversion of the sort slowly and painfully experienced by some of the most resolutely skeptical pioneers of psychical research. But then, bang goes that prospective professorship, and in come the taunts and jibes of one’s peers. Not an easy option.

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