

THE SKEPTIC

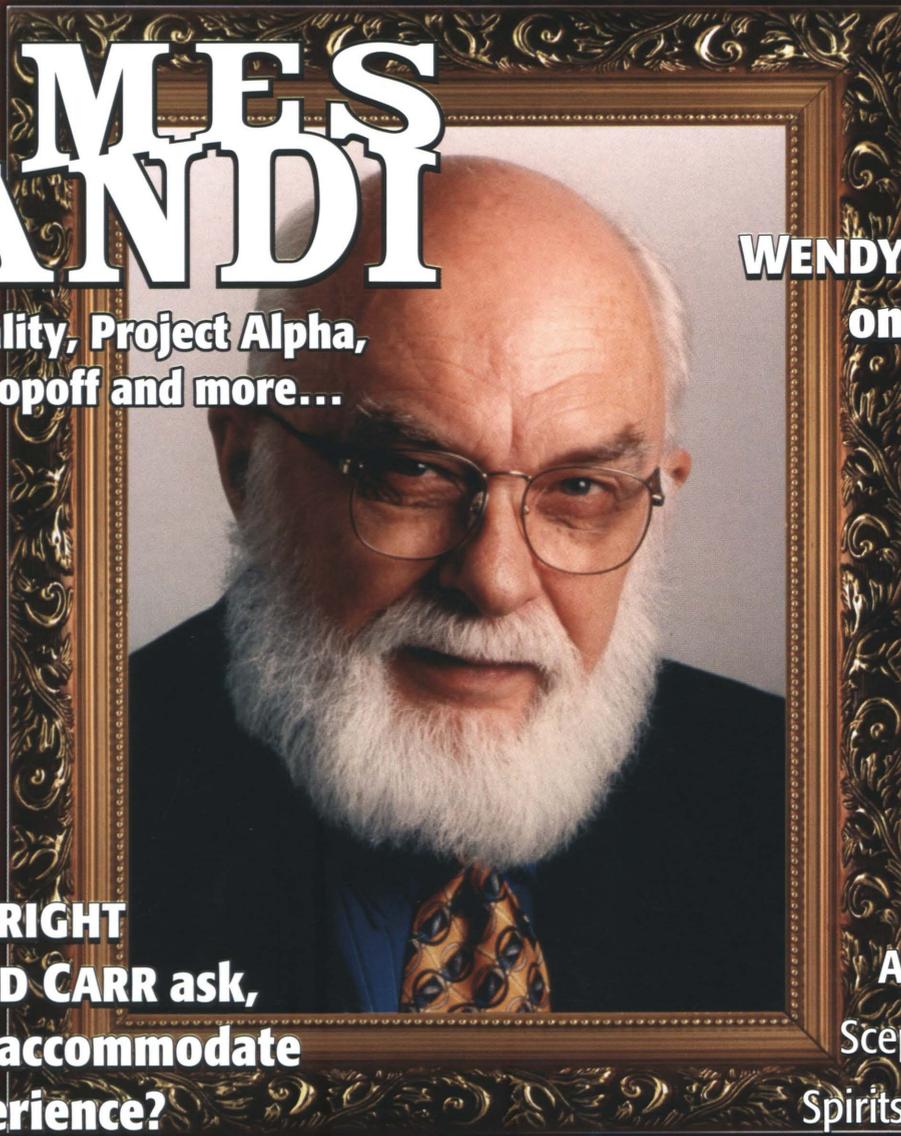
PURSUING TRUTH THROUGH REASON AND EVIDENCE

VOLUME 22 NUMBER 1 SPRING 2009

JAMES RANDI

on Mortality, Project Alpha,
Peter Popoff and more...

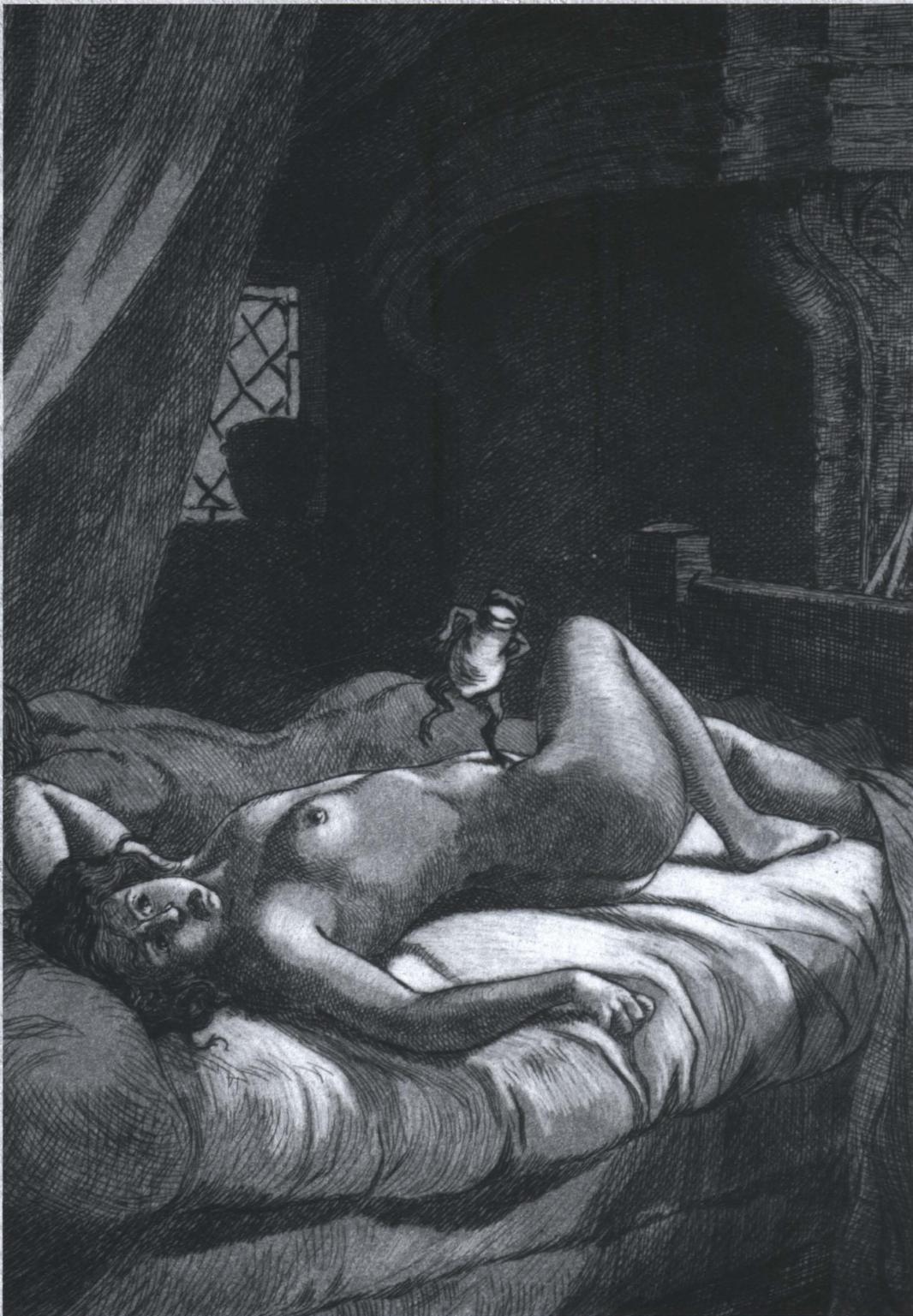
WENDY GROSSMAN
on 21 years of
The Skeptic



JON WAINWRIGHT
and BERNARD CARR ask,
Can science accommodate
psychic experience?

Also in this issue:
Sceptical stereotypes
Spirits and demons on
the *Today* programme
The media and the paranormal
Science and romance
News. Book reviews. Humour

HILARY EVANS' PARANORMAL PICTURE GALLERY



A demon, in the form of a toad, seeks to persuade a respectable 14th century wife to exchange her chastity for his gold. Presumably, if she accepted, he changed his shape into something more nearly human, at any rate for the duration of the project. Luckier girls found themselves being asked for a kiss by a frog, whereupon he would change into a prince, after being transformed by an Evil Witch. Then as now, a girl had to look carefully before she leapt...

Hilary Evans is co-proprietor of the Mary Evans Picture Library, 59 Tranquil Vale, London SE3 0BS

MARY EVANS ASKS WHY?

Mary Evans, from whose Library come many of the illustrations in *The Skeptic*, has all her life been contemptuous of religion, considering its adherents as sadly deluded. At the close of a productive life, she is currently in a care home, suffering from Alzheimers. In her name, *The Skeptic* is offering prizes (£400 for the winner, £100 for the runner-up) for the best essay on the subject of religious belief and delusion. Though it is not a condition, you are invited to address these questions: "If there isn't a God, why bother?" and "If they aren't a punishment from God, why do afflictions like Alzheimers occur?" The essays (4000 words maximum) should be serious, reasoned rather than vituperative, in simple, reader-friendly style. The closing date for entries is 31 March 2010. The winning essay will be published in a future issue of *The Skeptic*. The competition will be judged by *The Skeptic* editorial team, along with Hilary Evans and Valentine Ward (daughter). Please send your entries to edit@skeptic.org.uk

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THE SKEPTIC

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SKEPTICS IN THE PUB

Skeptics in the Pub is a lecture series held in pubs in London, Leicester, Edinburgh, Oxford, and Liverpool (usually) once a month in each location. An invited speaker gives a talk on their chosen topic and the talk is followed by an informal discussion in a relaxed and friendly pub atmosphere. You can find out more about the meetings on The Skeptic website: www.skeptic.org.uk/pub. The event was founded by Dr Scott Campbell in 1999, for all those interested in the rational approach to bizarre and extraordinary claims

CONTRIBUTE TO THE SKEPTIC

The Skeptic encourages the scientific outlook, science and scientific enquiry, critical thinking, and the use of reason and the methods of science in examining important issues. While we are known for our critical examinations of claims of paranormal, fringe science, and pseudoscientific phenomena, we have broadened our scope to include scientific or investigative examinations of a wide variety of public issues. Issues of broad public importance are of potential interest as long as they involve science and/or reason.

Well-written articles, reviews, and columns from leaders in science, biomedicine, psychology, the social sciences, philosophy, education, and technology are sought. Contributions by investigative journalists and science writers are also welcome.

The Skeptic's readership includes scholars and researchers in many fields and general readers of diverse backgrounds. Potential authors should write clearly, interestingly, and simply, avoid unnecessary technical terms, and maintain a factual, professional, and restrained tone. All submissions are judged on interest, clarity, significance, relevance, authority, and topicality.

The Skeptic does not pay its contributors, but you will receive a copy of the issue that your work appears in, and you will be fully credited. Further details, including formatting requirements, can be found at <http://www.skeptic.org.uk/about/contribute>.

SPRITE

THE STORY BEGAN WHEN
A MAGIC SPELL MADE THE FAIRY QUEEN
FALL IN LOVE WITH THE FIRST MAN SHE SAW.

*Out of this wood, do not desire to go.
I am a spirit of no common rate,
and I do love thee....*

Do not turn away!!



My fairy fruit shall drive thee apple-plectic.



*Ohrats!!
I see I've fallen
for a skeptic!!*



EDITORIAL

LINDSAY KALLIS AND CHRIS FRENCH

WELL, IT'S BEEN a long time coming but here it is at last – the new, improved *Skeptic* magazine. Besides all of your old favourites, we have a glittering array of new regular columnists to entertain and inform you, including Mark Duwe, Tracy King, Jon Cohen and Jon Donni. We, your humble editors, will also be doing our bit in that department. We also include in this issue the first of what will be regular interviews with celebrity sceptics – and they don't come much bigger than James Randi himself in this issue! Almost 80 years of age at the time of the interview last year, there could be no better person to kick off such a series. The interview took place just after Randi's amazing appearance at Conway Hall, London. You won't need reminding that this year, The Amazing Meeting itself is coming to London although sadly Randi will not be able to attend in person for medical reasons. All at *The Skeptic* send their very best wishes to Mr Randi for a complete and speedy recovery.

Another person with much greater insight than most into the development of the sceptic movement over recent decades is none other than the founding editor of *The Skeptic*, our own Wendy Grossman. To mark 21 years of existence, Wendy takes a look back to the start of the magazine and the way in which it has reflected the changing preoccupations of sceptics over the years since then. Have we reached a point where sceptics can and actually do make a difference? Read Wendy's article and decide for yourself.

We are always keen to engage in dialogue and debate in our pages. Thus we are particularly pleased to run an article by Jon Wainwright inspired by a thought-provoking talk that he

saw Professor Bernard Carr deliver as part of the Anomalistic Psychology Research Unit's Invited Speaker Series. Stimulated by the talk, Jon asks: "Can science accommodate psychic experience?" His reflections lead him to a different conclusion to that reached by Bernard, but we have of course given Bernard the right to reply.

We would like to draw your attention to two items in this issue that may require some action on your part. First, we are sure that most of our readers will already be aware of the fact that Simon Singh is currently engaged in a legal battle with the British Chiropractic Association in defence of science and free speech. We do not have the space to present the details here but we would urge you to go to the Sense About Science web site (details on page 23) to find out more. Please sign the statement in support of Simon, who has the full support of everyone at *The Skeptic* in his fight for justice.

Secondly, please read the details of the essay competition described on page 2 in honour of Mary Evans. If you have something interesting to say on the topic of religious belief and delusion, please send us your entry.

Finally, take a moment to look at the stellar list of people below who have enthusiastically agreed to join our newly constituted Editorial Advisory Board. With support like that, we can look forward very positively to the next 21 years!

With best wishes,
Chris & Lindsay

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HITS AND MISSES

MARK WILLIAMS

GOD, DIRECT TO YOUR LOUNGE

Shortly before Christmas last year, I unwittingly discovered a televisual delight considerably more satisfying than any programme broadcast on the dubiously titled Movies for Men +1 and surprisingly, more entertaining than the OCD action figure (complete with surgical face mask and sanitary hand wipes) I had happened upon only a week or two earlier. This discovery was of the GOD Channel,

er, more concerning side to this worship. Baker has an uncanny knack for motivating the audience and that is by no means bad, but the undoubtedly religious crowd clung to her every sentence. To me, there appears to be a distinct space in which passionate belief and apparent selflessness interact as, at her calling, enraptured audience members began to approach the stage to commit their lives to missionary faith and values. She asked any-

villages, I know beyond a shadow of a doubt every deaf person there is going to be healed when I pray for them". And I tell them that, and I watched her. She said this way: "Bring me your blind, bring me your cripples, bring me your deaf. I promise you all your deaf are going to hear, and I believe God's going to heal others". And every deaf person she prayed for, I watched their ears open as she was praying for them. Not that there weren't other types of healings but there's a place in God now, that she is in that.



I can't make out what she's saying either!

broadcast in wide-sound, surround-screen glory on Sky 580, digital cable and, as I found, also the internet.

At the time I tuned in, GOD was broadcasting a sermon delivered by Heidi Baker; perhaps a mid 40-year-old lady and a somewhat unique preacher. For a start, Baker's particular style of prayer is considerably more overt than the delivery practiced by your average, local Reverend. Lying down, kneeling, then promptly bouncing around the stage in front of a packed auditorium, she proclaimed her love for Jesus while flanked by backing singers and a Roland electric piano, guitar and drum combo which wouldn't appear (or indeed sound) too out of place at a Spandau Ballet 'music' concert.

Admittedly, my experience of Gospel prayer has been primarily derived from *Sister Act* but there were certainly parallels between the two performances.

Unfortunately, I was also struck by a dark-

one who felt the calling to dedicate their life to service, to approach and kneel by the stage, and many, many people came.

I don't know how many of those people actually pursued their perceived calling after leaving the building but I find it easy to imagine how, responding to a different message, ardent believers can become involved in martyrdom. I would make it clear that the intentions here seemed only good, but with a convincing message and a skilful orator, the result of blind faith has at least the potential to be dangerous.

Speaking in another video clip apparently filmed at the Glory, Signs & Wonders Conference, in April 2007, fellow preacher Randy Clarke said of Baker's overseas missionary efforts:

Last time I went to Mozambique and worked with her, she said "Randy, I'm in a new place. Now when I go to the

It's hard to pass comment on miracles as evidenced only by hearsay, but it's safe to say that I would be intrigued to see this feat personally. If it's real, it is perhaps one of the overlooked marvels of modern medicine which deserves to be publicised and used. If it is not, it's a disgusting exhibition and promotion of false hope, which undermines and detracts from the true wonders of science.

FACEBOOK AND COMPUTERS CAUSE CANCER, TYPEWRITERS DON'T.

The media has historically (and misguidedly) blamed many societal ills on technology. Television has reportedly been blamed for over-stimulating children before bedtime (BBC News, 2000). Computer games, the internet and television were criticised for, in part, making children become more selfish (BBC News Online: Education, 2001). Regular television, video or DVD consumption is supposedly closely associated with attentional problems, aggressive behaviour and poor cognitive development (*Telegraph*, 2007), and, strikingly, social networking website Facebook could apparently elevate the risk of cancer (*Daily Mail*, 2009).

It seems ironic that the BBC, as the UK's largest and internationally recognised broadcaster, happily report the association of such widespread and adverse effects with television, but American news channel CNN are willing to take these correlations one step further.

The network recently published reports of research from a University of Southern California study suggesting that "Rapid-fire TV news bulletins or getting updates via social-networking tools such as Twitter could numb our sense of morality and make us indifferent to human suffering" because "the

streams of information provided by social networking sites are too fast for the brain's moral compass".

The delicious irony of this arises from the fact that CNN publishes updates regularly through 44 Twitter accounts and recently engaged 'actor' Ashton Kutcher in a race to be the first with one million 'followers'. Interestingly, the account belonging to one of the CNN news anchors has been hacked (alongside those of Barak Obama and Britney Spears) obviously demonstrating that social networking tools not only numb morality but are also very attractive to 'criminal types'.

