

The

Volume 14 Number 4

Skeptic



Watch Out! Alien Big Cats About!

Also in this issue:

The sexual orientation controversy
Post-modernism and parapsychology
Nostradamus said what?

Plus: News. Book Reviews. Comment. Humour

Hilary Evans' Paranormal Picture Gallery



QUEEN ASTRID OF BELGIUM

On 29 May 1935 Queen Astrid of Belgium is killed in a car crash: three years later she reappears in Copenhagen, at a séance with the Danish medium Einer Nielsen. For some reason she is wearing, not the clothes she was wearing when she died, but long white robes, including hood, which cover all of her except her face. Fortunately, this is enough to identify her.

It would be interesting to know what, if anything, she is wearing underneath all this drapery? Is there even a body there? If so, in what state? It would be interesting too, to know if this clothing is her idea, or whether it is standard wear for those returning from the grave? If so, where did she get it from? Is there a clothing store in the next world where one can go to be kitted out in the correct garments for revisiting Earth?

It is interesting, too, that the clothes worn by the returning dead conform pretty closely to Moslem requirements, though the Taliban would be shocked that so much of Astrid's face is visible. That other royal automobile victim, Princess Diana, was rumoured to be contemplating conversion to Islam at the time of her death. If she should choose to return in the same way, let us hope that, never shy during her lifetime of revealing intimate details in interviews, she will after death be equally informative.

So far as I know, no conspiracy theories were bandied about in 1935. Yet Astrid was a Flemish commoner, whose marriage into the Belgian royal household caused much tut-tutting. Was her death less accidental than it seemed? Did someone tamper with the royal steering? Stranger things have been suggested...

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Editorial

Kate Holden and Chris French

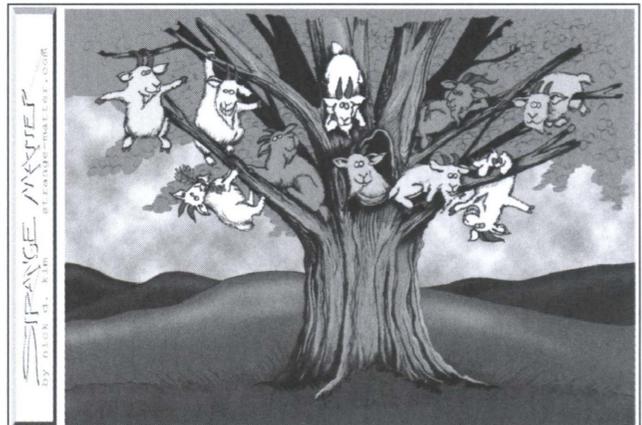


HELLO AND WELCOME to the first edition of *The Skeptic* to be edited solely by us. Prior to taking over this new role we were the guest editors for issue number 14.1, where we explained our work in the Anomalistic Psychology Research Unit in the Department of Psychology at Goldsmiths College. Why did we decide to take over as editors? Good question! It certainly was not for the money or the glamour (there isn't any). It was simply because we felt that *The Skeptic* plays an important role in attempting to counter the often sensationalist and one-sided coverage of paranormal and related matters by the media. One aim is thus to provide thought-provoking alternative explanations for a range of paranormal phenomena. We also intend, however, to run occasional articles dealing with other controversial scientific issues which would not normally be labelled as "paranormal". In general, the aim of *The Skeptic* is to encourage critical thinking on all fronts.

We're sure that you will all agree that Wendy Grossman has done a magnificent job as editor all these years since she first founded the magazine in 1987, while not forgetting of course the excellent job done by Steve Donnelly and Toby Howard during their stint at the helm. Our thanks go to them all for their hard work, but with special thanks to Wendy for the support and help she has given us as we try to find our feet in our new role as editors. She will continue to write her *Hits and Misses* and *Skeptic at Large* columns (now that

she's once again freed from her chains), for which we are most grateful.

It is not our aim to radically change the face of *The Skeptic*, though we would like to take this opportunity as new editors to encourage your feedback regarding the kinds of articles you would like to see more or less of.

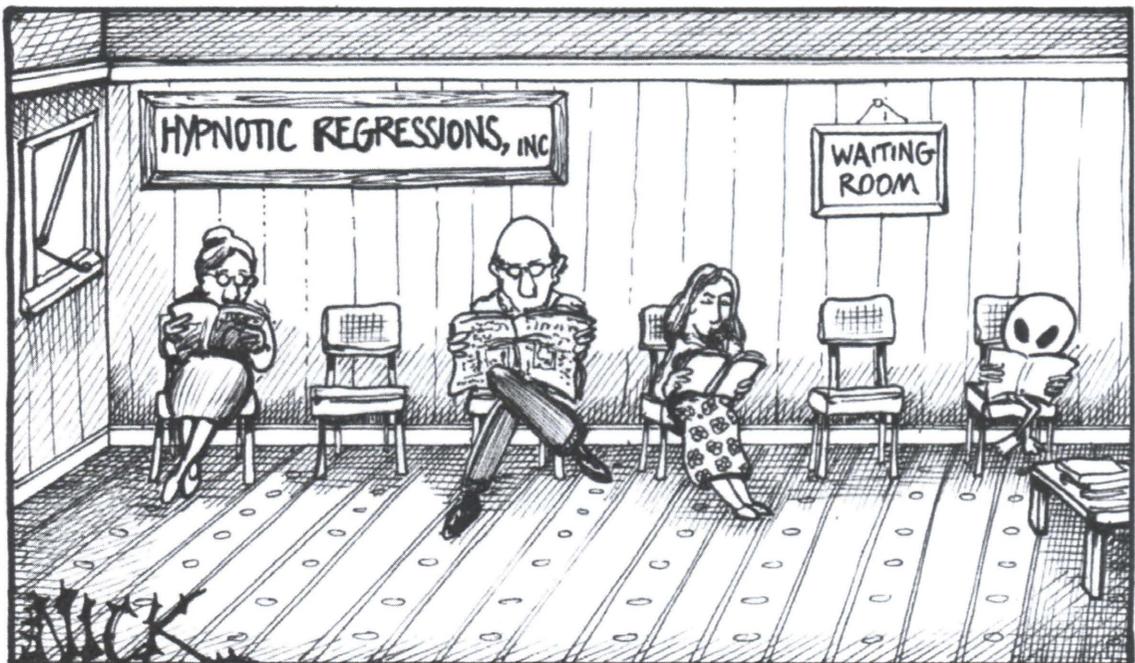


"The Persistence of Goats." Oil on Canvas. 1964. An important work from the "Dr Seuss-meets-Salvador-Dali" school of art.

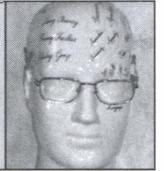
Of course, we would also very much like to hear from any of you who would be interested in writing a piece for us, or who can recommend a potential contributor. Finally, if anyone would like to help in other ways, such as proof-reading, then we would be most pleased to hear from you.

With best wishes until the next issue, Kate and Chris

STRANGE MATTER
by nick d. kim
strange-matter.com



Hits and Misses



The mobile effect

Some people just don't like modern, new-fangled devices like mobile phones. Recently, the Society for Psychical Research's Tony Cornell has been complaining that mobile phones are killing off ghosts. The evidence? Since mobile phones were introduced some 15 years ago, the number of ghost reports submitted to the SPR has dropped to...well, none, actually. Three years ago, the SPR was getting two reports per week. The SPR's theory is that the electronic noise of cellphones and text messages is drowning out the type of electrical activity that produces paranormal phenomena, a form of shyness effect we weren't previously aware of, although we do believe ring tones should be banned from public life (get a vibrating battery).

Or...as we've said before, there are fashions in beliefs as everything else. Maybe people still see the same things and don't interpret them as ghost sightings but as alien visitations. Maybe Kilroy, not the SPR, is getting the ghost reports (it certainly seems like it). Maybe there are other things that started to happen nearly 15 years ago that correlate just as effectively with the drop in ghost reports. 1987 was around the time people started going online, too. And there was a stock market crash that October. And – YES! -- it was the year *The Skeptic* was founded! It's *The Skeptic* effect!

Urban legends

The September 11th attacks on the World Trade Center and the Pentagon have been, as you might expect, a rich source of new urban legends. There's the Klingerman virus, a hoax that warns people that sponges impregnated with a deadly virus with a return address from "The Klingerman Foundation" are being mailed randomly to Americans (hoax, hoax, hoax, though everyone's jittery about those envelopes containing white powder). There's the one about how everyone should walk out their door on a particular night and light a candle so NASA can take a satellite photo for the morning news (even if you extinguish every artificial light, candles are extremely unlikely to be visible from a satellite). A worker in the WTC managed to miraculously escape by riding the building all the way down (sorry, that one only happened in the movie *Titanic*). CNN ran footage of Palestinians dancing in the streets that dated back to 1991 and the invasion of Kuwait (CNN has denied the rumour and pointed out several elements that proved the footage was new, such as the types of automobiles in the pictures and the comments about Osama Bin Laden). Plus, of course,

the face of Satan appeared in the WTC fire (only after digital enhancement).

Hair today

Oxford scientists announced in April that they were unable to match the DNA in hair gathered from a tree in Bhutan to that of any other animal. The Oxford Institute of Molecular Medicine sent out an expedition team, which was led by a "Yeti-hunter" to a forest in the eastern part of the country, where strands of hair supposed to be from a Yeti were found in the hollow of a tree. In the past in such cases, hair or fingerprints have been matched to bears, langur monkeys, Himalayan goats, and pigs. While we are intrigued by the mystery, we think it's odd that a professional Yeti-hunter couldn't have led the scientists to, you know, a whole Yeti instead of just a few hairs.



In search of miracles

The Independent reported recently on the quest to canonise Mother Teresa, whose death in 1997 would normally require a wait until 2002 before her status could even be considered. Two commissions were set up to examine her life and works, one to examine her life and virtue, and the other to look at her alleged miracles. One miracle is needed for her to be beatified, and a second, after the beatification, for her to be canonised. Apparently the commission was deluged with letters from people saying they'd been miraculously healed by Mother Teresa; the case they chose to send on to Rome for consideration was

that of a Hindu woman from north Bengal who attributes the disappearance of a growth on her face to her prayers to Mother Teresa. Doctors and experts will have to decide whether the miracle was “organic, immediate, and irreversible”. The bar is set fairly low on this matter, since all the doctors and experts have to decide is that there was no natural explanation for this sudden cure. Yet another committee then examines the whole case and, if they believe it’s proved, forward it to Pope John Paul, who is said to be anxious to complete the business before he dies. It’s weird to discover that however modern our times we can still see a new saint created. We wish, however, that we could be present at the examination of the reports of Mother Teresa’s miracles, and even more that we could personally witness the final one required for sainthood. Somehow we doubt the church will open up the records to inspection.

The shape of bags to come

In between the research into cures for cancer and AIDS and the search for intelligent life, science goes down some truly important byways. One of these is the effort to create the optimally shaped teabag. Anyone who has lived in the US since 1952, when it was invented, may remember Lipton’s advertising campaign to explain the superiority of the “flow-through” bag – essentially, a long, thin, rectangular tea bag folded into a sort of triangular shape and folded and stapled together at the top. The thinking was that extra flavour would be released when the boiling water flowed through the resulting hole.



Perhaps proving that Americans take everything too seriously, Britain’s nation of tea drinkers stuck with square teabags until 1989, when with much fanfare Tetley introduced the round teabag. Since then, all sorts of odd shapes have proliferated, up to a few years ago, when Brooke Bond started selling those silly little space-consuming tetrahedrons.

Now, along come a couple of scientists from South Africa to spoil the party. Deogratuis Jaganyi

and Thamsanqa Ndlovu of Natal University, Pietermaritzburg, have been studying the matter, and conclude that shape doesn’t matter much. What matters is the infusion rate: the rate at which the leaves can move freely and release their chemicals (that is, tea) into the water. Since leaves swell in contact with water, the bigger the teabag the better. The infusion rate increases as the bag gets bigger, levelling off at a ratio of 1:20. *Nature’s* follow-up to the study examined commercially available bags and concluded that they all exceed this level, although Tetley’s round teabags are “a little cramped,” plus of course there is the wastage implicit in Tetley’s having to burn the fabric remnants from cutting out the bags. So size matters, shape doesn’t, and loose tea works best anyway. Isn’t science wonderful?

Aborting crime

An often-cited and controversial study by John J. Donohue of Stanford University and Steven Levitt of the University of Chicago, released in November 2000, claimed that, “Legalized abortion appears to account for as much as 50 percent of the recent drop in crime.” The argument went that the rise in abortion rates meant that poor, young, unmarried mothers had abortions instead of unwanted, crime-prone children, thereby both reducing the number of potential criminals and freeing up family resources for the remaining children, giving them a better life and therefore less inclination towards crime. The evidence for their contention was derived by comparing the drop in crime rates in the mid to late 1990s to the spreading impact of the legalisation of abortion in the US in 1970. By 1980, 1.6 million abortions were being performed a year in the US. So far, so controversial – opponents accused the researchers of all kinds of unsavoury agendas. A recent re-examination, however, suggests that the apparent correlation is more coincidental than causal. Ted Joyce of Baruch College, after re-analysing the data, concluded that the real cause was that use of crack cocaine, which became widespread in the early 1980s, ebbed by the early 1990s.

Timely Predictions

Finally, some words of wisdom from the web site of self-dubbed psychic Patricia McLaine:

Psychic predictions for specific months, or even sometimes years, do not always manifest during the times designated and could very well happen at other times during the present or another year. Timing is one of the most difficult aspects of psychic prediction. Everyone wants to know when, but it is not always possible to determine this. Important events in the life of an individual, a nation, or even the world, can often be sensed or intuitively known . . . but not necessarily the time or exact place where such events will take place.