Clearly the reports hold little significance for news channels or at least insufficient weight to prompt a change in practice, rightly so perhaps, but the notion of being influenced by information outside of conscious awareness is not new.

The Women's Christian Temperance Union uniquely interpreted a quote from market researcher James Vicary (of 'eat popcorn, drink Coke' fame) to suggest that subversive subliminal suggestion was employed to boost ailing sales of alcohol. This was considered, of course, to be completely immoral.

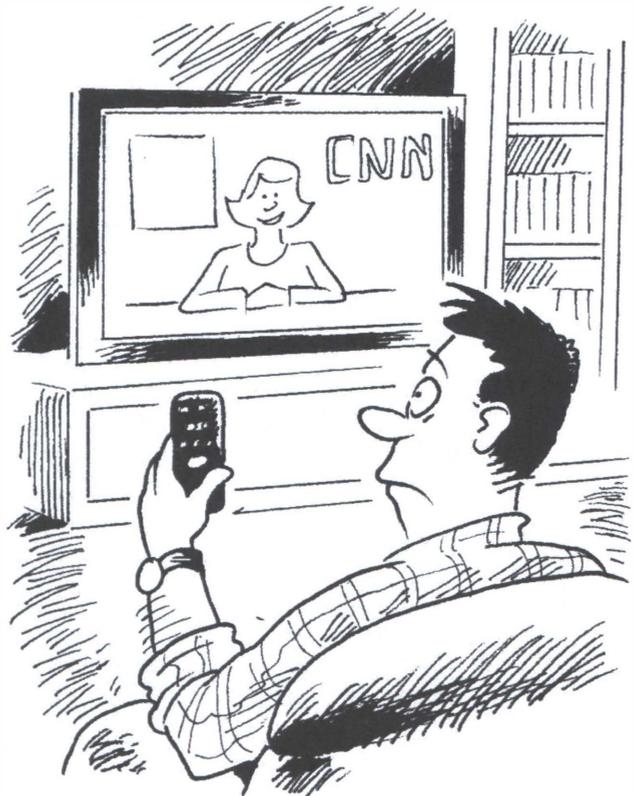
Similarly, reports from 1951-53 demanded from the CIA under the Freedom of Information Act, show tests, now dubbed 'mind control' experiments, were conducted with two 19-year-old female volunteers and demonstrated hypnosis could be induced by telephone, writing or speech, and used to make the volunteers perform acts of which they later possessed no memory.

The problem comes when trying to establish which of these reports are actually based on robust and reliable evidence. Vicary was the mastermind of the aforementioned subliminal suggestion study in which cinema visitors were allegedly exposed to slides displaying the words "eat popcorn" and "drink Coca-Cola" for 1/3000 of a second. He reported that popcorn sales increased by an average of 57.5% while Coca-Cola sales increased by 18.1%, figures which are evidently statistically significant.

Replications of the study, however, provided data which were non-significant and upon later questioning, Vicary admitted his own results had been forged. It's disappointing that one of the most publicly recognised scientific studies of subliminal perception is actually a hoax, but I suspect its notoriety developed as the commercial potential for subliminal advertising gained support.

While stories of 'Facebook causes cancer' or 'Twitter undermines moral development' may capture the technological and social networking zeitgeist, there does seem to be a chasm between common sense and science. The mere concept that Facebook can cause cancer while MySpace or Google do not is clearly ludicrous. In the same way that resistance developed for subliminal messages and

Members of the European Parliament (MEPs) tabled over 500 amendments to the proposals which were initially anticipated to reform animal rights and ultimately hoped to start the slow but overdue process of withdrawing animals from all scientific experimentation. Some of these amendments included reducing the scientific justification required for the use of monkeys and great apes, overturning the exist-



... and more about that news can be found on www.websiteturnyoubad.com/

advertising due to a prevailing sense of fear and manipulation, so sensational stories like these capture the interest of an internet-savvy generation, while preying on the uncertainty and ignorance of those less experienced with computers. There remains little excuse, however, for ignorance of common sense.

DEVELOPMENT?

Since 1986 the European legislation regarding the use of animals in experimentation has remained unchanged. However, it is finally now under examination by the European Parliament. On 31 March of this year, parliamentary members met to consider amendments to Directive 86/609/EEC yet the outcome of their vote not only drastically reduced the protection afforded to lab animals, but also undermined fundamental advancements in scientific knowledge and method.

ing EC proposals banning the trapping and use of wild monkeys, permitting almost unlimited re-use of animals without even time to recover, permitting pain to be prolonged, and ending the requirement for prior authorisation of almost all experiments.

Meanwhile, 80% of European citizens find primate research alone is unacceptable and over half of the MEPs signed a Written Declaration calling for a schedule to abolish primate testing.

Regardless of the sickening and callous approach to animal welfare in which animals may be trapped and taken from the wild and subjected to repeated and boundless pain until death without scientific justification or authorisation, these amendments are also scientifically illogical and inept. Under the amended law, scientists would be permitted to conduct experiments on animals which are not only unpre-

sentative of human models but also unrepresentative of their own species.

Consider the following: one of the primary justifications for using animals in experiments is to allow dangerous substances or side effects to be identified prior to trials with humans. Despite the fact that this justification is itself fundamentally flawed (I would cite the trials of TGN1412 at Northwick Park Hospital to be one of many very potent examples of this), the scientific validity of any model arises from careful control and precision of its administration. These amendments

intellectual and ethical laziness.

Ultimately, the proposed amendments also demonstrate an impressive disregard and ignorance of alternative methods. For instance, researchers at Aston University, Birmingham, issued a press release detailing a breakthrough enabling living brain tissue to be grown in the laboratory (in vitro) therefore potentially rendering several thousand types of neurotoxicity experiment completely obsolete. The method, involving co-cultures of human nerve cells is safe, predictive of human responses and wholly free of pain and suffering.



No pal, it's only the plane that's radioactive, not me!

would permit animals with an unknown history and virtually unlimited physical and biochemical damage, to be repeatedly used to gain data as 'evidence' of particular claims. The biological changes inflicted and importantly also the physical and psychological stress of experimentation, necessarily undermine the collection of valid and robust results. Certainly the findings should not be generalised to human models. I can therefore only assume the proposed amendments have arisen from the misguided notion that relaxing controls will ease and aid the scientific process. I suggest it is rather scientific,

The next, vital, vote on the legislation was held on 7 May. I will provide an update of the outcome in the next issue of *The Skeptic*.

ET, COME BACK.

While Nevada's Area 51 may be an icon for the highest security and allegedly non-existent military operations, the numerous apparent sightings of UFOs and other unusual experiences are gradually being explained through an ongoing declassification programme.

One of the more famous disclosures (beginning in 2007) regards documentation referring to the OXCART aeroplane, later to

become the SR-71. This craft, now immortalised in Lego form, was specifically designed to spy on Russians during the Cold War and could cruise at speeds up to Mach 3.2 (3.2 times the speed of sound) around 85,000 feet. Originally commissioned in 1966, the aeroplane was significantly more advanced than other aircraft of the time, so it is hardly surprising that eyewitnesses were unable to identify it. For example, the SR-71 began running on coal slurry but after this was noted to damage the engines, it was adapted to use a very specifically mixed fuel which, due to regular refuelling requirements, was stored at facilities all over the world. Conveniently, typical jet fuel explodes when exposed to extremes in height, temperature and speed.

One of the SR-71 pilots in an interview with the LA Times recently recounted how he lost control of the plane and was forced to eject during a test flight. He safely landed in a field of weeds before being noticed by the driver of a passing vehicle. Keen to ensure the wreckage remained secret, the pilot claimed his former aircraft carried nuclear weaponry and was transported back to a local police station.

This would appear a perfectly rational explanation for the wreckage of an aircraft which created small flashes of light and could otherwise have looked very suspicious on the ground, but Occam's Razor doesn't always quite work, however, as the pilot's account of the debriefing process shows:

the CIA asked the decorated pilot to take truth serum. "They wanted to see if there was anything I'd forgotten about the events leading up to the crash." The Sodium Pento-thal [sic] experience went without a hitch – except for the reaction of his wife, Jane.

"Late Sunday, three CIA agents brought me home. One drove my car; the other two carried me inside and laid me down on the couch. I was loopy from the drugs. They handed Jane the car keys and left without saying a word." The only conclusion she could draw was that her husband had gone out and gotten drunk. "Boy, was she mad".

All news stories and newspaper clippings are gladly received, as are your opinions. Please send clippings to the magazine's address as given on p. 3. If you would like to contribute links and updates directly to *the Skeptic's* blog (skeptical.org.uk/news), please email for information.

Can a robot really do science?

IN MARCH, two papers appeared in *Science* announcing that yes, they can and have. Exhibit A: Hod Lipson's group at Cornell, whose robot is beginning to deduce for itself natural laws of physics from measurements and other data supplied to it by a team who run experiments with pendulums. Exhibit B: Ross King's group at Aberystwyth, whose robot, Adam, not only designs but carries out biological experiments all by itself. Cool, huh?

What was neat about Lipson's robot – software running on a computer – is that having generated some ideas about how the world works, it began requesting specific experiments to be performed to provide data to confirm or refute its hypotheses. I think the robot is operating at a disadvantage to humans – to it, gravity is purely theoretical, since it doesn't have to deal with staying upright against its pull. Lipson, however, seemed to feel that it's really all just data to our brains, too.

I don't think I agree. Our brains aren't divorced from our physical beings. *The Matrix* and the illusion of reality be damned; we can observe physical phenomena in a direct way that a computer can't, and if we want to watch a pendulum swing most of us can set it up ourselves and take our own measurements.

On the other hand, Adam can perform its own experiments and, says King, it's actually better at them than humans are. The robot, which is helping study the more obscure characteristics of yeast cells, can do a better job of keeping the temperature precisely controlled, shaking cultures in exactly the right way at exactly the right time, and carrying out routine, boring stuff like pipetting, that he thinks wastes trained intellect when humans perform it.

Both King and Lipson stress one thing, though: these robot scientists are no replacement for humans; they are simply tools that may help human scientists identify new avenues of research. The way Lipson describes the Cornell robot, it sounds a little like the computer in *The Hitchhiker's Guide to the Galaxy* that comes up with the answer, "42", setting everyone scrambling to figure out what the question is.

"We know what the question was," Lipson told me in an interview for *The Inquirer* (www.theinquirer.net), "but we can't interpret the answer very well, necessarily. For example, we're working on a differ-

ent problem, not yet published, where we have an answer equation and we don't know what it means."

The machines being tools is an important point, not least because there is a fringe of the technosphere that believes with near-religious fervour that we are anywhere from five to 30 years away from the Singularity – the moment when machine intelligence surpasses that of humans. (Usually, as someone pointed out at last year's Singularity Summit, the date chosen is near the horizon of when the speaker thinks he might still be alive.)

"I wouldn't like to call it sentient," King said of Adam.

But lots of people would like just that.

Belief in the Singularity has a lot in common with the sorts of things we talk about with respect to paranormal claims. For one thing, because it lies – if it lies at all – in the future, no one can prove that Singularitarians are wrong today. For another thing, it's eminently plausible, given the way available processing power keeps increasing and its cost keeps decreasing. That phenomenon is known as Moore's Law, which was the observation in 1965 by Intel founder Gordon Moore that the number of processors on a chip roughly doubles about every 18 months. There have been many predictions in the intervening years that Moore's Law was about to end, but so far it's holding up pretty well and it's even spreading from just plain computers to cameras and graphics cards. At what point does raw processing power become intelligence? No one really knows, which is why everyone can just keep on arguing about it.

Some surprisingly serious people believe the Singularity will happen: science fiction writer and mathematician Vernor Vinge, Intel chief technology officer Justin Rattner, and inventor Ray Kurzweil. Some just as serious people as seriously believe it won't: artificial intelligence founder John McCarthy, physicist Roger Penrose, and philosophy professor John Searle. (*IEEE Spectrum* helpfully ran a round-up of the opinions of a load of technology leaders for the Singularity Summit last November.)

But the point is this. The people who believe in it *really* believe in it. As in, corralling enough artificial intelligence will solve all our problems. The implication is obvious: don't worry about climate change, overpopulation, diminishing resources, or running out of water. Throw everything you have at creating the Singularity, and the resulting superhuman intelligence will fix it all for us. Trust a roomful of smart people to think that more intelligence is the solution to all our problems.

So: do robot scientists confirm the Singularitarian hypothesis? No. But they sure do represent, as King said, a new way for humans to do science. Plus, you know, not so much interested in perpetrating science fraud. That's got to be good, right?

Wendy M Grossman is the founder and (twice) former editor of *The Skeptic*. She is a freelance writer specialising in science and technology and a frequent contributor to the *Guardian's* technology section as well as, a former folksinger and a member of the advisory councils of Privacy International and the Open Rights Group.



Act Without Hope

I RECENTLY READ moral philosopher Peter Singer's latest polemic, *The Life You Can Save*. I say polemic, because it is not a dry piece of theory, but a carefully calculated attempt to get people to give more of their wealth away to help ease global poverty and disease.

It certainly succeeds in making you feel guilty. Yet there are those who would say that western guilt about poverty in the developing world is one of its most futile manifestations. What's more, they have a compelling case for why we should stop feeling it. As Immanuel Kant argued, ought implies can: you are only obliged to do things which you can actually do. You may well be obliged to look after your own children, for example, but you're not obliged to find a cure for cancer by Monday.

Armed with this rock-solid moral maxim, the argument then runs that there is nothing we ought to do to help the developing world, because there is nothing we can do. Indeed, well-intentioned help more often than not ends up causing more harm than good.

For example, the Commission for Global Road Safety last year reported that roads built with international aid were causing unnecessary deaths, particularly among children, because they are not being made safe enough. The saying that the road to hell needs to be paved with more than good intentions has never been more apt.

As private citizens we have even more reason to feel sceptical about whether our giving can actually make a difference anyway. Our hard-earned donations are tiny compared to the amounts doled out in government aid. What's more, we know the root causes have more to do with international trade laws, war, and governance in developing countries than they do western generosity. Add to that the law of unintended consequences, by which the gift of a road ends up killing people and you'd be forgiven for dropping the moral debt we feel we owe.

The arguments against guilt stack up and there is plenty of truth in all of them. However, they do not let us off the moral hook for the

simple reason that the case that we have a duty of assistance is just too strong, whether or not we are responsible for the suffering we seek to alleviate.

Moral philosophers have used a number of analogies to pinpoint the source of this duty. Onora O'Neill asked us to imagine a lifeboat which had room and supplies for drowning people, yet refused to change course even a little bit to pick them up. We would rightly deplore the people in charge of the boat. But by the same logic, we should be prepared to make a relatively small effort to save our fellow human beings, even if we did not cause them to be in the desperate plight they are.

Most of us recognise that there is something obscene about enjoying the incredible wealth and prosperity we do while others die for lack of a few pence per week. The moral imperative to do something about it is so strong that it is no wonder we seek to forget about it, or try to deny it. That's where the idea that we do need to help because we are not responsible and cannot change anything comes in. It's the ultimate get out of jail free card for the tortured western conscience.

But our duty is not so easily removed. Our moral obligation to help is not predicated on us having caused the problems we seek to solve, merely on the fact that we have found ourselves with so much while others have so little. It's not good saying you shouldn't have pulled a drowning child from a pond because you didn't push her in: when the stakes are so high, the mere fact that you can save her at so little cost means that you must.

Nor is the fact that much aid doesn't work an excuse not to give any. If it could be shown that aid causes more harm than good in the long run, then we should stop giving straight away. But that is far too pessimistic a diagnosis.

Jean-Paul Sartre, who was very politically committed, said something very important about social action. He said we should act without hope. What he meant was that we should not seek to build a better future on the basis of over-optimistic illusions about the inevitability of our success. That's exactly how we should approach aid. It is good that we no longer naively believe that popping a cheque in the post will make everything better. That does not mean we shouldn't send the cheque, it just means we should realise that achieving lasting change requires more than we alone can do. Scepticism about aid is therefore entirely justified; using it as a reason to withhold it is not.



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Free Will

AT THE TIME of writing this piece there is a discussion about 'free will' taking place on ASKE's email forum. This has been stimulated by an article Sue Blackmore wrote for the *Guardian* on 03.03.09 headed, "Let's drop the charade: It's right we come to terms with the fact that free will, just like the sense of a higher power, is an illusion". (The article may be accessed on the *Guardian* website.) In particular, Dr Blackmore is interested in the implications of abandoning the idea of free will for how we treat criminals. "We can do it communally by realising that our legal system can punish wrongdoers not because they could have done otherwise and freely chose to be bad, but because some punishments are effective... Instead of asking how much punishment someone deserves, we should ask what actions we can take to make this person behave better in the future, and others not follow this bad example."

Actually, what Dr Blackmore appears to be advocating does happen in our criminal justice system. There is however something that should not be overlooked. Those who work in our courts, our prisons, the probation service, and (like me) our forensic mental health services, should remember that they serve the community (and the latter pay them to do so). Since we are a democracy, they should be mindful of the wishes, values, and expectations of the majority about how offenders are to be dealt with. It is not a healthy situation when the activities of our criminal justice system and the philosophy behind them become too detached from what the public expects. For an example, witness the outrage when the perpetrator of a heinous crime appears to be given only a modest sentence.

I made this point last year when I was speaking at a meeting of professional colleagues that was devoted to the topic of 'remorse'. The title of the meeting was "Is remorse necessary?" If you put that question to professionals who work with offenders, most of them will probably interpret it from the standpoint of "necessary to reduce risk of reoffending". "Lack of remorse" is listed as a risk factor in instru-

ments that attempt to assess a person's likelihood of committing a violent crime in the future, but it is only one of many factors and of itself is probably only a weak predictor of violent recidivism.

But if free will is an illusion anyway and if our behaviour is determined without it, what is the point of feeling remorse, guilt, self-recrimination, shame and so on when we cause needless suffering in others? Is it an unnecessary by-product of the way we are brought up? In fact my main point at the meeting was that remorse is a desirable end in itself; something, if possible, to encourage any offender to experience for no other reason than it is *a good thing* that he or she does. This is what the public demand; it is offensive to most people when it is reported that a murderer or rapist, for example, "showed no sign of remorse" during his trial and sentencing.