Skeptic at large . . .

Wendy M. Grossman



It's the process, stupid

SCIENCE is kind of having a bad week. This is the week (such is *The Skeptic's* lead times) that it was revealed that a £250,000 BSE-related study has to be abandoned at near-completion because someone mistook cows' brains for sheep's brains. The good news is that the conclusion – that BSE can jump species – is now rendered invalid. The bad news is that means no one knows what the hell is going on, and rational policy decisions won't be makeable for some time to come.

Then, the *Independent* ran a little squib noting that the Committee for Publication Ethics, a group of leading doctors, has proposed a national panel to combat scientific fraud. The panel would join similar bodies in the US and Scandinavia, which have been operational for a decade. The incidents that launched this proposal were several: a GP in West Lothian struck off for phonying a drug trial; a researcher at King's College Hospital found guilty by the General Medical Council of falsifying his work on Crohn's Disease – no unknowing fakery, either, since he substituted his urine for that of 12 of his patients to fabricate their test results; and six more cases awaiting hearings.

So this has been a week where scientists were found to be a) befuddled and bumbling, much like the *Yes, Minister* version of science, and b) dishonest, maybe the *Only Fools and Horses* version of science. Or perhaps the Ig Nobel awards version of science. The 2001 awards, held only a couple of weeks ago, honoured – or, perhaps, dishonoured – scientists who investigated such knotty questions as why shower curtains billow inwards and injuries from falling coconuts. The 2001 British winner, in the Literature category, was John Richards for his founding of The Apostrophe Protection Society.

Lots of people think skeptics use science as a sort of substitute for religion and as just another belief system. But of course the point about science is that it's not a set of answers (as religions generally are) but a process by which the truth may be gradually revealed. That's what makes it so uncomfortable. At any moment, something we think we know may be overturned by new research and new results. Mathematics is the sole exception: if you've proved a theorem, it stays proved. This may be the reason why mathematics, as abstract as it seems to be, over and over again surfaces as the bedrock that keeps foreseeing the next big movements in other sciences. A case in point is topology, which I

thought was really cool when I was a teenager but didn't seem to be good for anything; now, it's important in physics as part of superstring theory.

An online discussion about evolution and creationism recently showed me how confused people really are about science and its processional nature. The participants certainly describe themselves as more than intelligent and literate about science. And yet, as the discussion progressed, it became clear that people really didn't understand the difference between a theory, a hypothesis, and a fact. This, of course, explains why creationists have made such headway in the US. They say, "Evolution is just a theory," and think that is all the justification they need for insisting that it not be taught as fact in schools. The implication is that the two ideas are equal. But the adjective they leave out is *well-supported*. It is a well-supported theory, with acres of facts to support it, whereas creationism is a belief system that can only be supported by the facts if you reinterpret those facts beyond recognition. Process again: we will never reach the point where evolution is beyond disproof, but we can and do keep adding to the evidence that supports it.

The troubles of the last week show that science is working the way it's supposed to. Under the scrutiny of peer review, faked research doesn't stay on the books for long and mistakes get found out. Even so, it's undeniable that there is damage to the public's trust in science and scientists. The upshot, dismaying to skeptics, is that people turn to alternative medicine and pseudoscience. Why not? If scientists and doctors lie to get funding and publication or can err on such a scale with public money, why should anyone trust them when they criticise things like homoeopathy or the alien-visitation theory of crop circle formation?

It has to be said, peer review is not the guarantee it once was (if it ever was). Some years back, I reviewed a book for *New Scientist* about the politics that can go into peer reviewing and subvert the way the process is supposed to work. Important research may not get the respect it deserves because it come from the wrong country: former WHO staffer Chris Zielinski put a lot of effort into pointing out how the rules of Western journal indexes tend to exclude research from Africa.

So what it comes down to is that science is greater than the sum of its scientists, who are, after all, only human. Perhaps that's why they're so resented: they are authority figures whose authority is only a process.

Wendy M. Grossman is founder and former editor (twice) of *The Skeptic*, and author of *From Anarchy to Power: the Net Comes of Age*. Her web site is at <http://www.pelicancrossing.net>.

How Big is an Alien Big Cat?

An exploration of the notoriously elusive Alien Big Cats by **David Hambling**

ALIEN BIG CATS are a staple of British news reporting. There are famous ones like the Surrey Puma and the Beast of Bodmin, and dozens of others which do not make the national press: in its latest annual survey, *Fortean Times* magazine found two hundred local newspaper reports of Alien Big Cats across the country. ABCs are notoriously elusive, and after a spate of media coverage the beast usually vanishes without trace. Occasionally there are blurred and ambiguous photographs, strange tracks and carcasses of sheep alleged to have been savaged by ABCs. The British Big Cat Society insists that the evidence for ABCs living in the wild in Britain is overwhelming. They believe the animals are now in their second and third generations, and that some may be unique hybrids of different types of big cat.

Nobody should doubt the ability of cats to remain hidden, a point that was emphasised to me by some researchers looking for jaguars in Venezuela. South American jaguars are substantial animals quite capable of taking full-grown cattle and horses. Ranch owners were concerned about their stock losses, but did not want to shoot endangered animals, which stimulated tourism. The team was aiming to tag a number of jaguars to monitor their movements. Even with an array of high-technology gear, a posse of knowledgeable llaneros (cowboys) and a Texan specialist in big cat hunting, they estimated that catching one a month would be a real achievement. This was in an area with a significant jaguar population making regular kills. I asked if I had any chance of seeing one while I was there. "The jaguars will see you," came the reply, "but you'll never see them."

Does this mean that big cats could be living in the wild in Britain? Perhaps the most important evidence is often ignored. Although most ABCs slip away into the twilight, in a small percentage of cases an animal is caught or killed. From these few we can gain some clues about what is really out there, and make a rational assessment of the claims made by ABC enthusiasts.

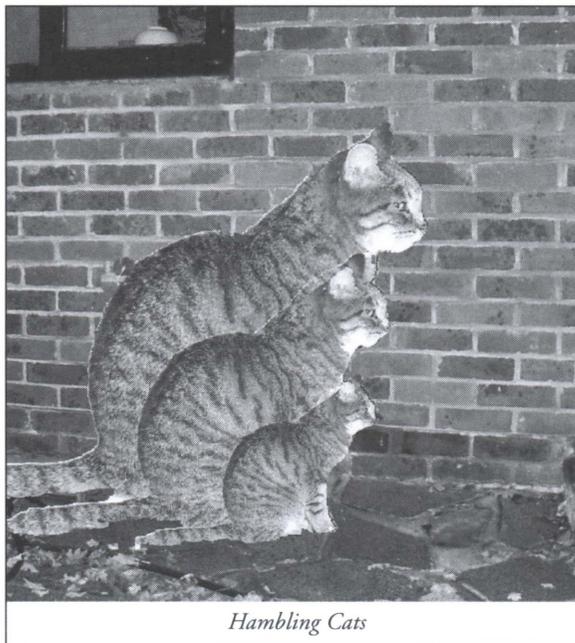
There are thirty-seven different species of cat, but they share many physical similarities. By contrast, the

single species of domestic dog varies in shape from Great Danes to Dachshunds. A Rottweiler is not simply a large Jack Russell; but a puma looks remarkably similar to a scaled-up Abyssinian. This can make judging size difficult. In 1996 police marksmen in County Tyrone cornered an animal after repeated ABC sightings. They concluded that it was a young lion and probably dangerous, and shot the animal. In fact it was a Caracal cat. These reach a weight of about 10Kg, the size of a large fox. Real lions, on the other hand, average around 200Kg. The dead cat was found to be wearing a leather collar: this was not a wild animal.