People may argue that a certain individual cannot help being violent because "it is in his genes" or because of his chaotic upbringing or some malfunctioning of his frontal lobes and so on. In my own experience, now and again a prisoner or detained patient will appear to disclaim responsibility for some awful crime by saying that he was mentally ill at the time and didn't know what he was doing, or that he was intoxicated by alcohol or drugs. We may tolerate some or all of this and yet do we not feel gratified when such individuals still profess to feel remorse for their actions? It is certainly usual practice to try and do what we can to bring the person to this state of mind. And I suspect that being found out and punished by the community does assist this process.

Some people, whom we describe as 'psychopathic', appear incapable of feeling remorse. They have a weak conscience or, in Freudian terminology, superego. And neither they nor we are any the better for it. They include some very violent individuals but also non-offenders who are untrustworthy, self-centered, inconsiderate, irresponsible and so on. Like everyone else they believe they have free will but they are not particularly remorseful, despite our best efforts.

Remorse does appear to be necessary. Maybe the anticipation of remorse prior to a misdemeanour or the experience of remorse afterwards serves as punishment to deter antisocial behaviour and is thus valuable for the social group.

As for 'free will', it may be an illusion but it is a very useful one. Indeed, we might make a deal of trouble for ourselves if we stop believing in it. But do we have any choice as to whether we do or don't?

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What on earth possessed him?

AS I DROVE into Goldsmiths on 30 January this year, I was mulling over possible topics for the regular column I had decided I would write for *The Skeptic*. Lots of potential topics sprang to mind but then my attention was caught by an item on the *Today* programme on BBC Radio 4. I could hardly believe my ears. *The Sun* newspaper had a headline story claiming that exorcists were being called into a Derby hospital to deal with the ghost of a spirit cloaked in black that was allegedly terrifying the staff and patients. Nothing too remarkable about that, you might think. That particular publication has a reputation for publishing silly sensationalist stories about the paranormal. There's nothing too remarkable about these stories being featured on Britain's flagship radio morning news programme either. They often spend a few minutes discussing such stories, treating them with the seriousness that they deserve. Their coverage of this item started off in the same vein, with much giggling on the part of Sarah Montague. However, when Edward Stourton began his interview with Dom Anthony Sutch, things got really weird. I reproduce here verbatim that section of the interview:

Edward Stourton (ES): We are joined now by Dom Anthony Sutch, Benedictine monk of Downside Abbey, now working as a parish priest. Good morning.

Dom Anthony Sutch (DAS): Good morning to you.

ES: Do you find this credible, this story?

DAS: I do indeed. I do indeed. I have no doubt about it at all. Firstly, I trust people. They don't make these things up or, if they do, it's usually just one or two. I believe in life after death therefore I believe there is the possibility of such things. I believe in the power of evil, I think it exists, and I have... er... the source of that, the original is Jesus casting out demons.

ES: You have to be trained in a particular way to be an exorcist...

DAS: You do indeed because evil can be remarkably powerful, extremely devious almost by definition, therefore you have to be

someone of some spiritual strength and ability to understand what's going on and to counteract it. And I've had the privilege, I suppose, of knowing a couple of exorcists and one of them told me the most terrifying story of how long it took to expel a demon. But the thing that slightly worries me is normally demons possess people so this may not necessarily be evil. It could be a disturbed Roman soldier, certainly a disturbed soul but I don't think you need an exorcist. You probably just need somebody to pray to put the spirit to rest.

ES: So something... a job that could be done by someone like yourself, in fact?

DAS: Well (*laughs*)... I don't think I'm worthy of such things, I'm too frightened of evil and suchlike. Somebody who certainly is aware of what is going on and obviously has a fairly strong psyche so that they counteract any attempt by the spirit to enter them.

ES: But, but it's very interesting this distinction you make. Do you... are you saying that the sort of ghost that we usually talk about in ghost stories – spirits walking in buildings – are slightly different from demons that possess people?

DAS: I would certainly think so, yes. I would say that demons trying to possess somebody is a very different world, as it were... a very different reaction is needed to a spirit that is ill at ease, that has been disturbed at rest and is trying, as I see it, to return to the other world.

ES: So this could just be a spirit that is unhappy rather than one that is actually evil?

DAS: I would imagine so, yes. I think that if it was a demon trying to, as it were, wreak havoc, I think we would be far more frightened and people would be more aware of it.

Is it just me or might we have expected a more critical approach from Stourton to this topic? What could possibly explain the complete absence of a single probing question from a seasoned interviewer in response to the many ridiculous assertions of Sutch? Stourton apparently accepted the existence of demons, possession, exorcism and ghosts as established facts without once considering much more plausible explanations in terms of human psychology. Might the fact that Stourton is a staunch Roman Catholic be of some relevance? And I wonder how reassuring this interview was to patients and staff in that Derby hospital?

In 2009, we have every right to expect views from the Middle Ages to be treated with a little less respect.



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Sceptical Stereotypes: The Bearded Male

SCEPTICISM IS becoming as much about community as methodology, with events like Skeptics in the Pub and JREF's *The Amazing Meeting* spreading internationally. I invite a lot of people to such events, and am interested that the perception of the 'typical' sceptic persists despite the clear shift in demographics. The stereotype is a bearded, bespectacled, aging male intellectual. Where does it come from? Certainly the founder of modern scepticism, James Randi, fits the bill, but that can't be the whole story.

Beards and glasses have long been associated with intellectualism. Glasses are easy to understand – smart people tend to read and write a lot. Beards take a bit more thinking about, having throughout history been associated variously with the wise, the virile, or the curmudgeonly. In 2009, they are out of vogue, and may even cause negative associations for the wearer. Scepticism is a fringe position to take, to declare "I am a Sceptic" can be to imply "Many people are mistaken or misled about certain things; I am not one of those people". To have a beard is also a minority action, the wearer needs to not care about society's obsession with aesthetics, there being more important things in life than what one looks like.

But! I happen to know several *proud* beard-wearers in scepticism to which the beard is not merely the absence of shaving, but an important part of their image. It's easy to understand why, as the list of notable intellectual leaders who also had beards is impressive. Aristotle, Plato, Galileo, Da Vinci, Darwin, Dickens, Pasteur, to name but a few (although I must point out there are many such folk who *didn't* have beards, and I don't just mean Marie Curie). Psychologist Richard Wiseman (who has a goatee) recently undertook a study to see if there is still a perceived correlation between beards and intelligence. The answer was no.

That doesn't have to be a bad thing for scepticism, though. If we want to communicate that anyone can think critically, it's fine for the

public to no longer regard beards as belonging to brains. So why is the stereotype of the bearded sceptic considered bad? Could it be that a beard is not particularly conducive to transparency and contemporary communication? When trying to get reliable information to the general public, simple psychology applies – we like people we relate to. If beards are out of fashion and no longer correlate with intelligence, the public will no longer relate to 'the bearded expert'. You don't see them much on TV any more, with today's science communicators, such as Adam Hart-Davis, Brian Cox, and Richard Dawkins. They look like folks you might know, which makes them trustworthy I guess. If you conceal lots of your face, are you less accessible? According to Prof Wiseman, there are several recent surveys which show that "more than half of the Western public believe clean-shaven men to be more honest than those with facial hair". His own study showed that those sporting white beards are perceived as less generous, less cheerful and less caring (http://www.quirkology.com/UK/Experiment_Faces.shtml).

So it seems that beards can indeed have a negative impact, without imparting intelligence. Society judges by appearances whether we like it or not. Many sceptic organisations are trying to appeal to wider and more general audiences, so we need to say: "Sceptics are like you! We are women and men of all colours, shapes and sizes, backgrounds and educations, some of us love *Star Trek* and some of us love *Eastenders*, and if you have to, take what you want and leave the rest. A little critical thinking is better than none and there's no ivory tower here". It seems to be working. Every year, there are more and more women at sceptic meetings like TAM. Rebecca Watson's recent talk at the London Skeptics in the Pub attracted more women than I've ever seen there, and Skepchick attracts up to a quarter of a million views a day. There are increasing numbers of female sceptic bloggers, of young people attending conferences and posting to sceptical websites, a sense that organised scepticism is spreading and demographics widening, although I admit that you rarely see non-white faces at sceptic events. Thinking is for everyone. Thinking critically should be universal. Perhaps if it was, those negative perceptions of beards would disappear.

One final note, I wanted to test if the stereotype was actually true. I took a hi-res photo of 900 sceptics at TAM6 and counted the beards. I counted a mere 16 beards, and only one of them was long and white – James Randi's. So much for the sceptical stereotype. Let's call that one... debunked.

Tracy King runs a marketing company in London, and works for sceptic organizations and science communicators. Her talks cover a range of topics including viral marketing and advertising psychology, and she writes for the popular *Skepchick* blog (www.skepchick.org). She holds a world record for spoon-bending and is proud to call herself a geek.



How screwed are we?

THE SUN is our constant companion; it supplies heat and light to us and keeps our small blue-green world from freezing. However, as serene as the Sun seems on a lazy summer's day, a close look at its surface tells a very different story.

The surface of the Sun is a roiling, turbulent, ever-changing environment. Pockets of superheated gas larger than the Earth rise to the surface and sink again within a matter of hours. The colossal magnetic field of the Sun can even physically lift some of the superheated gas right off the surface, wrap it into coils and fling it off into space at hundreds, if not thousands of miles per hour. If this ejecta is flung at the Earth, things down here on the surface can get very interesting indeed. Space weather is now a full time area of study for astronomers – trying to predict when the next major solar flare will happen and what we could possibly do to mitigate its effects.

New Scientist magazine ran an article entitled *Space storm alert: 90 seconds from catastrophe* in their 21 March 2009 issue. It was full of dire predictions of death, disaster and the collapse of society if such an event were to occur today. But how true is this scenario? For example, if the next solar cycle, due to reach maximum in 2012, were to produce such a space storm, what would happen to our everyday lives?

A truly massive solar event would swamp out radio emissions, as the Sun increased its output of radio frequencies, followed shortly by satellites' circuitry shorting out due to induced current because of the increase in electromagnetic radiation. The Earth's magnetic field would warp, bend and reconfigure, causing showers of highly energetic particles to rain down into the upper atmosphere, and causing brilliant aurorae that could be seen as far south as the tropics. Induced currents along high-voltage power lines would flood transformer stations, causing the breakers and transformers to melt, creating blackouts across entire cities. Any humans in space would, if inadequately shielded, be exposed to radiation that could kill them very quickly.

Following on from this, if we couldn't get the grid back online,

there would be no power, no heating; without the ability to pump gas, water or petrol, essential services would vanish within a couple of days, hospitals would run dry of essential medicines and starvation and disease would ramp up, as food and medical supplies couldn't be transported.

Sounds like a pretty doomsday scenario, and it is something that we should be concerned about; after all, the Sun is well known as a troublemaker. In both 1972 and 1989, telecommunications, electricity grids and other services were severely disrupted. Should we really be worried?

The worst solar storm on record, now known as the Carrington Event after the man who witnessed it, was an unprecedented eruption from the surface of the Sun. It happened without warning and it was only because Richard Carrington was studying the Sun that morning that we even knew what was to unfold was caused by the Sun.

On the morning of 1st September, 1859, Carrington was observing the Sun. He was an amateur astronomer, widely regarded as one of the finest solar astronomers alive. Using the projection method of viewing the Sun, he was tracing the outlines of sunspots; in particular, a large group near the equator of the Sun. As he was doing so, he saw a brilliant white flash of light, quickly followed by another bright flash that lingered for almost five minutes.

Within 24 hours, the Earth was subjected to a geomagnetic storm the likes of which haven't been seen since. Skies all over Earth erupted in auroras that were seen as far south as the equator. Such solar outbursts normally take between 3 to 4 days to reach Earth; this one managed the 93-million-mile journey in less than 24 hours. Even more worrying, telegraph systems worldwide went berserk. Electrical discharges sparked along the wires and caused fires. In some cases, the telegraph wires melted from the increased current.

In the 150 years since the Carrington Event, there has been nothing even close to it. It's now possible to look back in time by examining arctic ice as energetic particles leave a nitrate record in arctic ice cores. The Carrington Event was the biggest event in 500 years and nearly twice as big as the next largest. Are we in danger? Potentially. The current solar cycle appears to be fairly quiet compared with the past few cycles, so the Sun may be entering a 'quiet phase'. Ice cores show these events seem to have a half-millennium cycle, so we could be safe for another 350 years, but it's always wise to be prepared.



Mark Duwe is a web designer working mostly in advertising, but also teaches astronomy at evening class. He's a qualified homoeopath (he didn't take the final exam and passed with flying colours) and thinks reality is good enough without having to invent stuff.

Passing on Passover

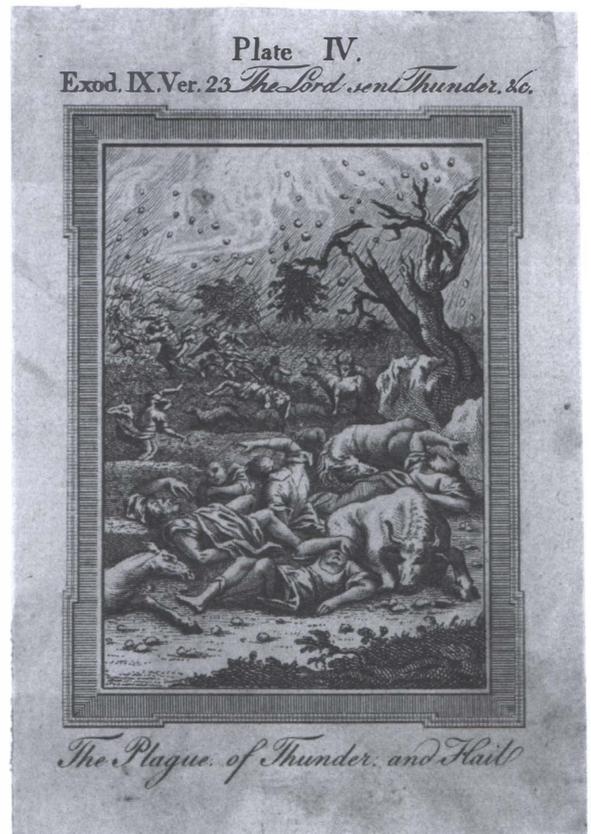
GROWING UP in a secular Jewish family, some of my fondest childhood memories are of partaking in the various customs that make up the Jewish tradition. Things like lighting candles for family meals on Friday nights served to provide a sense of secure regularity as well as family cohesion. There was never any religious significance to any of this (my baby boomer parents being, if not explicitly atheistic, at least lacking anything resembling piety) and there was always an unspoken understanding that the various rituals and gatherings were a nod to established ancestral traditions rather than acts of worship.

During a recent conversation with a good friend, I was reminiscing about this and happened to comment that I had good memories of Passover celebrations as a child. "Well you must come and join us next week!" was her response. I hesitated for just a moment before accepting. It had been a long time since I attended a *Seder* and I thought it might be quite nice to spend an evening enveloped in the warmth of a family gathering (my own family having long since disbanded around the world).

The Jewish Passover ritual works a little like an earthquake. There is a major event, the first night (or the first two nights if you are outside Israel), followed by seven lesser nights, sort of religious aftershocks. All the really important stuff happens on the first night and this is what I attended that Wednesday. The experience was actually not what I expected and to be honest I was a little shocked by my own reaction to proceedings. As nice as it was to be part of a family gathering for the evening, the actual content of the *Seder* service upset and offended me. Either my parents had spared us the details as children, or some part of my mind had edited them out of my memory. Each person at the table took turns to read from the *Hagadah* (the Passover service) and, when my turn came, it was as if the words of a lunatic were flowing from my mouth:

He sent against them his fierce anger, fury, and indignation, and trouble, a discharge of messengers of evil: "His fierce anger," is one; "fury," makes two; "indignation," makes three; "trouble," makes four; "discharge of messengers of evil," makes five. Thus you must now say that in Egypt they were struck by fifty plagues, and at the sea they were stricken by two hundred and fifty plagues.

The story of Passover must surely be one of the most unpleasant



God told Moses to tell Pharaoh that he would send a plague of hail, thunder and lightning which would destroy everything in the fields. God was then true to his word.

tales in all folklore. God's chosen people are all enslaved by the Pharaoh. Moses asks the Pharaoh to set his people free but God has hardened the Pharaoh's heart, thus ensuring that Moses' request is denied. In return for this, a multitude of plagues are visited upon the Pharaoh's unfortunate people (none of whom had any part in his decision). The plagues range from frogs, lice and locusts to boils, blood and, my personal favourite, the slaying of the first born son (this includes cattle incidentally).

Eventually, running away and being pursued by the armies of Egypt, Moses parts the Red Sea to let his asylum-seeking charges through, only for it to close in on the hapless Egyptians and drown all those following behind.

What a charming tale!

The Passover ritual is a celebration of this macabre story and is perverse for a number of reasons.

All the evidence of modern archeology suggests that the Jews were never enslaved by the Egyptians. There is no mention amongst the meticulous records of the ancients of the Jews as slaves. A mass exodus of a couple of million Jews living for forty years in the Sinai

would have left archeological remnants. There are none. *The whole story appears to be a myth!*

Even if the story were true, it is hardly something to celebrate. This is a tale of huge suffering inflicted on people who had no say in the matter. Imagine the grief of thousands of Egyptian mothers who awoke to find their first born sons dead. What had they done to deserve this? *What had the babies done?* It seems unacceptable to deem this something to celebrate, even as an essential cog in the machinery of emancipation. Yes, freedom sometimes comes at a cost, but we do not celebrate the collateral damage of war.