In 1999 there was the Beast of Barnsley. A number of witnesses reported seeing a lion and local people were advised to keep children and pets indoors. On further investigation the culprit turned out to be Rocky, a Retriever-Rottweiler cross whose coat had been shaved because of eczema. Although possessing a convincingly leonine mane, at about 30Kg, Rocky is only about one-seventh the size of the real thing.

In May 2001 a Mrs Johnson of Cricklewood called the police when she found a strange animal sitting on the wall of her back garden. She described it as "the size of an Alsatian," and suggested it might be a leopard. When staff from London Zoo sedated the creature with a blowpipe dart they found they had a young female European lynx. The lynx, which was named Lara, is now in London Zoo; where she came from remains a mystery. When captured she was somewhat underweight, at a svelte 11.5Kg. Although lynxes have relatively long legs, to equate her with an Alsatian (typically 35Kg) is like suggesting that Kylie Minogue (44Kg) is the size of Luciano Paravotti (130Kg). To describe Lara as a leopard (60Kg) would be inflating La Minogue to the dimensions of a pygmy hippopotamus (200Kg).

In 1983 the panther-like Beast of Exmoor caused so much concern that Royal Marines from 42 Commando were called in to hunt it down. In her book on the Beast, Di Francis recounts how a Marine sniper had the animal in his sights, but did not fire because he thought it was too far away for a safe shot. Afterwards



Hambling Cats

he was puzzled when he paced the distance out and found that the Beast had been easily within range. His mistake was in assuming it was a large animal; the animal was in reality much smaller and therefore much closer than he thought.

In Di Francis' book there is a photograph of the Beast walking across a hillside by a fallen branch. A second picture taken some time later shows Ms Francis crouching next to the branch to provide some scale. If we assume that it is the same branch – and this is by no means certain from the picture – then the Beast's shoulder reaches perhaps knee height.

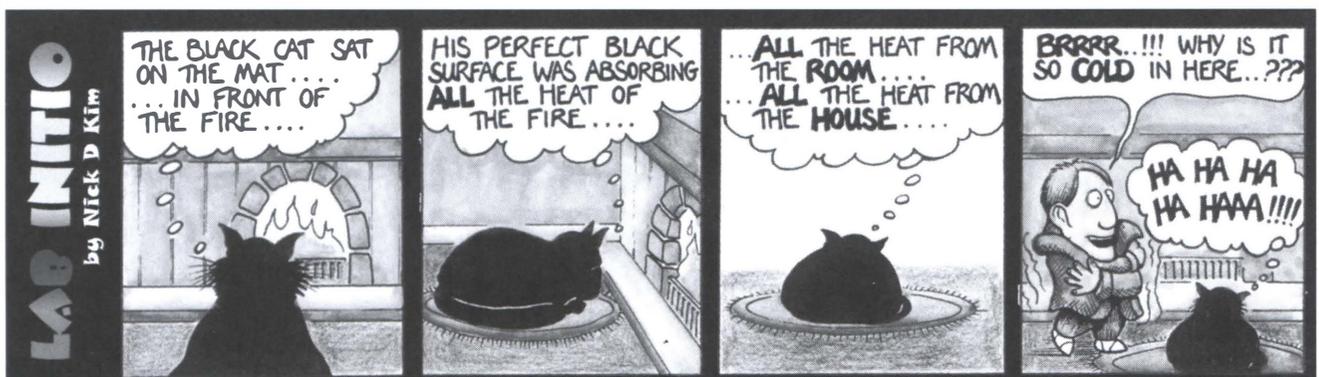
A few small cats, including Jungle Cats, Leopard Cats and Swamp Cats, have been found apparently living wild in Britain. Some of these may even have interbred with feral cats. But there is a world of difference between these and the panther-sized marauders which are so often reported. Alien Small Cats are not such a good story.

We take our ability to judge size for granted. However, it is not so much a matter of innate ability as experience. We rely on all sorts of cues from our environment when judging size and distance. A magnum of champagne five metres away looks the same as a standard bottle three metres away, but by picking up on various clues of perspective we can usually judge distance and hence size. This can sometime mislead us, as in the famous Muller-Lyer optical illusion – see picture. Although the two lines are the same length, the inward-pointing arrows make the lower line look bigger by fooling our sense of perspective. For another illustration, try this experiment. Hold one hand up about two feet from your eyes and the other half as far and shift your gaze between them. The image of each hand seems

near Balmoral, a gamekeeper shot an animal which ran into his headlights, only to find it was a tortoiseshell cat. If he had missed, there would be one more story about “the one that got away”, no doubt a creature as large and dangerous as other ABCs.

Britain's claim to be the home of a new variety of big cat seemed to be vindicated by the discovery of the Kellas Cat. However, even in this case things are not quite what they seem. There have long been stories in Scottish folklore about a ferocious “fairy cat”, the *cait sith*, which is a big black cat with a white mark at its throat. It was long considered to be mythical, as there are no black wildcats in Britain. Then a black cat reported to be almost four feet long was shot near the village of Kellas in West Moray. After genetic testing of this and subsequent specimens, it was concluded that the Kellas cat was not a new species but probably a complex hybrid of wildcat and domestic cat. So there we have it: a new breed of outsize felines, previously unknown to science, discovered living wild in Scotland.

Douglas Leighton, then a postgraduate student in Genetics and Molecular Biology at the University of Aberdeen, was involved in the initial testing. He was unimpressed when he saw the first specimen, which he described as “big, but falling squarely into the range of dimensions of the normal domestic cat and wildcat with no visible characteristic persuasive of anything other than a big black feral Tom.” He is also dubious that the Kellas is necessarily a mysterious new breed, as hybrids have been known for centuries. In fact, the genetic evidence based on karyotyping could have supported other conclusions, but the media demanded that the Kellas should be more than just a large feral cat or an unusual wildcat. More sophisticated testing (DNA



to be the same size; even though one is twice as close, unconscious knowledge that the two are the same size causes us to see them as the same.

We can judge size and distance well enough with ordinary objects, but presented with something strange our ability to estimate becomes unreliable. If you believe that what you are seeing is a big cat, you will tend to overestimate its size. This affects even those who should know better. After a spate of panther sightings

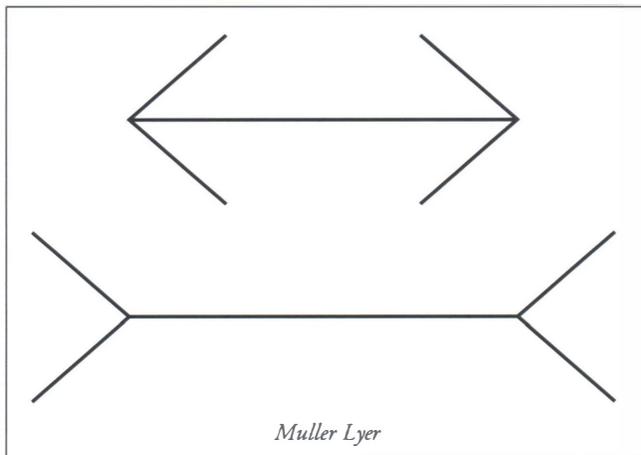
sequencing, “genetic fingerprinting”) might yield a more accurate result. As Leighton puts it, “I had grossly underestimated the capacity of superficially sane and intelligent media people to get excited by flim-flam.”

Kellas cats are slender and long-limbed. The biggest specimen turned out to be forty-three inches from nose to tail, others have been somewhat smaller. Their slight build means that none of them approach the weight of the biggest wildcat killed in recent years, one of forty-

eight inches. Kellas cats may be fairly large, but it is only the magnifying lens of the media that makes them into giants of cat-kind.

The gene for dark colouration, called melanism, is linked to increased size, but the other traits of Kellas cats remain a mystery. They are reported to be strong swimmers, hunt in pairs and are active during the day-time, very unusual behaviours for wildcats. Unfortunately, as a hybrid the Kellas cat is not legally protected as wildcats are. Since gamekeepers are free to shoot feral cats, the Kellas breed may become extinct before we can learn more about it.

Ray Charter, the Head Keeper of Big Cats at London Zoo, has taken numerous ABC calls. Lara was the first genuine big cat he has seen (the other calls have usually been related to large domestic cats). There is a very wide range in the size of domestic cats, and they do seem to be getting bigger. Caroline Reay, Chief Vet of the Blue Cross Animal Hospital at Merton, says that cats she sees are typically 3 to 4Kg, but



some (non-obese) range up to 8Kg. Some new cat breeds really are big: the Bengal is a hybrid of domestic cat and Asian Leopard Cat and males may be 9Kg or more.

Lara was not adapted to life in the wild. Nor was Felicity, a rather tame Puma captured in Scotland in 1980 who became the star of the Highland Wildlife Park. In fact, none of the cats that have been recaptured have shown any sign that they had been living wild for any length of time. A number of big cats were released in the 1970s following the Dangerous Animals Act, but it seems dubious that they would have been able to fend for themselves. However, there is no ecological niche for large carnivores. Any cats living in the wild are likely to be much smaller than pumas or lynxes, and there is little evidence that they are a threat to farm animals or humans as has been suggested. Eleven-year-old Josh Hopkins suffered scratches on his cheek after he pulled the tail of a sup-

posed ABC in long grass in Gwent in 2000; judging from the pictures, his injuries were less severe than some I have seen inflicted by a small tabby. The idea that we need to shoot first and ask questions later is misguided when the animal in question is more likely to be a moggie than a man-eater.

Some ABC scares are triggered by dogs or large domestic cats, and in a few rare instances there are escaped lynxes and other felines. There is no solid evidence from any source that big cats have lived in the wild for any length of time.



Alien Big Cats are a lovely myth, particularly in a country where we have wiped out all our large carnivores. The myth is so well established that sometimes sightings can be triggered by quite unusual causes. In November of last year, Kim Simmonds of Linton Zoo went to investigate the body of a striped animal seen lying by the side of the road in Cambridgeshire. There have been reports of the “Fen Tiger” for twenty years, and it seemed possible that the animal had finally met its end. However, in this case the “animal” in question was actually an imitation tiger-skin seat cover.

Born That Way? A Brief Look at the Sexual Orientation Controversy

Barry F. Seidman advocates a scientific approach to understanding homosexuality

"MUM, I'M GAY." These three little words, which can elicit more emotion than "I love you", have become more commonplace during the last ten years, but not a hell of a lot easier to say. The latest statistics suggest that almost ten percent of American men, women, and teens consider themselves homosexual. The confessions made to mum, rather than releasing a heavy burden (particularly in these conservative times), can result in familial estrangement and even suicide.

It is this author's intention to ask an old question in a new way. "Are gays and lesbians born that way?" This question takes on a whole new complexion when you preface it with, "Is there scientific proof that gays...?" Indeed, can science and a better understanding of who and what we are lead us to a more peaceful coexistence, safe from dangerous bigotry and heinous hate crimes? Perhaps it is now time for science to "come out of the closet".

Science Draws First Blood...

During much of the Christian era, no matter how forgiving or generous some societies have been towards homosexuals, engaging in sexual activities with people of the same gender is at best considered abnormal, and at worst, a horrific crime against God. Ever since the Enlightenment – and via the growth of modern psychology – politicians, philosophers and psychologists alike have considered a multitude of often negative cause-and-effect scenarios for homosexuality. Remarkably though, from hypotheses ranging from parental child abuse to the environmental pressures born of stringent gender roles, to the extremes of emotional and mental deviancy and illness, it seems that very few professionals (if any) have ever seriously considered the notion that homosexuals were "born that way".

Fortunately, in the last dozen years or so, psychology has begun to include more than cognitive analysis and behaviourism. Among the late entries in the world of psychology is evolutionary psychology, with its emphasis on Darwinism and genetics. Not surprisingly, as evolution theory, neuroscience and genetics enter the picture, so will be born a new set of hypotheses concerning the cause of homosexuality. Indeed, such a hypothesis has already been put forward.

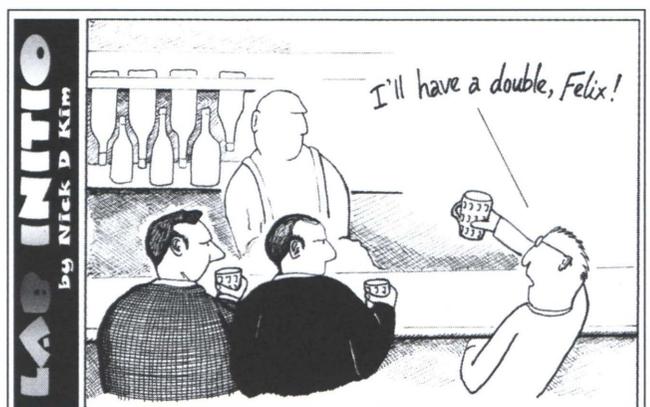
In 1978, Roger A. Gorski of UCLA observed in rats that a particular group of cells were noticeably larger in males than in females. This cell cluster resides in the front of the hypothalamus in a region known as

the medial preoptic area: an area implicated in the generation of sexual behaviour.