Pharaoh's army is overwhelmed by the waters of the Red Sea, preventing them from catching the fleeing Jews

This is also a story of faith. When all seems lost and things couldn't get worse, the Big Guy will sort it all out. Life just isn't like that. It seems an insult to the memory of the millions who died in Europe in the 1940s to suggest that they had a kind and loving benefactor watching over them.

Slavery and oppression are still very much alive in the world today. It's all very well celebrating the notion that a single group of people may have found freedom and prosperity centuries ago, but what about the millions who are starving and oppressed right now?

The entire proceedings have an air of divisive fervour about them. Whether one is sympathetic to a Zionist agenda or not, it is simply a

fact that paragraphs like the following *cannot* be conducive to peaceful relations between people of different faiths:

Pour out Your wrath upon the nations that do not acknowledge You, and upon the kingdoms that do not call upon Your Name. For they have devoured Jacob and laid waste his habitation. Pour out Your indignation upon them, and let the wrath of Your anger overtake them. Pursue them with anger, and destroy them from beneath the heavens of the Lord.

Is this really the kind of sentiment that we should be promoting and celebrating? Is this kind of thinking going to augment or diminish the chances of finding tenable solutions to global issues?

It seems to me that there's a huge inconsistency here. How many of the millions of Jews who sat around tables last Wednesday toasting the death of Egyptian babies, loudly protested the deaths of innocents in Middle Eastern conflicts in the recent months and years? I personally know several.

The obvious response to all this is to say that this is simply tradition, that one should place the value of maintaining cultural heritage above that of examining its content too closely. To this I would respond that the mark of a civilized society is a willingness to realize that elements of our traditions can change from acceptable to unacceptable as we ourselves progress. It's like trying to hold on to the scenery whilst on a moving train. We are happy to agree that child brides, slavery and stoning are socially unacceptable even though they all had secure places in the traditions of our forefathers. It is not enough simply to say that we don't participate in these things. We accept the moral obligation to repudiate them in principal.

Surely the same should go for the cruelty that is celebrated in the Passover ritual? Perhaps some compromise between orthodoxy and total rejection of tradition could be found? Maybe humane people could use the occasion as an opportunity to get together and celebrate the hard-won freedoms so worth celebrating whilst also reflecting on how much there is still to do? The Jewish tradition is rich in wisdom. It is a culture which highly values solidarity, charity, kindness, humour and gentleness. Why can it not relinquish ideas and practices that so go against these values?

I would not want to single out the Jewish faith for criticism. The catholic drinking of the blood of Christ or the Islamic notion of heavenly virgins for martyrs are equally unpalatable.

As for me, I won't be attending any more traditional Passover nights. I believe that freedom, family and togetherness are worth celebrating and that really fine chicken soup can only augment the festivities. But at my party, locusts, blood, darkness and infanticide will definitely be off the menu.



Jon Cohen is a successful record producer. However, his main passion is scepticism, which he discovered after reading Sagan's *The Demon-Haunted World* in his early twenties.

The Media and the Medium

I HAVE RECENTLY come into possession of a document detailing the legal constraints that psychics and mediums must abide by when appearing on an entertainment programme featuring mediumship. I found the document surprising due to the constraints put on TV psychics regarding what they can and cannot say on television. The contents of this form made me think twice about media appearances by psychics. Have I been wrong all this time about such people? Could all my previous criticisms of these performers have been skewed by not knowing all the facts?

Taking a closer look at this document allowed me to see things from their perspective. Under the header of the document stating categorically and in bold lettering, **"Subjects that CANNOT be discussed,"** the 'rules' include the following:

"No discussion of living children and no one under 18 to be read." This is pretty fair in my opinion, as involving children in readings is potentially dangerous; either by giving them a reading or just simply talking about them. Evidence shows that children are more open to coercion than adults.

"Avoiding vulnerable people seeking answers to traumas/bereavements; e.g. 'I am coming to the show to find out how my Dad died – I have been in counselling but I really need to contact him to help me.'" Many people who visit a psychic either on a one-to-one basis or as part of an audience are looking for answers to their own questions regarding someone who has died. This is typically what mediums and psychics say they can provide. This rule could explain why TV mediums rarely answer direct questions regarding the deceased. But this rule might have the unintended consequence of masking their lack of psychic ability. If there is one way to see through a psychic act it is to ask direct, specific questions regarding a dead relative. However, if the psychics are legally not allowed to reply to these specific questions, then should we really criticise them on this basis?

"No life-changing advice, e.g., financial, health or relationship-based; e.g. 'I need to know whether to sell my house now or wait till next year', 'I have cancer. Will I get over?' or 'Should I

marry my fiancé or is someone better out there for me?'" The problem with any psychic giving such advice is that they leave themselves open to legal action if the client were to follow their advice and it did not work out. By preventing the psychic from making such predictions or giving such advice then, they are being protected.

"No medical advice about the person or any relatives or other people, e.g., 'You have one bad leg the other one is going to have the same problem in six months.'" This is a rule that psychics will often come close to breaking. They will make vague claims regarding someone's bad back, or comment on an overweight person suffering with chest problems, but they are not allowed to predict specific future medical problems.

"Steer clear of diagnostics and 'healing' as this takes you in to the realms of giving advice and purporting to be real (which requires post-watershed and due objectivity)." So unless the TV show is airing after 9 pm (in the UK), the psychics need to steer clear of any such claims, again cutting down on what the psychic is able to say.

"You are not qualified to diagnose animal health conditions, so you would have to keep this to pretty basic pet behavioural issues. E.g. 'Your parrot doesn't like Terry Wogan on the radio, that's why he squawks in the morning.'" Surely a psychic is not qualified to do anything they claim, especially as no psychic in history has ever categorically proven any paranormal claim?

"No specific predictions – keep all comments general." This is one of the main problems for TV psychics. As sceptics, we often criticise psychics for making general comments to people, but if that's all they are allowed to say, should we really be blaming them for simply following the rules imposed upon them?

So there we have it, some rules which would hurt the psychic if they were real, and some which help. So where does this leave us as sceptics? Well it leaves us in the same place we were before, but perhaps with a bit more understanding of how TV mediumship works. I accept that TV readings and performances by psychics will have to follow certain guidelines which could help the sceptics' argument that they just make general comments and use cold reading.

However, I have witnessed these same TV mediums in live shows away from TV cameras and restrictive rules and their acts aren't any better. They do not suddenly have a deeper insight into the lives of people or of the dead they claim to hear. In over 5 years I have analysed many readings, from simple Tarot readings or deep mediumship. I have yet to see or hear a single reading that could not be explained by cold or hot reading.

Jon Donni is the owner, editor and author of *BadPsychics.com*



Time to Grow Up?

THE HISTORY of modern science as a system for understanding the natural world is a relatively short one. Its methods and techniques for enquiry and knowing rose out of the questions and workings of natural philosophy. Like a phylogenetic tree, science, as we understand it today, has branched off from its philosophic cousin to become an entity in its own right both shaping, and being shaped by, time and culture. To some, science is a dry, reductionist, mechanical, elitist and passionless endeavor; in giving us explanations and reasons for the workings of the world, it takes away our sense of awe and wonder for nature. People may see the need for science in such things as technology or medicine, but when it comes down to unweaving the rainbow of our everyday experience, it appears to be more difficult to see the purpose of our scientific enquiry.

And yet, from the moment in evolutionary history when *Homo sapiens* were cognitively capable of formulating questions about the world, we were set on a path of primitive science and left wondering: Where am I? How did I get here? Where am I going? Of course that's taking liberty in the specifics of the questions our ancestors would have asked, but if we consider man's emergent belief systems and the history of our myths, it seems to fit that these were the fundamental questions he had. Like us today, our historic brothers and sisters were adept at seeing patterns and finding cause and effect relationships in the world around them. It appears as though evolution has selected for us a brain that is primed to experience the world in a framework of causality and reason. For example, the earliest gods and goddesses from most societies were the sun and the moon: two entities that have observable regularity in their cycles, a strong influence with what happens on earth, e.g., seasons and tides, and a con-

sistent and constant presence witnessed by the unaided eye. Nature had a monopoly on the creation of deities, which some have argued comes out of another predisposition evolution has left us with: the need to feel in control. Offerings and sacrifices were made to various pagan gods; be it grain, gold, prayer, or nubile young women, the perceived sense of control gained through these rituals allowed humans to ease their anxiety over what was happening in the world around them. Whether the outcome was rain or reproductive success, we were uncomfortable to simply do what we could to make these things happen and leave the rest up to nature.

Like children, our reliance on the supernatural for meaning and causation made sense when we were in our evolutionary infancy and our worldview was tightly restricted by what we could observe and know about the world and our place in it. But now, with what we've learned and experienced over time about human nature and the natural world, it's all starting to seem a little immature and some would argue even perilous to our survival. The way has been opened for us to criticize and question our archaic belief systems and to build a secular framework in which we can, like Lennon said, imagine a world with no hell, no heaven, and no religion too. The thought of a world without a god or gods presiding over us leaves many people fundamentally at a loss for words. It's almost impossible for them to imagine, yet if pushed they'll say things like: the point of life would be lost; we would have nothing to live for; we would descend into a pit of immoral depravity and there would be hell on earth. As a human who has no gods, and as a scientist attempting to understand a small part of the human experience, I can say that this is unequivocally not the case. Those three questions I suggest man probably asked himself – Where am I? How did I get here? Where am I going? – are questions we need to be asking ourselves right now if we are going to, as the side of your local bus might say, be good without god.

In cultivating awareness and understanding our mind's propensity towards seeing patterns, creating meaning, and having faith in agencies beyond the natural, we are unweaving the rainbow of human experience, and I think that is the most romantic thing I can imagine today.



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SKEPTICAL STATS

COMPILED BY MARK WILLIAMS

- 1** Average difference between wages earned by heterosexual and homosexual American men respectively, as found from 2004 census data: **23%**
- 2** Total value of Detroit's own currency 'Detroit cheers' circulated due to high levels of unemployment in the district: **over \$4,500**
- 3** Sum for which a medal, awarded to Blitz hero, Rip the dog, sold: **£24,250**
- 4** Total number of animals honoured for their service in the Second World War by the 'Dickin Medal': **62**
- 5** Compensation paid by the Catholic Church in part reparation for abuse suffered by children at Canadian church-run Aboriginal schools: **\$79 million**
- 6** Speed of the world's fastest camera: **six million photographs per second**
- 7** Percentage of sales during 2004 estimated to be spent by the pharmaceutical industry on promoting its products: **24.4**
- 8** Percentage of sales during 2004 estimated to be spent by the pharmaceutical industry on research and development: **13.4**
- 9** Approximate number of tentacles possessed by a mature *Turritopsis nutricula* jellyfish: **80-90**
- 10** Percentage reduction of wrinkles directly attributed to a common high-street commercial anti-ageing product; possibly the first product to demonstrate an effect above that of a placebo: **70**
- 11** Size of the radar array proposed for use in a new, unmanned \$400 million military spy airship: **the equivalent of a 15-story building**
- 12** Radius over which the radar array can scan: **over 375 miles**
- 13** Time needed to position the airship over any point in the world: **15 days (remaining airborne for up to 10 years)**
- 14** Annual weight of spent fuel produced by a typical nuclear reactor: **20-30 metric tonnes**
- 15** Amount of 'green' power bought annually by Intel, the largest single such purchaser in America: **1 billion-kilo-watt hours (46% of its total energy use) or the equivalent of CO₂ emissions from 130,000 American homes**
- 16** Number of animals used in scientific procedures in the UK during 2008: **3.2 million (an increase of 8% from a year before)**
- 17** Percentage increase in experiments conducted on dogs: **9 (an increase of 600 procedures)**
- 18** Number of complaints received by the Advertising Standards Authority in 2008 about adverts shown on British television: **26,433 (the equivalent of 1.7 complaints per advert)**
- 19** Total length of video uploaded to video sharing website YouTube every minute: **20 hours**
- 20** Time taken by Rob Gauntlett and James Hooper (the youngest Britons to climb Everest) in their subsequent 35,000 km trek from the Magnetic North Pole to the Magnetic South Pole using nothing but natural power: **one year, one month and one day (Gauntlett since died on 9th January 2009, climbing in the Alps)**
- 21** Year by which men could be extinct, due to the Y chromosome apparently dying: **approximately 7000**
- 22** Number of times computer game *Sims 3* was pirated between May 18th and May 21st 2009, prior to its official release: **more than 180,000**
- 23** Approximate amount of money theoretically lost by Electronic Arts as a result of the piracy: **\$9 million**
- 24** Average cost of defending defamation actions in England and Wales: **140 times more than the European average**
- 25** Length of time a single lightning flash could power a 100 watt light bulb: **3 months**

Sources

1 Reuters; **2,20** *Telegraph*; **3,4,11** *Independent*; **5** Yahoo! News; **6** BBC News; **7,8** York University; **9** NBC; **10** *ZME Science*; **12,13,14** *techfragments.com*; **15** *LA Times*; **16** Environmental Protection Agency; **17,18,19,24** *Guardian*; **21** *Times*; **22** *Indian Express*; **23,24** *The Register*; **25** *City of Ann Arbor Emergency Management note*.

Both *Hits & Misses* and *Skeptical Stats* depend heavily on reader contributions of news clippings, unusual stories, and odd statistics. Please send any interesting articles or opinions to digest@skeptic.org.uk. Alternatively, use @TheSkepticMag on Twitter, or post contributions to the address on the masthead (p. 3). Contributions are gratefully received and cited with your name.



Photograph courtesy of Tony Sleep. www.halfone.co.uk

The Skeptic Comes of Age

Wendy M Grossman, founding editor of *The Skeptic*, reflects on the first 21 years of the magazine's life

IN MAY 1987, the Irish press was filled with stories about the weeping statue in a north Dublin suburban home. A web site documenting the story now says there were others in Cork and the south of Dublin around the same time (Catholic Tradition, n.d.). In fact, the site comments, the 1980s generally were a good time for weeping Rosa Mystica statues, which were found not only in Ireland but in Belgium, Sri Lanka, the US, and Italy.

I was living in Dublin at the time, and *The Skeptic* was a few months old. The stories seemed dramatic and mysterious. Weeping statues!

By then, even though it was only a few months old, *The Skeptic* had some readers, who had begun sending in newspaper clippings. (This may seem quaint to younger readers, but at the time the Web hadn't been invented yet, few outside universities had email, and I wasn't one of them.) One of these was a snipped letter to *The Daily Telegraph* written by someone in the plaster trade. He explained the phenomenon thus: the plaster that statues are made of retains some water, and so plaster statues are sealed with a plastic coating. If you poke holes in the coating, water will ooze out. If you poke those holes at the eyes, the statue will seem to weep.

I loved this for many reasons. For one thing, it seemed to me to prove that *The Skeptic* was worth doing to try to help make sure stuff like this didn't get lost. For another, the explanation had the same elements that appealed to me so much about the

decades' worth of murder mysteries I'd read: an apparently impossible situation and a plausible and natural explanation. For a third, you could test this explanation's validity for yourself by buying a few cheap plaster statues and poking holes in them and seeing what happened.

... scepticism isn't about saying no to everything all the time. Instead, it means enquiry.

That last point is the key element of what good sceptics do, or should do. Contrary to what most people, particularly in the UK, seem to think, scepticism isn't about saying no to everything all the time. Instead, it means enquiry. What is the evidence for a particular claim? How can it be tested?

If it can't be tested – if, in other words, the claim is what philosopher of science Karl Popper called an “unfalsifiable hypothesis” – there's nothing for a sceptic to do, really. You are free to believe that a small, invisible, unmeasurable pink cloud occupies a permanent spot in the sky like a geostationary satellite and directs all human affairs, and if you do sceptics are unlikely to try to interfere because we're talking about a matter

of faith, for which there are no tests. But if you start claiming that the pink cloud is coming down to earth at night and making crop circles, *that* is a physical effect that can be examined, and a hypothesis can be formed about the cause and then tested.

... there seem to be a lot more sceptics – and a lot more visible sceptics – all over the landscape

A BRIEF HISTORY

However, that doesn't tell you anything about how *The Skeptic* was founded, except that I am the kind of person who is excited by unexpected, natural explanations. That personality trait made me receptive when Mark Plummer, then the executive director of the US-based Committee for Scientific Investigation of Claims of the Paranormal, said to me, "Do you think you could start a newsletter over there?" This was in late 1986. I was living in Dublin, where I knew hardly anyone, and I had been reading CSICOP's own publication, *Skeptical Inquirer*, for more than five years after running across first a live lecture/demonstration by magician and debunker James Randi and then a copy of *Science: Good, Bad, and Bogus*, by Martin Gardner. On a visit back to my former US home town, Ithaca, NY, I persuaded a friend to drive up to Buffalo to visit CSICOP.

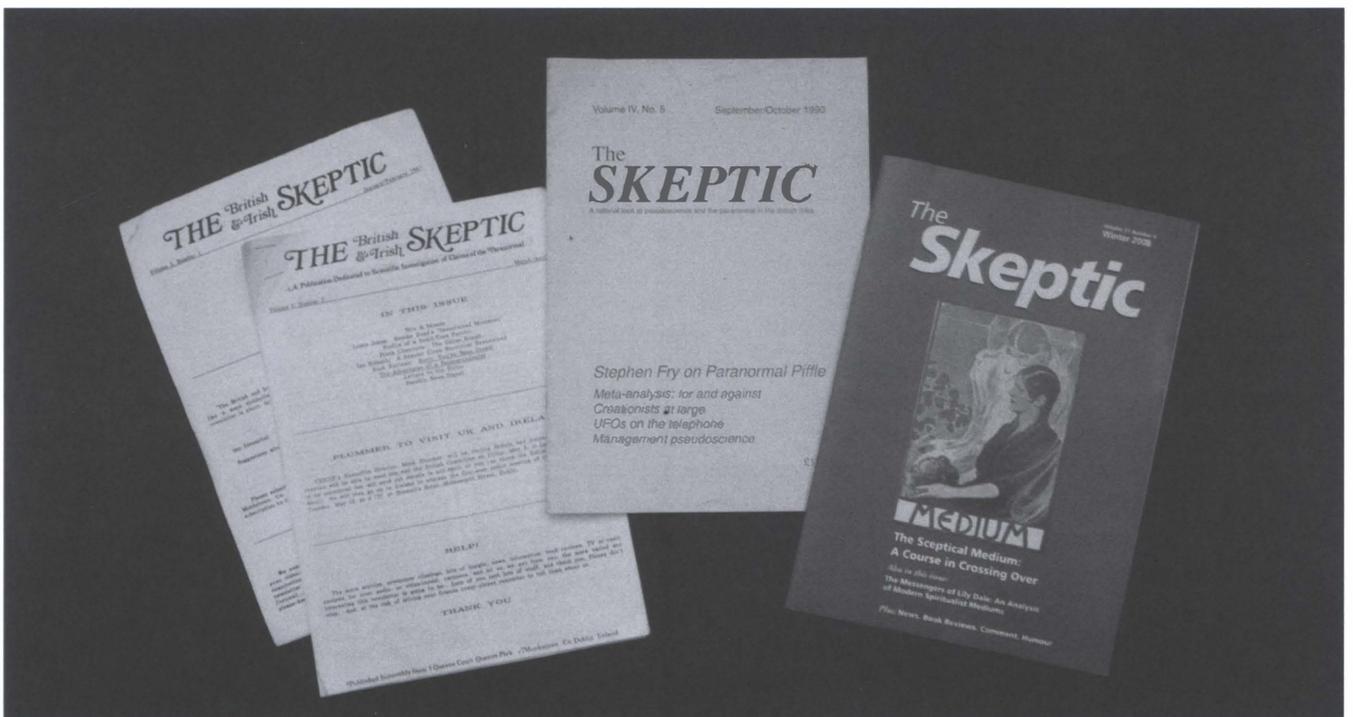
Once there, I asked Mark: "Is there anything I can do?" This was his answer.

Starting a newsletter didn't really seem like much, but you never knew. And sometimes things work in non-obvious ways. If you ask people now, 22 years later, what *The Skeptic* has changed you won't necessarily get an encouraging response. I paused while writing this to ask *Guardian* journalist and author Simon Hoggart what difference he thought *The Skeptic* had made. "Not much", he said, or something like it. After all: the alternative 'medicine' market is booming in defiance of any scientific research; books, magazines, and TV shows promoting paranormal claims continue to proliferate; and the average person you meet at a party still always knows their star sign. On the other hand: there seem to be a lot more sceptics – and a lot more visible sceptics – all over the landscape, and when you're a founder, that seems like a result.

ONE STEP AT A TIME

In 1986, I remember practically throwing things at the television when, in a daytime discussion of spiritualism the only opposition to the medium's claims was a Church of England minister who said that any spirit contacted by such a means was evil. Why wasn't there a sceptic to question whether there were any spirits to begin with?

That doesn't happen now (and not just because I don't watch daytime television). Within a couple of years of *The Skeptic's* founding, you wouldn't see a TV show promoting paranormal claims without a sceptical viewpoint. That is, of

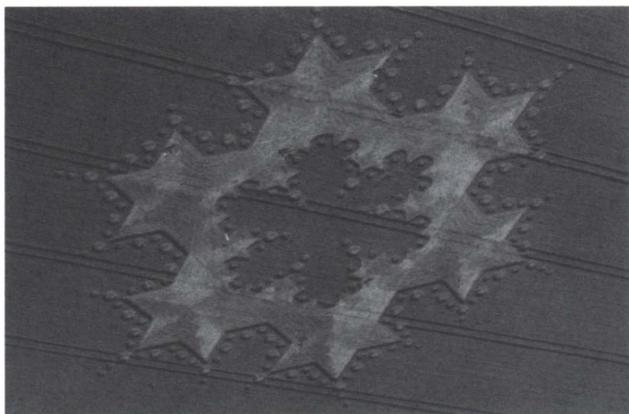


The evolution of *The Skeptic*. Photograph courtesy of Lindsay Kallis.

course, still not an entirely satisfying state of affairs, because so often what happens is that you're simply the token sceptic and the show is really about paranormal claimants and the wonders they perform. Sceptics who can be proactive and set the agenda are few and far between; a few years later along came Richard Wiseman, who is doing just that.

It feels, anyway, as though there's a lot more scepticism and sceptics around in 2009 than there were in 1987. How much of a role *The Skeptic* has played in that can be debated by others.

What has definitely become noticeable since 1987 is that there are fashions in belief as there are in everything else. Certainly there are perennials that just don't die – astrology being the most obvious case. UFOs continue to baffle sky-watch-



The theory that crop circles were formed by some natural meteorological phenomenon became harder to believe as the formations became more complex.

ers, and today's 'alternative' medicine is a panoply of remedies that have been around for 150 years and up. Ghosts, numerology, dowsing, graphology, all still with us. Still others – physical spirit manifestations, spirit photography – die off because technology has overtaken them. But others are just short-lived fads. Who now talks about biorhythms or crop circles, both much in the public consciousness in *The Skeptic's* early years?

Crop circles had the rare distinction of being a native phenomenon. No one suggested a pink cloud was causing them, but there were some other theories that seemed just as unlikely: currents in the earth's magnetic field (Colin Andrews), UFOs, whirlwinds (Terence Meaden). Watching the evolution of these theories as new phenomena made them even more unlikely was instructive. Terence Meaden, for example, had to adapt his whirlwind idea after crop circle formations were discovered in about 1990 that featured rectangular elements; the whirlwinds, he said, were intelligent plasma vortices. It was a fine example of a phenomenon that was to become rather familiar: the theo-

ry that is stretched mercilessly by adherents unable to accept that new developments had invalidated it.

Many, if not most, of the new and trendy beliefs in the UK over the past 21 years came from elsewhere, usually the US, although see also the influence of Feng Shui from the East.

FADS AND FALLACIES

I will say that British sceptics often seem to me to overestimate the common sense of the British public as compared to the gullibility of Americans. In the early 1990s, for example, I was told categorically that British folks would never believe in alien abductions, then an emerging belief in the US. "We're too sensible," I was told. But five years later you were seeing abductees talk about their terrifying experiences on daytime talk shows here, which was to be followed, a few years later, by believers in angels.

Similarly, about four years ago when I tried to write a piece about the growth of creationism in the UK, the received wisdom held that creationism would never gain ground here – British people understood more about science, and anyway, evangelical Christianity didn't have much of a hold. Cut to February 2009 and the headline on page 15 of the *Daily Telegraph* reads: "Half of UK population 'believe in creationism'."

But creationism is a perfect example of what a very small number of passionate sceptics can achieve. One of the reasons so many people thought that Britain was somehow insulated from creationism was that the subject made some noise in the late 1980s and then seemed to die off. What they didn't know was that it didn't die by itself; instead, the disappearance of creationism from the national consciousness was the result of a thought-out, diligent, and persistent attack on those promoting it by Michael Howgate, who founded a little (two-member) organisation he called APE: the Association for the Protection of Evolution. Howgate made a point of going along to creationist meetings and doing his best to ask awkward questions, point out errors of fact, correct quotations taken out of context, and embarrass the speakers until they stopped holding public meetings.

A SENSE OF COMMUNITY

These days, the Internet has made it easy for like-minded people to find each other, but for much of *The Skeptic's* lifetime so far it took a printed publication. Scepticism is a hard sell, to both supporters and outsiders. In the UK, people seem to see the word as negative and closed-minded instead of open-minded and enquiring. Sceptics are generally used to feeling – and being – isolated. And much of scepticism is not media-friendly: there is no story in saying that astrology is just a 2,000-year-old first attempt at understanding astronomy, or that the apparent success rate of 'alternative' therapies is generally due to a poor

understanding of the principle that 'the plural of anecdote is not data'.

In 1996, Wayne Spencer and Tony Youens got together and put a notice in *The Skeptic* looking for like-minded people to start a membership organisation. Their group, the Association for Skeptical Enquiry (ASKE), was founded in 1997, and represents Britain as a member of the European Council of Skeptical Organisations (ECSO). Similarly, Skeptics in the Pub was founded in my living room while stuffing magazines into envelopes one day in 1999, when Scott Campbell, new in London from Australia, said, "I was thinking of starting a pub meet." My sole contribution was to say, "Sounds great. Go for it." Skeptics in the Pub is now ten years old, attracts standing-room-only crowds every month, and is being copied in Leeds, Leicester, Birmingham, Edinburgh and, most recently, Liverpool.

The thing I am actually proudest of in fact is not my own contribution in starting *The Skeptic*. What I am proud of is that it has attracted so many persistent supporters who have worked far harder to keep it alive and make it prosper than I ever did myself: Chris French and his Goldsmiths students; Hilary Evans, who has contributed both illustrations from the Mary Evans Picture Library and his own writing for so many years; cartoonists Donald Room and Ted Pearce; Toby Howard and Steve Donnelly, who edited the magazine for eight years and did the brutally hard work of growing the subscriber base; Peter O'Hara, my partner in getting the magazine out when it was photocopied and posted by hand; Michael Hutchinson; and the many, many contributors of articles and other features to the magazine who are too numerous to list. It is not a great thing to start a newsletter, but it is a great thing 20 years later to see it still alive and not dependent on its founder for its survival. That is really the key, because for something to have real, long-term impact it must be a community effort.

As it turns out, like many phenomena, weeping statues can have more than one explanation – and more than one manifestation. Since then (and before) there have been many stories about statues weeping blood and oil, and, conversely, drinking milk. Soak a sponge in scented or coloured oil or water and stuff it in the empty head cavity of a plaster statue and poke a pair of those ever-useful holes, and the statue will weep oil or 'blood'. A number of sceptics have by now built even cleverer models, because, really, what good is it being a sceptic in 2009 if you can't improve on a medieval miracle?

Reference

Catholic Tradition (n.d.). *Mother of Sorrows: The tears of Our Lady*. Retrieved 25 January 2009, from <http://www.catholictradition.org/Mary/tears2.htm>

KEEP LIBEL LAWS OUT OF SCIENCE

senseaboutscience.org

The English law of libel is a threat to scientists and writers worldwide.

The recent case brought by the British Chiropractic Association against the science writer Simon Singh highlights the prohibitive costs and the limited opportunity for people accused of libel to defend themselves.

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THE GODS BATTLE FOR MEN'S SOULS

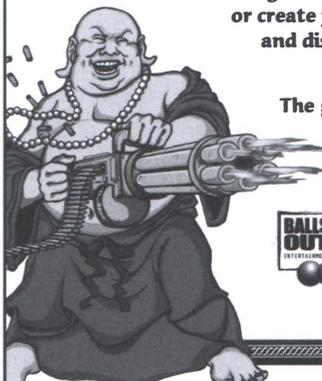


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Enact religious warfare from today's headlines, or create your own gods. Unleash plagues and disasters on other gods' followers, or convert them peacefully.

The god with the best strategy, skill, and luck shall rule the world!



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James Randi on Mortality, Project Alpha, Peter Popoff and so much more...

Following the hugely successful *Evening with James Randi* and Friends last year, Chris French took the opportunity to interview the great man himself

AS I'VE SAID before, if sceptics were allowed to have patron saints, James Randi would undoubtedly fill that role. Talking with him about his life was like being drawn into some sort of fantasy world. There was deceit, betrayal, magic, death-defying stunts, medical miracles, and a legendary prize of one million dollars just waiting to be claimed. At almost 80 years of age when I interviewed him, Randi exuded enough vibrancy and passionate inquisitiveness to fill a room and then some. A natural sceptic and explorer of the world from a young age, Randi schooled himself in the public libraries and museums of Toronto, Canada, and started teaching himself magic tricks after an accident left him in a cast and immobile as a child. I sat down to talk with Randi about some of his experiences that we wanted to know more about.

CF: *Just to start with the entertainment side of what you've done over your conjuring career, you've done some amazing things: you've been on stage with Alice Cooper as an executioner; you've done an escape act from a straitjacket suspended upside down over Niagara Falls. Could you single out just a couple of highlights, from that side of your life?*

JR: Well, I had twenty-two jailbreaks. All legal, all legal! I hadn't done anything nefarious. Well, I'd done some nefarious things but they didn't come to the attention of the authorities! Yes, I did twenty-two jailbreaks all over the world. The one that I didn't carry off was the one that I really regretted. I managed to get the information about the brig on the *Isle de France* when I crossed the ocean on that vessel. And I was all prepared the next time I was on the *Isle de France* to surprise the folks there by doing an escape from the brig, the prison that is, the on-board prison. I was all prepared for it, I knew how to operate

the locks but, you see, they wouldn't know that I had prepared myself for this. That's the way we escape artists are. And it went to the bottom of the ocean and I'm sure the brig is still intact someplace down there. And I have a key made from impressions that will never be used. What a pity. But, twenty-two jailbreaks, that's a bit of an accomplishment I think.

CF: *That is quite an achievement! There are a lot of people around who say they are sceptics but for them it's not a kind of life-long passion in the way it is for you and the way it is for some other people. What is it about those kind of sceptics that make them different from others?*

JR: I think that they've perhaps taken on an ethical responsibility as I have, you see. As a magician I have expertise in two different fields: how people are deceived and how they deceive themselves. And the second one is the one that is more important to me. I saw people being swindled by charlatans out there pretending to be psychics by doing everything from bending spoons to reading sealed messages in envelopes and telling fortunes and predicting the future and they were using exactly the same gimmicks that we conjurers were using. I infinitely prefer the term conjuror over magician because a conjuror is a person who approximates the effect of a magician, so I think that's technically more correct. I was offended by that and I thought that it would be well if at a certain point in my career, though I did it all the way through my life up until this point, that I would retire from the magic profession as a performer and dedicate myself entirely to explaining to people how these things can be avoided, how they can be solved, and not to teach

them magic tricks, but just tell them, “Think about what I’m saying, perhaps you have been deceived”.

CF: *Will you tell us something about Project Alpha?*

JR: Briefly. I can’t be brief but I’ll try! Project Alpha arose because some years ago I received a letter from a young fella who essentially said that “if you ever have the opportunity to infiltrate a parapsychological lab with someone who knows how to do magic tricks in order to tell, to inform, and demonstrate for the scientists that they can be deceived by simple magic tricks, I’m your man!” I looked at this letter and I didn’t know where to file it. So it went into my filing cabinet as Alpha and I just called it Project Alpha and put it in a folder. Not less than ten days from that, a second letter arrived from a differ-

As a magician I have expertise in
two different fields: how people
are deceived and how they
deceive themselves

ent part of the country, from another young gentleman who said that he would volunteer to do the same sort of thing. Now he didn’t know about the first one, and I thought “ooh, second piece of paper in the Project Alpha file”. And not long after that I saw an article in the paper saying that Washington University in St. Louis, Missouri, had been given a half million-dollar grant to study children who could bend spoons with their minds! What they actually should have said was that the intent of the study was to establish life after death because James S. McDonnell of the McDonnell aircraft corporation, a very wealthy individual, was in his nineties at that time and he gave them the half million dollars to determine whether there was an afterlife. Apparently he didn’t want to go unless there was one! And the researchers convinced him that studying spoon-bending children – how they convinced him of this I really don’t know but they convinced this august gentleman – would be a good way to do it and therefore they established this laboratory. I simply wrote to the lab and I said in so many words who I

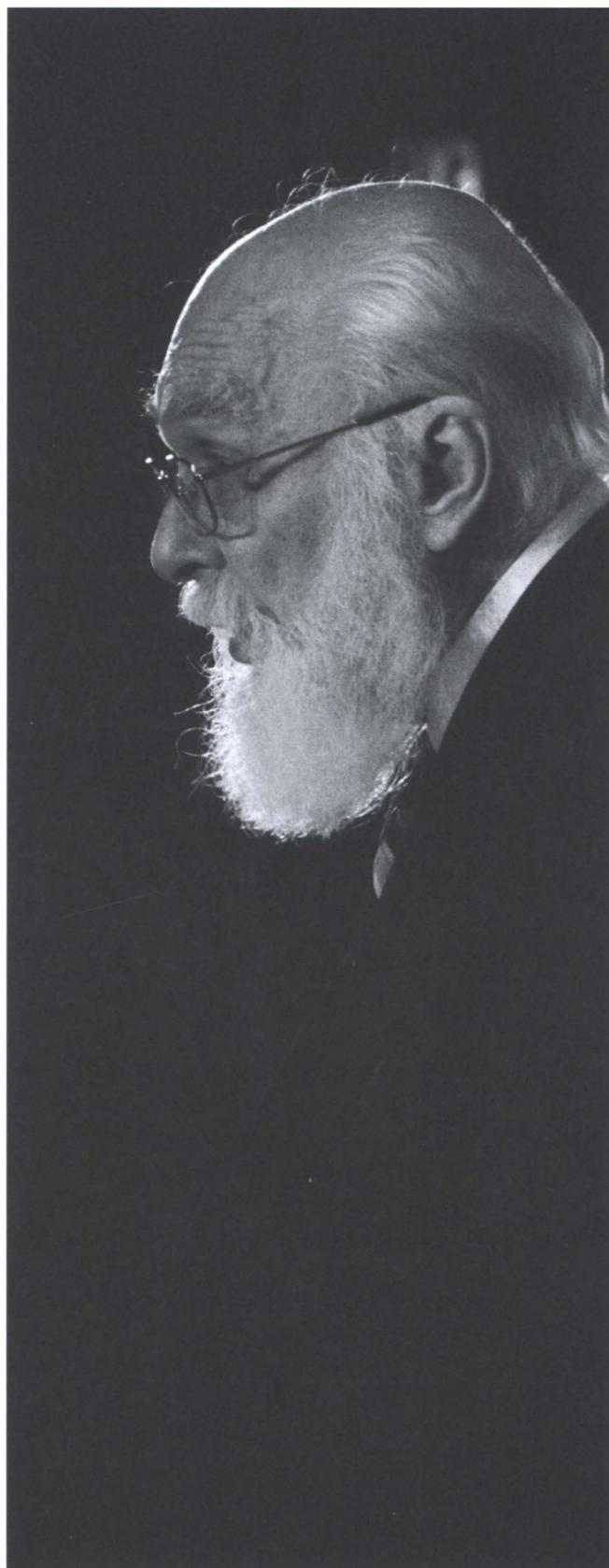
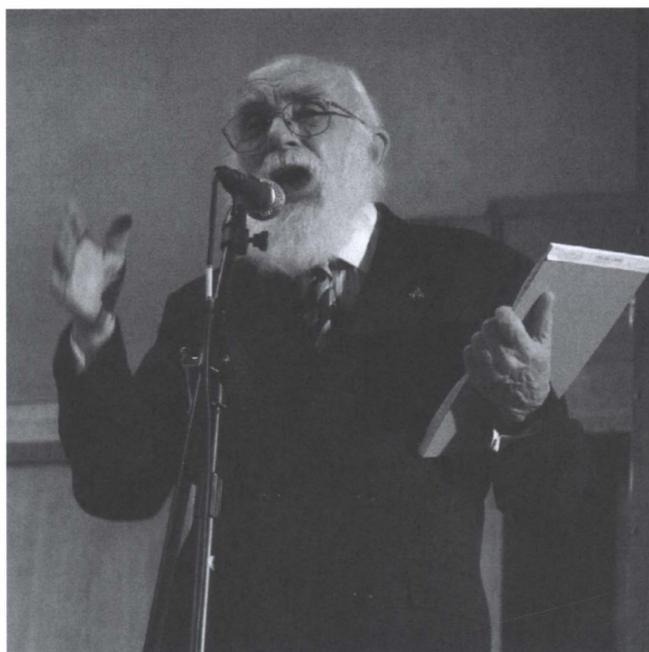


Photo courtesy of Kelly Haddow



Randi keeping an audience of around 500 sceptics enthralled at Conway Hall, London, in April 2008. Photograph courtesy of Kelly Haddow

was and such, I was not that well known at the time, of course. And I said that I would offer my services free to them in return only for expenses, to act as an adviser in case people approach them who could use techniques, trick techniques, to deceive them. I received a letter back which was very long, and it boiled down to “We’re very smart and we don’t need your help because we’re scientists and you aren’t. Thank you, yours truly”. They put their noses up in the air and turned me down because they didn’t need the help of a mere magician. I remember that John Taylor in this country once referred to me as a ‘mere magician’ at the Royal Academy and in my response I said “John, you referred to me as a ‘mere magician’. ‘Magician’ yes, ‘mere’ never!”