Gorski discovered that there is a critical period in the growth of a mammal when brain circuits for sexuality are first assembled. In male monkeys for instance, a damaged medial preoptic area tends to leave the primate uninterested in mating with females. What researchers think is occurring is that just a few days prior to birth, male foetuses' testes will secrete testosterone (the main male androgen hormone), which will bind to neural receptors in the medial preoptic area of the hypothalamus. This binding allows for the larger cell group found in Gorski's male rats.

That female foetuses do not secrete testosterone – thus developing a considerably smaller cell group structure – implies that males who are discovered to have smaller cell group structures may shy away from sex with females. It is widely accepted that testosterone is vital in male heterosexual mating processes, and in other gender-related issues. The smaller cell structures found in gay males may be associated with their non-interest in sexual activities with women.

And in humans? One of Gorski's students, Laura Allen, found similar hypothalamus cell structures in the human brain. This cell group, called INAH 3, in the medial preoptic region, is about three times larger in men than in women.



Cambridge, 1953. Shortly before discovering the structure of DNA, Watson and Crick, depressed by their lack of progress, visit the local pub

The Closet Door Opens

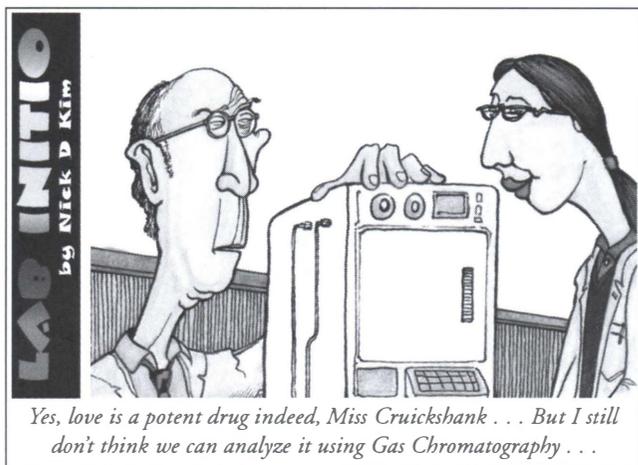
Neuroscientist Dr. Simon LeVay, founder of the Institute of Gay and Lesbian Education in Los Angeles, is one of the leading scientists in the field of homosexual biology. In 1990, he examined the hypothalamus in autopsy specimens from 19 homosexual men (all of

whom had died of complications of AIDS) and 16 heterosexual men (six of whom had died of AIDS). The sexual orientation of those men who had not died of AIDS was less likely, statistically, to have been gay. He also involved six female specimens.

Under the microscope, LeVay discovered and studied the cell group INAH 3. He found that INAH 3 was two to three times larger in men than in women, as well as two to three times larger in straight men than in gay men. Indeed, in some gay men, the cell group was absent altogether. Even with this relatively small sampling, statistical analysis indicated to LeVay that the probability of these results being attributed to chance was one in 1,000.

Another set of testing included sibling genetics. Geneticist Dr. Dean Hammer, Chief of Section on Gene Structure Regulation for the National Institute of Health, while investigating risk factors for certain cancers that are more frequent in some segments of the gay population, found that a man had a 14 percent likelihood of being gay when he had gay siblings compared to two percent if he did not.

Hammer suggests that a good explanation for this is X-chromosome linkage. A man has two sex chromosomes: a Y inherited from his father and an X from his mother. Any trait that is influenced by a gene on the X chromosome will tend to be inherited through mum, and will be observed in brothers, paternal uncles, and cousins. This is the pattern Hammer found with gay men. "If a trait is genetically inherited, then relatives who share the trait will share the gene more often than is expected by chance – this is true even of genes which play only a small part," Hammer said.



Yes, love is a potent drug indeed, Miss Cruickshank . . . But I still don't think we can analyze it using Gas Chromatography . . .

Studying twins and family sexuality can further test Hammer's hypothesis. "Homosexuality runs in families; if you are a man and you have a gay brother your chances of being gay are increased about five fold. Similarly, if you are a women and you have a lesbian sister your own chances of being lesbian increase about five-fold. This clustering is largely sex-specific: that is, a man who has a lesbian sister is only slightly (if at all)

more likely to be gay than a man that does not . . . and vice versa," explains LeVay.

LeVay points to a specific study by Thomas Bochard jr. and colleagues at the University of Minnesota as an example. Bochard studied six pairs of identical twins raised apart. Of the two male pairs, one was fully concordant for homosexuality and the second was partially concordant (both twins were bisexual). The women studied, however, did not show similar results, which led LeVay to think that though certainly other collaborative factors are involved in male homosexuality, this might be more true in female populations.

Conducting similar genetic experiments, Hammer (using techniques of DNA linkage) found evidence that twin brothers had random likelihood of sharing DNA matches in a certain region of the X chromosome named Xq28. Hammer explains this by suggesting that these brothers had inherited genes in this region from the same one of their mother's X chromosome. Heterosexual brothers in the same family generally did not share matches in this region.

Hammer has not yet identified the associated genes that might be involved; indeed, Xq28 contains several hundred genes and at this point none are obvious candidates which could be labeled a "gay gene". However, as the Human Genome Project marches on, such genes ought to be easier to track down.

The Door Slams

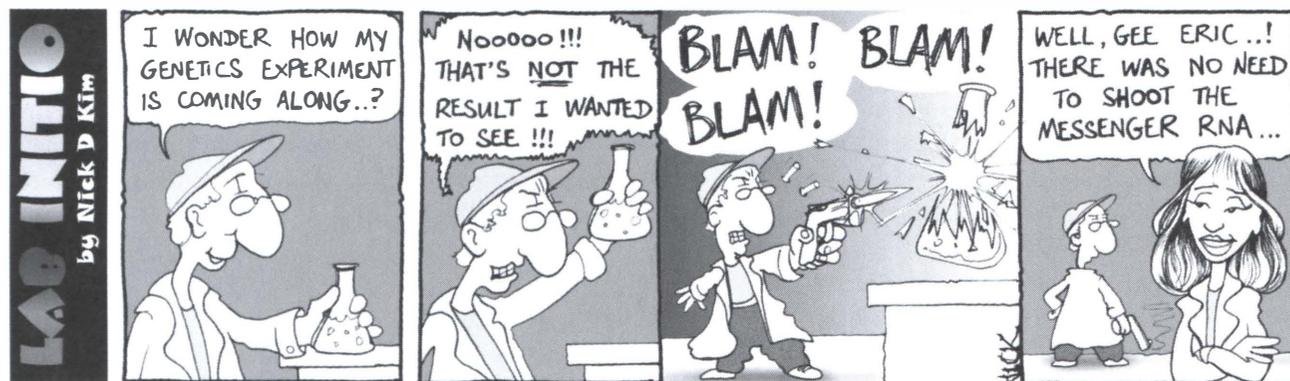
Not long after LeVay's and Hammer's work emerged in the media, naysayers came crawling out of the woodwork to slam shut the door science had just opened. At a conference in Washington DC entitled "Homosexuality and American Public Life" in 1997, Dr Jeffrey Statinover suggested that homosexuality was determined strictly environmentally. He claimed that prior to LeVay's research, which was reported in the peer-reviewed journal *Science*, another study with somewhat similar results was published in the journal *Brain Research*. Statinover said that the earlier study's researchers did not make a splash with their findings because "they genuinely understood the research and its limitations."

Statinover's main argument is that *Science* failed to include an explanation stating "The brain's structure changes with use." He argued that it might indeed be the activity of homosexuality itself that led to LeVay's findings. That is, the act of practicing a homosexual lifestyle alters the cell structure in the hypothalamus.

However, it is not certain that Statinover fully understood LeVay's research. LeVay made clear that the cell structure in question develops in the first few weeks of birth or even earlier. Therefore it is unlikely that post-puberty adults' sexual lifestyles would affect such a significant brain structure.

Statinover went on to suggest that the main cause for homosexuality in men stems from child abuse; but this is an old and untested hypothesis which leaves LeVay wondering if indeed such abuse occurred as a result of a child's atypical, non-manly behaviour.

One of the most vocal critics of LeVay and Hammer is the organization NARTH (National Association for Research and Therapy of Homosexuality). NARTH's mission is "to provide psychological understanding of the cause, treatment, and behaviour patterns associated with homosexuality."



NARTH uses popular terminology to support its position. It recognizes that a "normal" person is one who operates in accordance to his or her design. NARTH belays dubious altruism by announcing that its members "as clinicians ... have witnessed the intense suffering caused by homosexuality, which ... [is] a faltering to function according to design."

NARTH is proud of its multi-religious and cultural diversity, which it has built with near-militant infiltration into society (in particular, on college campuses). Its battle cry: Homosexuality is abnormal; it is what one does rather than what one is, and NARTH will assist any gay or lesbian, when ready, with a cure.

Like Statinover, NARTH claims that the statistics indicating gays to be more prone to suicide, drugs, and alcohol is due in fact to their sexual preference rather than society's reaction to it. It dismisses most scientific research that makes the claim that gays and lesbians are born that way.

The Mismeasure of Desire

In her review of philosophy professor Edward Stein's new book *The Measure of Desire*, law professor Janet Hallen comments, "... Stein explains, analyses, and critiques the notion that sexual orientation is biological, and therefore not chosen or changeable, and therefore an unfair basis for moral condemnation and also therefore protected from discrimination by our norms and laws requiring equality."

In an interview, Stein made clear his reasoning, in which he agrees with NARTH that LeVay's work was "problematic" because it did not consider sexual behav-

our as a cause for the changes in the human brain. He also argues, "many people have interpreted LeVay's studies as showing that the INAH-3 region of the hypothalamus causes sexual orientation in men. At best, his study does not establish causation, but rather establishes a correlation." Stein's fine print is magnified in his statement, "I suspect that homosexuality is no more genetic than taste in music, career choice, or being a yuppie. Gay people choose to engage in same-sex sexual behaviour, to enter same-sex relationships, and to express their gay identity." He adds that he is baffled as

to why so many researchers want to know how homosexuality occurs when most don't even know why heterosexuality occurs. To address this, perhaps we can investigate sexual behaviour in an evolutionary fashion.

The Gay Wild

Biologist Dr. Bruce Bagemihl has written a book called *Biological Exuberance* for the main purpose of "dispelling misinformation and ignorance". Bagemihl feels that "many people continue to believe that homosexuality doesn't occur in nature, and use this belief to justify their opinions about human homosexuality."

Bagemihl, in researching numerous sources, has found evidence for just the opposite. From grizzly bears to owls to salmon, his book includes detailed text and photographs of homosexual activity in animals worldwide. Though he is not suggesting that homosexuality can be thought of as natural just because it occurs in the wild, Bagemihl does seem to say that since it does, it is not simply a psychological choice. "Both nurture and nature are relevant, even in a non-human context," says Bagemihl.

This is what LeVay and Hammer also seem to be saying: that many animals, humans included, are social species. Their interactions are often complex, and sexual behaviour can stem from multiple origins. Lack of equal numbers in gender, teaching purposes, social "roles of acceptance", and other factors must be considered when looking at animal sexual behaviour. Nevertheless, this does not mean that self-gender identity and sexual orientation are not at least partially determined by biological cues in early life, only that it

may be difficult to determine the results of this by observing adult animal or human behaviour.

Stein is critical of Bagemihl's opinions. He feels it is impossible to draw any ethical inferences about human sexual behaviour from animals. To point this out he recalls what Anita Bryant once said when she was shown the fact that many animals engage in same-sex activities. Bryant said that just because animals do it does not make it okay for humans to do it. Furthermore, Stein suggests that to be natural must mean that natural selection ought to have weeded out homosexuality because it seems to serve no purpose in terms of survival. He does not consider that since only a small proportion of people are gay, homosexuality is no threat to the survival of the species, and natural selection need not "weed" homosexuality out.

Some Conclusions

Are Bryant's and Stein's opinions valid? Who or what determines what behaviour is "okay" or not for either non-human animals or human animals? If we ignore the ancient religions that make unfounded claims of morality issued from unseen, superstition-based entities, then we must look at the natural operations of life to better determine what is normal or not.

So, today, can we argue that homosexuality is abnormal? In that most sexual relationships among human or non-human animals are heterosexual, the answer must be yes. However, is homosexuality unhealthy or unnatural? Based on scientific evidence

in both animal sociology and neuroscience the answers would have to be no, and no.

Is homosexuality a choice? Some behaviours associated with homosexuality – stereotypically or not – may very well be, but it seems clear that sexual disposition is not a choice at all. Either way, the naturalness of homosexuality in non-human circles ought to be seriously considered before judging ourselves. Also, humans need to practice more tolerance because even if science does prove that homosexuality is indeed primarily genetic – which seems to be now occurring – an intolerant and judgmental society would only then demand genetic engineering as a new means to "cure" gays and lesbians. At this point the most rational decision must be to await further research in both genetics and neuroscience before choosing a victor in this particular nature versus nurture debate.