CF: *At the end of the day then with Project Alpha, your team went in and were just using simple magic tricks?*

JR: Well, let me tell you under what provisions, however. I said to the two kids we must agree in advance on two things – I will not help you develop your techniques. You’re both amateur magicians, you’re on your own. I want to be able to show that amateur magicians not instructed will be able to fool the scientists. And I said, second, we will never allow them to publish a scientific

paper. If you get any word of this coming up you must notify me immediately and we must inform them that they have been deceived. And the third, well, there was a third one. If you are ever asked “Was that a trick?” you say immediately “Yes it was, this is how it was done and we were sent here by James Randi”. None of those things happened: they went into the lab and they did their thing. I should say first though that they called me after each encounter in the lab. Now over a three and a half year period they were called in on holiday periods and such. Never accepted a cent of remuneration, only expenses. And they would call me and tell me on the telephone what they had done, under what circumstances, and I would make note of that. Now I would not give them advice. “Carry on” was all the advice I would give them. But I would then sit down and write a letter to Professor Phillips and Mark Sheaffer, his associate assistant there, and I would tell him “If you’re ever confronted by people who do the following...” and describe exactly what had just happened, though in different language, “... this is what you should do”. Well, Phillips, on their next visit to the lab, would present them with this letter with great amusement and he’d say, “Look what this guy has written me, can you imagine?” and they stood there waiting for him to say “Was that a trick?” and he wouldn’t ask it! And I suggested in *every* letter “Why don’t you ask the subjects?” – I wasn’t supposed to know that he even had subjects, you see – “Why don’t you ask the subjects whether or not this is the method they use?” And he wouldn’t do it, because there is a reluctance with these people to know the truth. They’re very happy to have the phenomenon. They can see a Nobel Prize, I’m sure, on the horizon someplace, it’s glowing like a satellite rising in the distance. That doesn’t materialise, so far it hasn’t materialised, but we might hope! So that was Project Alpha. It eventually happened that they called me and they said yes, they’re ready to publish at the Parapsychological Association conference and I had been invited to that too to speak, limited to ten minutes because I was a mere mortal, I was *not* a PhD and I couldn’t speak beyond that, but I certainly did attend. Now the way we revealed it to Phillips – I knew that if I were to call or write to Phillips, say this is the case, he would probably refuse to accept it because he would suspect a trick of some kind. So, as we do with audiences, you let the audience find out the facts for themselves then they’re convinced of it. Now we may give them the wrong facts, you see: “This is an empty cardboard box” for example, is not the way you

approach it. Instead you toss it on the stage and let it skip across the stage *behaving* like an empty cardboard box. They make the assumption that it is empty and they make that assumption on their own and they're convinced of it, not if you tell them it's an empty cardboard box. Now it may or may not be empty, that's not the important point, but I wanted this fellow to discover for himself, then he would believe it. So Marcello Truzzi at that time, now deceased, was a sociologist – that's a very soft science as you probably suspect, and he had a hard time getting published over the years that he functioned as a sociologist – but he was a fence-sitter on this whole matter. He didn't know whether to believe in it or not. I knew that in his heart he didn't believe in it because he knew magic very well, he came from a family with a tradition of doing magic and being magicians, so he knew that it was trickery and self-deception but he would always vacillate. He never quite made up his mind on it and so I wanted Marcello to find out because I knew he was a gossip. Oh, he couldn't hold onto any information no matter how much you admonished him, he would gossip. And so we allowed it, we had our means, which we won't get into, of letting him find out that I knew the Alpha boys. That is, I didn't want him to know that we were cooperating together, but that I knew the Alpha boys was sufficient for him and he did alert Phillips immediately and Phillips changed the paper. Now I have both versions of the paper: as he was going to present it *and* as it was eventually presented. And what he did was he put modifiers all the way through it: 'ostensibly' and 'apparently' and 'perhaps' were put in. The Parapsychological Association had been very pleased with the initial paper but they were not at all happy with this one with all the provisional terms in it and he said nonetheless that's the way he wanted it presented. So he saved himself and we saved him from having admitted definitive statements and that's the way Alpha went down. It was a feature article in *Time* magazine and it was featured on the *USA Today* show, a *very* prominent news show over there. And we had a big press conference sponsored, I believe, by *Time* magazine at which all the media showed up in great numbers and we revealed to them that this had happened. And Phillips and Schaeffer made a joint statement following saying, "Well now we've seen all the 'evidence'" – and they put that in quotation marks – "that's been presented but we know that basically the kids did have psychic power because we observed it". They couldn't quite get off the hook, you see, they were getting the barb out but

they insisted on still hanging on the hook. I don't know what happened to Phillips after that. I knew that he went off to China to investigate the children that I subsequently investigated, the so-called 'indigo children' over there. And they were revealed, very easily, doing tricks, for a naïve parapsychologist over there named Ding, but I don't know what happened to him otherwise. Mark Schaeffer, I never tracked what happened to him. But, you see, that's the kind of thing that happens to academics when they commit themselves to a thing like this. Though I saved them in the long run from issuing this, they can always say, "Oh no, we never said it scientifically, *officially*". That's okay, I let them off the hook that way then, if they want to get off the hook.

CF: *Just going back slightly, I remember when Uri Geller first appeared on the scene. I was in the sixth form at school at the time and I was totally convinced, I thought he was the real deal. And one of the things about that was that I just so much wanted him to be for real.*

JR: That's the point.

CF: *And in some ways sceptics have this image problem that they're seen as being kind of negative and the people who are going want to spoil all these things that everybody wants to believe in. You've been faced with that for decades. What do you do to try and make scepticism come across as the positive thing that we both know it to be?*

JR: Well, as I've said frequently in my talks, there are two means by which people are deceived: they're either self-deceived or they're deceived by an external agency. I used to say "They want it to be true", I now say "They need it to be true". In many cases they do. Grieving people, for example, they want to believe in life after death, they need desperately to have proof of that and they will accept anything that is told to them if it's posited in that direction, and they will reject anything that is against it. I was in New York city with a television crew filming a faith healer and one woman there was asked to stand up out of a wheelchair and the audience went wild and she walked up and down the aisle and came back, tears coming down her face, and she didn't need the wheelchair any longer! Well, we grabbed her aside because we knew that she didn't come in a wheelchair. She had

asked to sit in the wheelchair so she could be brought up to the front for healing, you see. And this is a popular gimmick with the evangelical healers, of course. And we asked her, we said, "But don't you think that was rather deceptive?" And she smiled and she said, "Well, yes, but I still believe, I still believe" and she smiled and she gave us the thumbs up and walked off. That's the kind of thinking that goes on; people need this to be true.

CF: *Would you tell me about your investigation of Peter Popoff in the mid-1980s?*

JR: Peter Popoff, there's a name to conjure with, to say the least! Yes, Peter Popoff, we went to investigate him; Steve Shaw, one of the Alpha kids was with us at the time. That was in, I believe, in San Francisco if I remember correctly. Vast auditorium, monstrous auditorium, and the place was just jammed to the roof and there were people waiting outside in the street. These people make money, you know, and they attract a lot of attention. Popoff was marching up and down and screeching in his inimitable fashion and striking people on the forehead and whatnot, and I would be recognised of course, so I stayed well backstage and I sent Steve Shaw out there and he walked around with a microphone; it wasn't connected but he walked around with a microphone and appeared to be interviewing these people and getting close to Popoff and at a certain point he came rushing backstage and he said "Popoff's wearing a hearing aid!" Now this is the kind of hearing aid that's right in your ear, in the ear canal and it's not fed with wires, no wires, it's fed by an induction coil around the neck, so you see no connecting wires at all. It has its own little battery in it and a receiver at the belt and, as we said afterwards, it seemed incredible that Peter Popoff who 'heals the deaf' requires a hearing aid. So we knew what our approach would be from then on. I asked a gentleman, Alec Jason, a friend of mine – a private investigator and electronics expert as well – I asked him to attend the second night of the Popoff crusade at the same auditorium. This went on for 4 or 5 days at this auditorium. So he went in there and his technique was to festoon himself with identification cards and when the guards saw him coming they just went "Go, go, go, go" because they didn't want to read all of these cards that he had his face on! As a private investigator he had access to that sort of thing and he had a tool bag with him and electrical tools and voltmeters and various other things like this and he had a Walkman. Now

that Walkman was not a Walkman! He was actually receiving radio images from around the place. And he went earlier, well before the Popoff programme started, and he recorded all of the frequencies that were used. Now, the cash registering system, the intercoms of all kinds in the building and such, use different frequencies. He recorded each and every one of those frequencies. And then when the Popoff thing started, he simply went down the list of frequencies and found one frequency that had not been used until Popoff got there, and on the basis of picking up this spurious frequency, he tuned in on it, recorded it and of course it was Popoff's wife. "Hello Petey, this is your wife speaking, can you hear me? If you can't, you're in big trouble! The first woman is the..." – yes, I'll use the expression – "... the big black nigger in the back".

CF: *That's awful!*

JR: This is the disrespect these people have for their victims from whom they were taking money. "And you keep your hands off those tits Peter, I'm watching you." We've got that on tape, believe it or not. This is the disrespect that Mrs. Popoff and Peter Popoff had for these people. And a gentleman with testicular cancer the size of a melon, a huge tumour that he had, and the women in the control room with Popoff broadcasting were laughing hysterically: "Look at those balls, wow, that's a record". This is a man dying of testicular cancer in front of them, they're taking his money and his emotional security and such and they're laughing at him. That's the kind of people these are, I'm sorry to be so frank with you but this is what we have and this is the reason that I have to be offended by these people and to fight them tooth and nail.

CF: *That's very disturbing, actually. That really is awful, but possibly even more disturbing than that is the fact that Popoff is now there raking the cash in again.*

JR: He made last year, the actual book-keeping records show, he made 10 million dollars more than in the year that he was exposed. So people don't learn, they will not listen, they don't get the message at all.

CF: *I guess that raises the big question, can sceptics achieve any kind of lasting victories in these kinds of areas?*

JR: Well, Chris, I'm encouraged, yes, I think we can. I'm encouraged by the fact that, oh, two to four times a week, by postal mail or e-mail or fax or any of various means, I get a communication which usually starts out "Mr. Randi, at one time I was very much opposed to you and I thought you were a dreadful man but then I looked into it..." and it goes on from there. And it may also start out as something like: "Thank you for having made a substantial change in my life, I now have a different attitude". And many of those will have phrases in later on, "Mind you, I'm not convinced on your stance on such-and-such". All I want, my goal with this whole campaign, is just to get people thinking, have them ask questions, have them think about what I have told them. Don't just believe me, any more than you believe these other people who make these claims: I'm making a claim too, it may or may not be true. Investigate it. Think about it. Think about it sensibly and rationally and think about it long and make a decision based on that, that's all I ask. And people do. We've got a raft of letters like that from, usually, young people which pleases me no end. That's where you have to get them, of course. And go to authorities too. We say, "Think for yourself". Yes, of course, think for yourself but think and go to authority on this thing. And the kind of authority may not be the local psychologist down the street because I've known all kinds of scientists, as we know of course, who have believed in this sort of thing, because they simply can't believe they're wrong and they're out of their expertise. And a psychologist is not going to know conjuring techniques necessarily; it's a matter of expertise.

CF: *Well you're doing a great job so I'll say thank you, thank you from all of us! You set up the James Randi Educational Foundation in 1996, so tell us about the aims, tell us about the achievements, and give us the latest news.*

JR: Well, after retiring from the escape business, I did get a bit tired of struggling out of jails and straitjackets and whatnot, so at the age of sixty I essentially retired from active performing in that field. I had been investigating these things all along, since I was a teenager. I decided that I would go one hundred per cent in that direction and dedicate myself to this. I was fortunate in that a gentleman contacted me by e-mail and I had a bit of, well, it wasn't called a blog in those days, but I had a bit of presence on the internet and he offered to fund me

and said, "I have a lot of money, I think I should give some of it to you to further your ends". I insisted on meeting him in person first because I didn't want to have somebody who was sort of half on my side and half not and I didn't want to offend any of his personal convictions. I met with the gentleman and we were very *very* compatible and he said that he would send me a small advance on this in order that I could look around for a headquarters. A cheque for a hundred thousand doll... a hundred thousand dollars arrived – I have a hard time saying it! – arrived in the mail and I looked at it somewhat sceptically I must admit! So I took it over to the bank. The bank says "Looks good". Put it in, few days later it went through. Hallelujah! So we found ourselves a headquarters and the rest of the money arrived shortly after that. Now that's not the million dollars – that was a separate gift from him. But he financed us to buy the building that we now occupy outright so we own it and

... science is pretty damn good
and we would, the lot of us,
would not be here... if it had
not been for science.

we became a 501C3 which in the United States is essentially a charity, a not-for-profit organisation. Now we can sell things and we can make a profit on the sales and on our activities, on our conferences and such but that profit doesn't go to share-holders or any such thing. I am paid a salary by the foundation and my income by and large goes directly into the foundation. Anything that I earn as an activity of the foundation goes directly into it. It's a good arrangement, it does very well. We have our headquarters in Fort Lauderdale, Florida, and we have a rather large library there. Two thousand, two hundred and eighty something books at the moment, most of them, what is the category? "Bullshit", that's most of them, but my books are of a contrary nature. When I die, as will happen – I'm not ready yet, not ready, not yet, not yet. Got work to do, bills, taxes the whole thing – I often picture, with great relish, oh eight or ten years after my demise, some kid will be in the library looking around and he'll come up to *Flim Flam!*, what's all that about, and open it up. Hallelujah! And may just decide to sit

down and read it and it may change his or her view of the world.

CF: *Now that we're talking about mortality, you underwent coronary artery bypass surgery in 2006 and we're very pleased that you made such a good recovery, but while that ordeal was taking place, was there even a part of you that actually was tempted by religious ideas about an afterlife and so on? Do you think you went through that any differently than you would have done, would it have been easier for you if you'd been religious?*

JR: I had no problem at all. No problem whatsoever. I allowed Daniel Dennett to speak for me. He's a great philosopher and good friend of mine. He looks very much like me: we're both remarkably good looking fellas, except that he is inordinately tall. Of course everybody is inordinately tall compared to me and so I ask them to sit when I speak to them! Dan Dennett issued a little essay from the hospital, from his hospital bed. He typed it out on his computer and put it out on the internet and it's an absolute classic. I published it on my website, as a matter of fact and it's called 'Thank Goodness'. He got tired of people coming into the hospital, now, he had very serious surgery, and they put in a Dacron artery or something. They used to use Dacron to make sports coats when I was a kid now they use it to make arteries apparently, what a change of function! But, when he was recovering in the hospital he had people coming in and saying "Oh, thank God, you're doing this, that and the other", and he wrote this little essay, he said "No, never mind 'thank god' but I'll accept thank goodness. Thank the goodness of the anaesthesiologist. Thank the goodness of the nurses who empty my bedpan. Thank the goodness of the intern who sweeps the floor regularly so that I don't have to breathe too much dust. Thank the designers and makers of Dacron." All of these things, he said, "Yes, thank their goodness but don't thank a mythical being." And, essentially that's a contraction of it, rather severely, but that's the way I feel, yes. I was so

grateful. I was, you know, in a semi-stupor all the way through with tubes down my throat and whatnot. But they would take the morphine drip off occasionally and they would question me, you know, "How do you feel on this?" and "Would you like this and that, the other thing?", and most of my answers were "Aaargh aaaaaar-rgh aaaargh" or something to that effect. I am absolutely astonished by the efficiency of medical science. Now, think what they did: they immersed my body in ice, they broke open my chest, removed my heart, took veins out of my leg, redundant veins. Not exactly a good example of intelligent design, I would say, because the heart has no redundant parts in it, my cardiac surgeon tells me. And they replaced certain parts and they put it back and they sewed it up again and there it goes. Damn, that's okay. Now *that* is not a miracle but it's as close to a miracle as you're gonna get. It's better than bending damn spoons, I'll tell you that. And it has some function. And so I'm very *very* grateful to medical science and the progress it's made. It's not perfect and I'm tired of these people saying "Oh, science doesn't know everything", but science admits that it doesn't know everything. That's why it exists and goes on. It doesn't suddenly say, "Well now we know everything so we'll just close the text books". No, it's an ongoing search; science doesn't know everything and knows that it doesn't know everything. But science is pretty damn good and we would, the lot of us, would not be here – this person speaks from experience – if it had not been for science.

CF: *Well, all I can say is, here's to the next eighty years. Thank you.*

JR: Thank you Chris and thank you ladies and germs!

Acknowledgements: Sincere thanks to Mark Williams for recording this interview and to Simon Taylor for transcribing it. The full version of this interview can be found at <http://www.skeptic.org.uk/archive>.

James Randi is a writer, conjuror and sceptic, as well as the founder of the James Randi Educational Foundation (<http://www.randi.org/site/>) which famously offers a prize of one million dollars to anyone who can prove the existence of paranormal forces under controlled conditions. He has written several sceptical books on the paranormal, including *Flim-Flam!*, *The Truth about Uri Geller*, and *The Faith Healers*.

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Can Science Accommodate Psychic Experience?

Jon Wainwright reflects on whether a paradigm shift within physics could explain psi

AS SOMEONE who has only recently had their sceptical consciousness raised, I have the impression that this is an unusual question for anyone to ask, let alone a physicist. So, it was fascinating to hear Professor Bernard Carr talk on this subject in March 2009 at Goldsmiths, University of London, as one part of the Anomalistic Psychology Research Unit's Invited Speaker Series (<http://www.gold.ac.uk/apru/speakers>). I cannot do justice in this article to either the scope of the lecture or the illustrations that accompanied it, but I do want to draw out one or two salient issues for discussion.

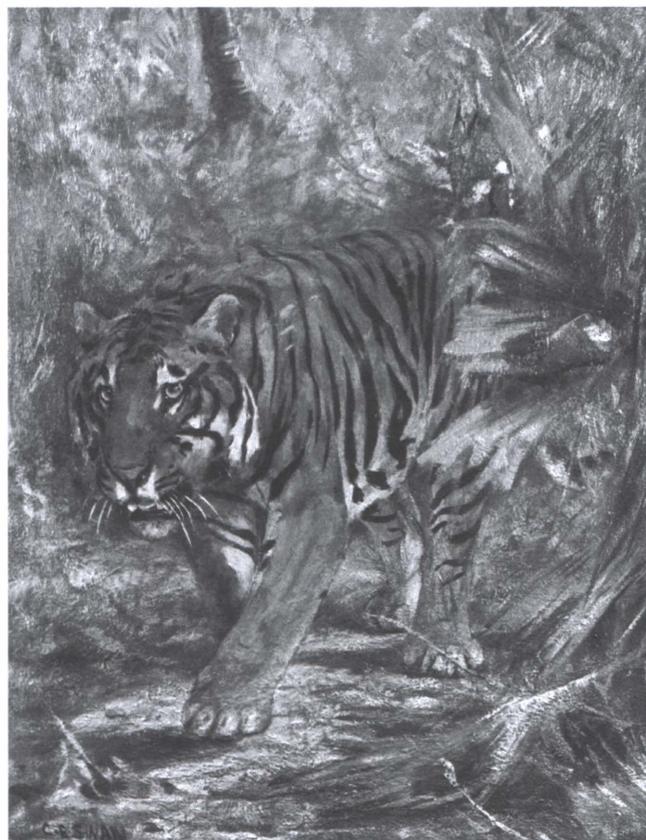
Bernard began by acknowledging something that I think we would all agree with: psi is a genuine *experience* that many people report. He admitted that his long-standing interest in psychic phenomena had not always sat comfortably alongside his day job as a professional physicist specializing in cosmology. For some of his colleagues, even a glance in the direction of psi is intellectual adultery, no matter how rigorous and sceptical the approach. While physicists by and large have steered clear of psi, psychology departments have found it much easier to accommodate psi within respectable research programmes. Whatever the ultimate explanation, there are real people with real – if not necessarily true – beliefs to study.

Like most scientists, Bernard rejected any kind of supernatural explanation: if psychic phenomena are real we should assume they obey natural laws, and since the study of natural phenomena is the undisputed domain of science, psi must therefore be amenable to scientific investigation. (However, I agree with Victor Stenger, 2003, in thinking that the naturalism of science is methodological and not necessarily ontological – even if there are supernatural 'forces' out there, our methods should be able to detect their effects on the natural world.)

Having answered his original question in the affirmative, Bernard then seemed to take a step back, by asking: Can science deal with mental experience? If science can deal with psi, surely it can deal with the more mundane category of mental experience? Jumping ahead to the more speculative conclusion of the talk, he asked another challenging question: Is psi an experiential glimpse of the holistic fabric of reality?

ARE PSYCHIC PHENOMENA REAL?

First things first: We know that we make errors in perceiving the world around us. Is that a tiger in the grass? A type I error is seeing a tiger that is *not* there, a false positive. We waste some energy running away from a non-existent threat and need a bigger lunch. A type II error is *not* seeing a tiger that *is* there,



Is that a tiger in the grass?

a false negative. We *are* lunch. The cognitive mechanism at work here is the hypersensitive agency detection device (HADD), which “scans the environment for intentional agents and their activity” (Barrett, 2007, pp. 67–68). The evolutionary strategy is simple: better safe than sorry. And in the modern world, where threats to survival from intentional agents have

been reduced to almost zero for many people, we're still lumbered with our error-prone HADDs (What's that spooky creak? Someone's there!).

The anthropologist Pascal Boyer and the psychologist Justin Barrett explore the fascinating possibility that our HADDs are involved in the construction of religious concepts (Boyer, 2001). Could they also be involved in the construction of paranormal concepts? While we're good at detecting traces of agency in our lives, we're also generally good at discarding false positives. Once we've run away from the tiger that wasn't there, we forget about it. Non-existence is usually, cognitively, not very interesting. Only when such over-detection is maintained and becomes a stable trait over time can this lead to the formation of supernatural concepts, which in turn generate their own complex inferences (Boyer, 2001).

If we can make errors in perceiving the world around us, why shouldn't we make errors in perceiving the world within us? Is this a different kind of world, made of different stuff, obeying different laws? There is a scurrilous kind of philosophical scepticism which denies that we can have any reliable access to an objective reality outside ourselves, that we should instead be true to our own natures (Frankfurt, 2005, pp. 64–67). *Cogito ergo sum* is a famous confusion, suggesting “that thinking, and awareness of thinking, are the real substrates of being” (Damasio, p. 248). Being certain of one's own mind and sceptical of the minds of others is a tricky *cul-de-sac* for some to reverse out of, it seems, even after Darwin. “We have no direct, conclusive evidence to support the belief that people are intentional agents with minds. Minds cannot be directly observed. We have no empirical evidence for their existence” (Barrett, 2007, p. 69). While Descartes may be excused his lack of evolutionary perspective, it seems incredible that in the same article in which he writes so well about HADDs, Barrett cites Alvin Plantinga in support of this sceptical position.

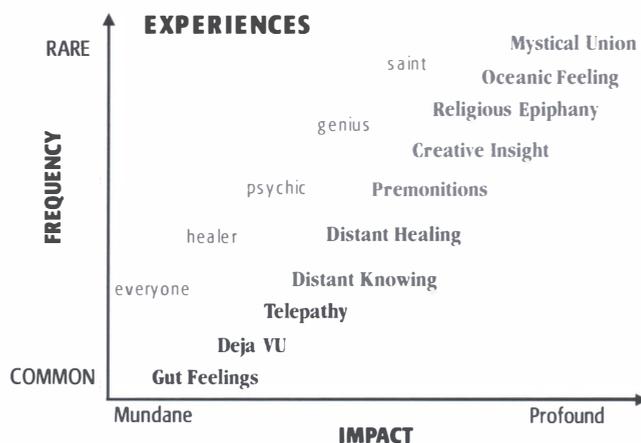
A more balanced approach is to admit that, just as we can be mistaken about the world out there, so too do we have imperfect self-knowledge and underprivileged access to ourselves. We are far from perfect conscious introspectors. No wonder we are tempted, as Daniel Dennett suggests, to “exploit the cognitive vacuum, the gaps in our self-knowledge, by filling it with a rather magical and mysterious entity, the unmoved mover, the active self” (Dennett, 1984, p. 79).

Returning to the question – are psychic phenomena real? – let's cut to the chase. When we see a woman sawn in half, we marvel at the trick, even though we have no idea how it's done. Having paid to see a magic show, we're unlikely to conclude that psychic powers were involved. In a different context, however, a naturalistic explanation might not be so readily available.

Still, while I don't believe psi is real, like many of us drawn to this magazine's brand of scepticism, I'm interested in belief formation, and how throughout history various characters have gone around claiming to be able to access a higher power, often gaining power and status as a result of being able to convince other people of their abilities.

THE VARIETIES OF HUMAN EXPERIENCE

One of the themes of Bernard's lecture was that parapsychology was more interested in experiment than experience, that there is a general discomfort with spirituality and mysticism, and that we should focus more on experience. He displayed a graph of 'Rare versus Profound' experiences (see Figure 1) and toward the lower left of the graph, in the armpit of the axes, lurked gut feelings, just below telepathy and 'distant healing', while soaring in the clear blue sky of the upper right floated mystical union.



Plot of frequency against profundity of mental experiences. Graph courtesy of Dean Radin, Institute of Noetic Sciences.

While rarity of report is probably a variable most observers can agree on, more difficult to determine is the profundity of an experience. This will inevitably involve a value judgment, and may even be flatly contradicted by other individuals. For example, would a Christian agree to have their experience of the healing power of Jesus placed slightly lower on the grid than a Bodhisattva's experience of enlightenment, or vice versa? There is a subjective dimension to our experience of profundity.

In making the distinction between experiment and experience Bernard pointed up the contrast between third- and first-person reporting. Third-person is the realm of no-nonsense science, while first-person would seem to be beyond measure-

ment (forget about those fancy new fMRI machines) – but obviously not always beyond description. Bernard went back to the graph of first-person experiences and characterized the ‘lower’ experiences (those rooted in our bodies, e.g., gut instincts) as capable of transforming the individual only, while the ‘higher’ experiences (those involving the spirit, however this emerges) as capable of transforming the world.

An interesting aspect of this characterization of purely first-person experiences is to what extent it is open to third-person scrutiny. Because of what happened to him and what he achieved, Gandhi tends to be believed when he claims profound contact with a higher reality: he got involved with a political movement that affected the destiny of a whole subcontinent. If someone claims a gut instinct lay behind some decision, we tend to believe them, and we don’t request objective evidence for their experience. Gut instincts are also key to falling in love – and while your best friends might not agree you’ve fallen for the right person, they will take your self-report at face value. In our personal lives, such ‘low’ instincts – butterflies in the stomach and a rapidly beating heart – can have profound repercussions.

Now take the case of David Shayler, who announced that he was the reincarnation of Jesus Christ at Glastonbury Town Hall (Wilson, 2008). Even the most credulous person in Britain might frown at this announcement and for a fraction of a second become an absolute sceptic. David Shayler would have to change the world in a pretty amazing way for us to even begin to believe that he was self-reporting accurately a real state of the universe and not just a really, really anomalous mental state.

INTUITIVE DUALISM

To illustrate his point that parapsychology is the bridge between matter and mind, Bernard showed a slide of Monet’s *Bridge at Giverny*, the one with lots of lilies and the sort of garden we’d all love to spend a lazy summer afternoon in. Bernard could have chosen the Iron Bridge in our own lovely county of Shropshire, but I fear that the weight of that massy structure would have broken the back of his metaphor. While we are all “natural-born dualists” (Bloom, 2004, p. xiii), I believe dualism to be false. Gilbert Ryle was right to expose the “official doctrine” that “every human being is both a body and a mind”, and right to ridicule the “dogma of the Ghost in the Machine” (Ryle, 1949, pp. 13, 17). It is a category mistake to suppose that matter and mind are the same kinds of entities between which a bridge, however metaphorical, can be built. Bernard did not address this question, and this is where his metaphor began to wobble like the original Millennium Bridge.

INTELLECTUAL TRICKLE DOWN

What to make of Bernard’s suggestion that the bridge has something to do with higher dimensions? This was a novel idea to me, but such talk can pop up in unexpected places. In his recent excellent book on the Dover trial to keep intelligent design out of the science class, Matthew Chapman included part of an interview with a local called Scott Mehring, who had this to say: “Now if you believe in physics, you got the eleventh dimension... and inside the eleventh dimension they say there’s an infinite number of universes. So my take on that is that if you die on this earth, we just hop over to the eleventh dimension... So that means the bible could be right with everlasting life after we die” (Chapman, 2007, p. 252).

The intellectual trickle down effect at work! And who, pre-



Monet’s *Bridge at Giverny*. Can parapsychology provide a bridge between mind and matter?

cisely, are “they”? Legitimate scientists like Bernard Carr, whose ideas get reported and simplified and passed on down the food chain till they’re recycled in the most surprising ways. People attracted to quantum woo of the Deepak kind are unlikely ever to have solved Schrödinger’s equation, and even erudite philosophers can come over all confused by the simple metaphor of the ‘selfish gene’. Here we have serious ideas being wrenched from their original, and probably highly mathematical, context and plunked into the brains of middle-aged

men in Pennsylvania. What kind of psychological anomalies is that going to provoke? The kind on peacock-strutting display in a Pennsylvania courtroom. As Chapman puts it, here was the whole ID debate in its most naked form: an auto repairman – a biblical literalist without a shred of knowledge – deciding which books the kids should learn from, helped along by a woman who had no curiosity about anything and would happily lie in court to promote her religion (Chapman, 2007, p. 236). At the other end of the intellectual spectrum, at least in terms of qualifications, was Steve Fuller, drafted in at the last minute for the defence and now, in Professor John Worrall’s phrase, “wanted for crimes against truth and rationality”. (This is how Worrall began a recent talk at the Conway Hall in London: a photograph of a smiling Steve Fuller with this as a caption.)

Pushing the boundaries of science is not what comes to mind when contemplating the inanities of the ID crowd, but, according to Fuller, that’s what was at the intellectual heart of the case. Patrick Gillen, lead attorney for the defence, in his summing up claimed that ID was a new scientific theory that Fuller “believes may well open a fascinating prospect to a new scientific paradigm.” Indeed, Fuller argued that ID was science, that it was not religious, and that it was as testable a theory as evolution. All it required was a scientific revolution, because at the moment there was a ‘dominant paradigm’ which stood in its way. ‘Paradigm’ may once have been triple-A scientific jargon but its status is now more subprime (even its best-known advocate Thomas Kuhn had his doubts). Is this crying in the wilderness for a new paradigm the secular version of turning to god to explain the gaps in our knowledge?

POLYFILLA PARADIGMS?

So I was intrigued to hear Bernard Carr say that “there are gaps in our current paradigms”, not just gaps in our knowledge. Is this a kind of supercharged agnosticism? Or are paradigms overrated, more rhetorical devices than serious research tools? While polyfilla gods are in constant retreat before advancing knowledge, the Newtonian paradigm is still immensely useful in the snooker hall and when flying to the moon.

The study of consciousness is another fertile area for those with a taste for mystery – there are plenty of gaps in our understanding, but also that special additional peculiarity that while thinking about the problem, you’re actually in the middle of it. It’s not remote like the Cambrian explosion but by definition (so long as you’re not asleep on the job) real and present.

As an unashamed monist and a reductionist, and insofar as I understand the issues from my amateur perspective, I’ve tended to side with optimists like Daniel Dennett in rejecting the argument that consciousness is a special case, an exception to

the reductionism that has been so successful elsewhere in the sciences. The optimists believe that the mysterians have sold reductionism short. So what to make of someone like Jonathan Miller (whose scientific and atheist credentials are impeccable), who describes himself as an agnostic materialist and recently dismissed naive reductionism as involving a fundamental category error? For him, consciousness is not like any of the problems that neuroscience is proving successful at investigating, and, during a lecture at the Royal Institution, he rather mischievously characterized the Churchlands as naive West Coast reductionists (Miller, 2009).

PLUS ULTRA

Whoever is right, and whatever new paradigms lie in store, one paradigm that isn’t going to change anytime soon is that scientific progress rests upon the observation of uniformity in the course of events and the application of past experience to new circumstances. According to William Clifford (1999, p. 7), this is the aim of scientific thought: to gain “information transcending our experience”.

There is a strong temptation, however, even among some scientists, to go along with Stephen Jay Gould’s separation of science and religion into ‘non-overlapping magisteria’, each competent within its own field of expertise. There isn’t space here to explore this issue, but Bernard Carr alluded to a similar idea by quoting Price (1955): “We inhabit two worlds simultaneously, the world of common experience governed by physical laws and another space quite as real which obeys other laws... continuous dream life goes on throughout our waking hours and occasionally we may catch a glimpse of it.”

Such fanciful talk reminds me of an example Clifford (1999, p. 5) used as a warning about what counts as legitimate inference: “Now suppose that the night before coming down to Brighton you had dreamed of a railway accident... the result of which was that your head was unfortunately cut off, so that you had to put it in your hat-box and take it back home to be mended. There are, I fear, many persons even at this day, who would tell you that after such a dream it was unwise to travel by railway to Brighton. This is a proposal that you should take experience gained while you were asleep... and apply it to guide you when you are awake... in your dealings with a real railway. And yet this proposal is not dictated by scientific thought.”

Clifford was writing in the 1870s, but many people would still hesitate at London Victoria after having such a dream.

CAN SCIENCE DEAL WITH MENTAL EXPERIENCE?

Heterophenomenologically speaking, yes. (On a good day and with a fair wind, I can even pronounce this word.) What

Dennett is proposing is that we neither challenge nor accept as entirely true the assertions of subjects, but rather maintain “a constructive and sympathetic neutrality, in the hopes of compiling a *definitive* description of the world according to the subjects” (Dennett, 1991, p. 83).

Just as I’m sceptical of the dreamer who doesn’t want to take a train, I’m not convinced that religious visionaries have, even temporarily, a special ability to discern aspects of reality that ordinary experience can’t disclose. Some think that religious people are generally pretty trustworthy, but as the Dover trial judge (a Republican Bush appointee) pointed out in his summary, as well as wasting time and resources, those Christians who had brought the case had lied for God (Chapman, 2007). One of the witnesses for the defence self-reported feeling under great pressure during a meeting. On listening to the tape the judge said, “You didn’t look like you were very pressured to me. Is there something in that tape that suggests to you that you were feeling pressured at the time?” The Christian replied: “I can’t help how it looks... I’m telling you I felt pressured at the time.” (Chapman, 2007, p. 221).

THE WORLD AS OTHER THAN IT IS

Can science accommodate psychic experience? Can science explain the mind? The original question has broadened and become rather more personal. We’re used to a little privacy inside our skulls. Even those pioneering male Victorian scientists who delighted in lifting the skirts of nature might have balked at having their own breeches pulled down. Dennett (2003) reports that scientists, from the outside, using their third-person methods can tell you things about your own consciousness that you would never dream of. So, we may not even be experts on ourselves. Perhaps that will be a good thing: humanity’s never been short on hubris.

Finally, let’s not forget that other bridge, between the world as it is and the world as other than it is, between the real world and the world of the imagination. The normal human mind is an engine of the imagination as well as an information processing machine. We’re always transcending humdrum reality, weaving our own holistic fabric by picking up a Harry Potter book, going to see *A Midsummer Night’s Dream*, or just wondering what to have for tea. Perhaps psi is yet another imaginative exercise with which to engage the mind, simply one more view from the bridge?

After finding physics too hard, Jon got into scientific publishing at the Royal Society, where he also absorbed some of that institution’s sceptical ethos. He left to form his own journal and book production company, and reviews on Amazon as SpheX.

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Professor Bernard Carr Replies

I'M GRATEFUL to Jon Wainwright for his interesting report of my recent APRU lecture. We may not see eye to eye on everything but his description of what I said is accurate and he makes many cogent points, some of which I would like to respond to.

I'm glad he picked up on my "tiger in the grass" analogy (originally derived from a talk by Peter Brugger). The importance of type I errors (seeing a tiger which isn't there) and type II errors (not seeing a tiger which is there) is clearly crucial for anomalous cognition researchers. However, Jon must appreciate that the analogy cuts both ways: there is no doubt that people sometimes see psi when it isn't there but the question is whether sceptics sometimes fail to see psi when it is there. We know that tigers exist but does psi exist?

In this context, it is important to stress that the issue of whether psi is real is completely distinct from the issue of *why* people believe in it. To a physicist like myself the first question may seem more fundamental but the work of the Anomalistic Psychology Research Unit demonstrates that the second question is equally interesting to a psychologist. However, even if it is true that people who experience psi have certain psychological characteristics (fantasy-proneness, divergent thinking, etc.), this neither proves nor disproves psi's existence. Doubtless people who see imaginary tigers also share certain psychological characteristics.

As stressed at the outset of my talk, the challenge is to extend science to accommodate *normal* mental experiences as well as *paranormal* ones. This is a useful starting point because, whatever our different views on the paranormal, I'm sure Jon and I would agree that it's legitimate to enquire whether science can encompass ordinary mental phenomena like memories and dreams. And I don't just mean this in the sense that psychology studies mental states but in the deeper sense of whether consciousness and its contents can be part of the same sort of scientific theory which describes the material world. Whether this hope can be fulfilled remains an open question – some people argue that subjective experience is intrinsically beyond the reach of science and Jon discusses this view in his report – but I don't think sceptics will begrudge me the attempt.

However, I doubt that Jon is comfortable with the second step in my argument: that the type of science required to accommodate normal mental phenomena may also suffice to

accommodate paranormal ones. That is one reason why I emphasized Dean Radin's unification diagram of the different types of mental experience. This plots their rareness versus their profundity and suggests that there is a natural continuum going from the mundane through the psychic to even more exalted states. I agree with Jon that measuring profundity might be problematic (and one should certainly be wary of self-reporting) but that doesn't detract from the main point of the diagram – that any scientific theory which aspires to describe mental experiences must incorporate *all* of them because any experience is valid *per se*. However, I confess that it was my interest in psi which originally motivated me to construct my theory, so I wouldn't be surprised if Jon saw my proposal as the thin edge of an unwelcome wedge!

One of my claims is that psychical research provides a bridge between matter and mind – a theme which I explore in greater depth in a recent *SPR Proceedings* (Carr, 2008). Jon is unhappy with the bridge analogy because he feels it could be a category mistake to assume that matter and mind are the same type of object. He argues that Foster's wobbly Millennium Bridge would be a better analogy than Monet's sturdy Giverny Bridge. I agree that my purported bridge is very rickety – it's still under construction – and I myself considered using the image of the Millennium Bridge, so we're not far apart here. But the crucial question is whether a bridge is possible in principle.

The problem is that Jon is an "unashamed monist and reductionist"; while he feels the bridge analogy presupposes a dualist view of the relationship between matter and mind. But I don't really agree here because the problem with dualism is that it fails to account for how matter and mind interact at all, so this would also exclude a bridge. I would claim that my own approach – which invokes a higher-dimensional information space (viz. a "Universal Structure") which amalgamates ordinary physical space and the space of mental phenomena – is neither dualist nor monist. Although it is not materialistic, it does invoke an extended form of physics (extra dimensions being all the vogue in physics anyway) and in that sense it is scientific. Whether it is reductionist depends on what one means by this term. Mind is certainly not reducible to old-fashioned classical physics in this picture but it may be reducible to some new extended physics.

On the other hand, my Universal Structure goes beyond the

usual one-level reality of materialism, which sounds rather mystical, so I don't suppose this argument is going to win Jon over. While I concur with his dismissal of the "scurrilous philosophical scepticism which denies that we can have any access to objective reality", my own theory predicts that consciousness can have access to an ever larger objective reality (i.e., I ascribe an objectivity to what is usually regarded as subjective) and I suspect he might regard this as even more scurrilous. Certainly my claim that there is a hierarchy of mental experiences related to a hierarchy of realities based on a hierarchy of extra dimensions will not appeal to most of my physics colleagues!

Jon worries about "serious ideas being wrenched from their original and highly mathematical context". There is certainly a danger of this, as evidenced by some 'new age' presentations of quantum mechanics, which give the impression that – since quantum mechanics is weird – it can explain anything else which is weird! I also accept that some people may misuse my proposal for their own purposes without properly understanding it. Whether my fellow physicists will regard my use of extra dimensions in the same way is a moot point. I am certainly a legitimate scientist in my professional life but it must be appreciated that I am going beyond my professional domain in these speculations. Certainly my proposal will not be welcomed by M-theorists. They are already prone to the accusation that their ideas are too remote from experiment to qualify as physics, and their critics might regard my suggestion as demonstrating a *reductio ad absurdum*.

My talk emphasized the concept of paradigm shifts in

physics and Jon questions this. It is true that there are technical disagreements among philosophers of science about what constitutes a paradigm shift but I don't think anybody questions that our model of physical reality undergoes occasional and dramatic changes. He criticises people who latch onto gaps in the current paradigm in an attempt to denigrate science but this is mainly in the context of the intelligent design debate. This is not a topic I touched on, but I do have an interest in the science-religion connection and I share his antipathy towards "polyfilla gods in retreat of advancing knowledge". However, unlike the denigrators of science, I merely infer that the path of science is not yet complete and that the gaps in the current paradigm may give a clue as to what form the next one will take.

Of course, we cannot know in advance which bizarre ideas some future paradigm may eventually legitimize and one must beware of assuming that 'anything goes'. On the face of it, nothing could be more bizarre than the notion that the Large Hadron Collider in probing higher dimensions may in some sense be probing mental space, but then some critics would argue that higher dimensions only exist in the minds of M-theorists anyway! It's not so easy to anticipate which crazy ideas will turn out to be correct, which is why there will always be room for open-minded scepticism.

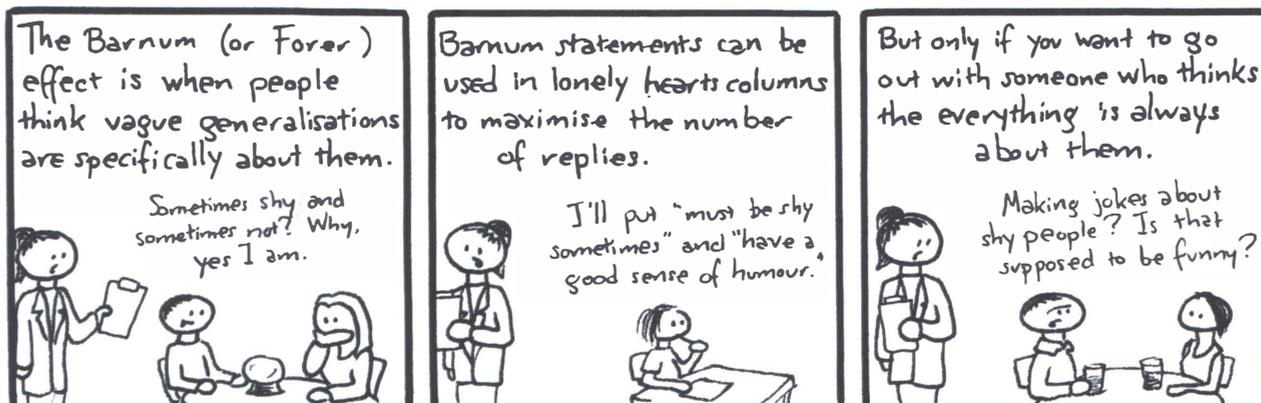
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Bernard Carr is Professor of Mathematics and Astronomy at Queen Mary, University of London, his professional area of research being cosmology and relativistic astrophysics. He also has a long-term interest in parapsychology and he was President of the Society for Psychical Research in the period 2000-2004. He can be reached at b.j.carr@qmul.ac.uk

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CONTRADICTION ADDLE-HEADED MOONSHINE

Snake Oil Science: The Truth About Complementary and Alternative Medicine

by R. Barker Bausell

Oxford University Press, £13.99, ISBN 978-0-19-531368-0

Bausell covers the rise of CAM, the history of placebos, impediments to valid inferences, why randomised placebo controls are necessary in CAM research, judging scientific evidence, personal research on acupuncture, how we know the placebo effect exists, a biochemical explanation for the effect, what trials and reviews reveal about CAM, and how CAM is hypothesised to work.

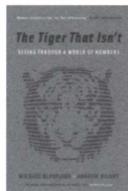
He begins by quoting Robert Park's experience of seeing CAM advocates nodding in agreement despite giving differing views on the field's most important issues: in a body which regards itself as embattled and besieged there can be no internal dissent. In a new area, poorly conducted research is the norm, and almost invariably produces false positive results. Patterns are often very difficult to distinguish from coincidence. CAM therapists do not value (and most, in Bausell's experience, do not understand) the scientific process. There is the "file drawer" problem, familiar from other areas of paranormal research: negative results are less likely to be published, and the problem of attrition: subjects who feel they are not being helped tend to drop out.

The nature and quality of the publishing journal is particularly important in CAM research; a homeopathy or acupuncture journal is unlikely to publish a trial that suggests homeopathy or acupuncture doesn't work. Small studies tend to produce distorted results. Good news is always preferred to bad, and there are always people whose beliefs are more important to them than whether or not they are correct.

Bausell relates how his mother-in-law's experience with CAM treatments for pain demonstrates the *post hoc ergo propter hoc* fallacy, the mother of all superstitions: the fact that one thing follows another is not evidence of cause and effect. His mother-in-law attributed pain relief to the treatment, when in fact her pain pattern shows that it would have diminished anyway. Our old friend the principle of parsimony appears, and Occam's Razor is vigorously plied.

Bausell summarises well over a hundred CAM trials and discusses all the well-known CAM therapies, and his conclusion is unequivocal: "CAM therapies are nothing more than cleverly packaged placebos."

Ray Ward



NO MEAN FEET

The Tiger That Isn't: Seeing Through a World of Numbers

by Michael Blastland and Andrew Dilnot

Profile Books, £7.99 (pb), ISBN 1846681111

Our lives are more and more dominated by an endless flood of numbers: the average cost of this, the increased risk of that, the number of people who have stopped, or started, doing something else. Yet this increase in data rarely seems to go hand in hand with an increase in understanding and it just seems so difficult to make sense of all the numbers. Does tagging reduce re-offending rates? Should men stop eating cured meats or women stick to one glass of wine a day? What, if any, is the long-term effect of speed cameras on accident rates?

The answers to questions like these are important if we are to make sensible private or public decisions. Michael Blastland and Andrew Dilnot, the creator and presenter respectively of that excellent Radio 4 programme, *More or Less*, have done something quite unusual: they have written a book about numbers that is lively, readable and entirely practical.

They begin with the assurance that we all know more than we think we do when it comes to making sense of numbers, simply as a result of our own experience. We don't need to retreat into the "Lies, damned lies and statistics" position, nor see numbers as the deciding factor in any argument. A reasonably sceptical attitude and the habit of asking a few simple questions will usually lead us to the 'take away' message buried (often deliberately) in a set of figures. This is certainly not a text book but a book for the consumer of statistics, which is all of us. It is divided into a dozen clearly

defined chapters, each dealing with a single topic such as chance, averages, targets, risk, comparisons and correlation, and illustrated with neat everyday examples and reminders of why we should approach even an apparently simple thing like an average with caution. Just remember that an average rainbow would be pure white and most people have more than the average number of feet – which makes them typical.

Perhaps the most valuable chapter is the one on risk, since it is the figures relating to this that cause the most uncertainty and anxiety. A statement like "risk up by 42 per cent" sounds scientific and authoritative but tells us nothing useful (42 per cent of what?) or helps us answer the questions we want to ask: "Does that mean me?" and "What should I do?" The straightforward way to bring this back into line with personal experience is to use natural frequencies – so many people per 100 or 10,000 or one million. The underlying message of the book, one that every politician and journalist should have drilled into them, is that life is messy and complicated, and that looking for certainty in the numbers that are produced is a waste of time. Truly it has been said: "If you ask a question, statistics will tell you the answer. What they won't tell you is whether you asked the right question."

Michael Hutton

Reflections on scepticism

As someone who has been a regular reader of *The Skeptic* magazine, and on the fringe of what was once a fringe community, I thought this might be a good time to share some observations I have made about scepticism.

I was brought up with a religious perspective to life that grew into a fascination with the question of what consciousness is and left me with a strong interest in science and philosophy. These interests have led me into the more Fortean side of life as well! One of the valuable insights I have gained is how important it is to try and tread a very fine line of being open to new ideas and insights, but viewing these with a *positive* scepticism and, importantly, a degree of humour.

I have been fortunate to meet many great people from all sides of the debate and feel the richer for it. Having had a foot in so many different camps, one of the lessons I have learned is how easy it is for groups to fall into a self-satisfied kind of dogmatism without seeing it in themselves, but only seeing it in others outside of their group! I have encountered this fundamentalism in many areas including scepticism, alternative beliefs and secularism/atheism.

Fundamentalism is essentially very attractive because it frees us from the hard job of trying to understand our complex lives, experiences and contradictions. It enables people to fall back into black and white positions, and to project our uncertainties outside onto others.

An observation I have made is that sometimes sceptics are too quick to want to debunk something without really appreciating that sometimes people can be right for the wrong reason. What I mean is that often the targets of the debunking are not scientifically trained, and are often clearly over-confident in what they perceive they can do.

It is important, I feel, that sceptics do more to work with these types of people to try and understand what it is that might be going on (or not), and devise appropriate tests that may have a more realistic chance of achieving some kind of interesting and intelligent results. This may result in types of tests being carried out that the claimant had not even imagined. We need to aim at the truth, not trying to win an argument.

At this point in our history we need clear and rational thinking more urgently than ever. I work as an engineer and am only too aware of the evidence for global warming and climate change. The evidence has become overwhelming that we should take urgent action *now*. I believe the sceptical community should be more vocal in taking on this issue and other important issues such as:

- Maintaining free speech (including views we find uncomfortable), as this is essential to the type of society we want. Without it, we have no real sceptical movement.
- Cleaning up our democracy and increasing accountability.
- Highlighting the misuse of statistics by the drug industry, politicians and other groups. This includes issues such as GM crops, pollution to our environment, etc.

I believe the recent rise in popularity in scepticism is partly due to the fact that many of these more serious issues are starting to be looked at by the general public.

For the 'Sceptical Movement' to really find its place in history, at this critical moment in time, it needs to move up a few gears; to stop devoting so much time being hung up on issues such as Creationism, etc. We have to accept that unless we want to become another fundamentalist organisation, content to change little but indulge in purist arguments, we have to try and work with different belief systems to address some of the critical issues mentioned earlier. We need to encourage everyone to start thinking, and to try and find the courage to think in new ways, and we also need to be sceptical of fellow sceptics. No one should be safe from being questioned!

Finally, as I have grown older, I really have come to realise that my worst nightmare would be to spend my life surrounded only by people whom agree with me. So long live debate and a good argument!

**John Roberts
London**

Please send your letters to: *The Skeptic*, Anomalistic Psychology Research Unit, Department of Psychology, Goldsmiths, University of London, New Cross, London, SE14 6NW or e-mail edit@skeptic.org.uk. Email communication is preferred. We reserve the right to edit letters for publication.

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