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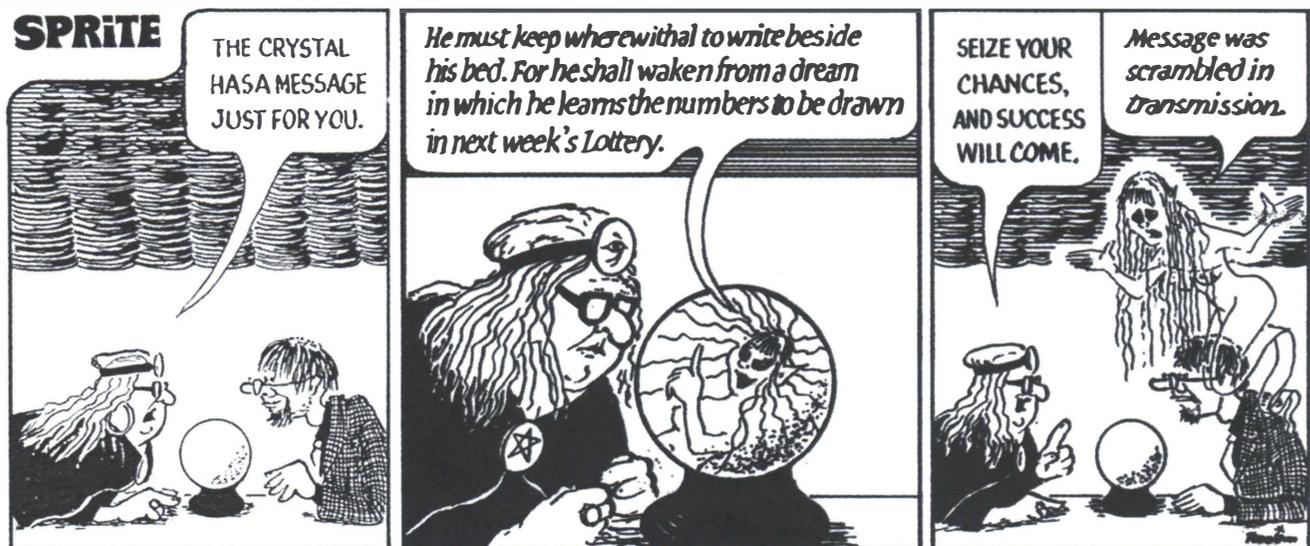
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Skeptical Stats

1. Number of families that have hired babynames.com for \$14.95 to suggest names for their incipient children: **more than 1,200**
2. Average number of people killed or injured annually in the US by being struck by lightning: **about 375**
3. Number of properties the National Trust advertises as having ghosts: **23**
4. Number of American flags sold in the first 48 hours after the World Trade Center attack: **88,000**
5. Amount raised for the relief effort in the first week after the World Trade Center attack: **\$55 million**
6. Number of pages in pharmaceutical company Eli Lilly's FDA application for its new anti-sepsis drug Xigris: **81,414**
7. Number of types of bacteria cultured from American banknotes: **93**
8. Number of scorpions a Malaysian woman, Nor Malena decided to live with in a 140-square-foot glass cage for a month to set a record: **2,000**
9. Number of days to her first sting: **10**
10. Previous record, set by male guru Ali Khan Shamsuddin: **5,000, for three weeks**
11. Percentage by which people are more likely to get divorced if they work in an office populated mainly by people of the opposite sex and the same age: **70 to 75**
12. Chance that an American child will be killed on school grounds: **1 in 2 million**
13. Chances that an American child will be killed off-campus: **1 in 20,000**
14. Estimated cost of raising a child to adulthood: **£82,000**
15. Estimated cost of raising a child to adulthood in 1995: **£50,000**
16. Percentage of analyst stock recommendations that were "sell" at the height of the technology boom: **0.2**
17. Number of different formulas tested in creating the individually wrapped slice of peanut butter: **nearly 500**
18. Date when the first UK Starbucks opened: **September 1998**
19. Number of Starbucks open in the UK as of August 2001: **211**
20. Number of Britons who use the Internet at home who use it to access pornography: **3.8 million**
21. Percentage of Scottish five-year-olds who have at least one decayed tooth: **52**
22. Number of faculties with which the mind comes equipped, according to phrenology founder Franz Josef Gall: **27**
23. Number at which the world's population is predicted to level off by the end of the century: **8.4 billion**
24. Difference between this number and the UN's predictions: **1 billion fewer**
25. Percentage of Americans who believe they have never eaten genetically modified foods: **70**
26. Chance that a processed food in a US grocery store contains genetically modified ingredients: **1 in 2**

Sources: 1 <http://www.babynames.com>; 2 New York Times/National Weather Service; 3 <http://www.nationaltrust.org.uk/scripts/nthandbook.dll?ACTION=THEME&Theme=Ghosts&search.x=31&search.y=8>; 4 & 5 CNBC; 6 Business Week; 7 New Scientist; 8, 9 & 10 Reuters; 11 "Are Divorces Contagious? Divorce Risks and the Marital Status of Coworkers." Presented at the American Sociological Association's (ASA) conference, August 2001; 12 & 13 Columbia Journalism Review; 14 & 15 Family Assurance, Loughborough University; 16 Multexinvestor; 17 Financial Times; 18 & 19 Guardian Weekend; 20 BBC; 21 O'Brien, M (1993). "Children's Dental Health in the United Kingdom." HMSO 1994; 22 The New Yorker; 23 & 24 Nature, The Independent; 25 & 26 Harper's

Post-Modernism and Parapsychology

Ron Roberts wonders if we are losing our sense of reality

"Whoever undertakes to set himself up as judge in the field of truth and knowledge is shipwrecked by the laughter of the Gods." (Albert Einstein)

A STRIKING FEATURE of the horrific assault on the World Trade Center in New York and the dreadful loss of life accompanying it was the response of numerous media commentators to the sense of unreality it engendered. For them and indeed for the rest of us real life provided no suitable template for processing the events. For that we had only one place to turn: the imaginary worlds brought to us courtesy of Hollywood movie makers. More than one person I know has inquired as to Bruce Willis's whereabouts on the fateful day. Perhaps he too was frightened. When faced with the murder of a colleague at work some years back, in the midst of an intense police presence, what went through my own mind was a wish to be interviewed by Detective Baylis – a character on the

In this age, the representation of human reality through language, art or science has become progressively more difficult because, in the words of French philosopher Jean Baudrillard, art has increasingly penetrated reality [1]. By this I mean that the distinction between reality and what is being represented has all but dissolved. This is noticeable in the pervasive presence of global consumer culture where signs increasingly point to themselves rather than to an external reality, but most prominently perhaps in the subset of this which constitutes the exploration of virtual reality and cyberspace. Elsewhere in our new world order news is literally manufactured for our entertainment. The pages of our print media are saturated with celebrity gossip, people have relationships with soap stars but do not know their next-door neighbours, and we are told we can change our image or our identity like we change our clothes. Pluralism is omnipresent. It is not just God who is dead.



“based on true life” TV cop show *Homicide*. Feeling one is in the midst of unreality is a characteristic response to trauma and an appeal to fictional worlds to make sense of it is not unusual. However what is problematic is that reality and the simulated versions of it now presented 24 hours a day via the mass media have become so intertwined that it is becoming increasingly difficult to draw a simple dividing line between the two. This is a feature of what has come to be called “post-modern life”. Other features include the rejection of notions of progress, of values and morals, of an absolute reality knowable through science; and the absence of any absolute standards in any field of the arts.

So what does this mean for parapsychology – which some would describe as the science of the unreal? This is a discipline that has continued to provoke controversy precisely because its professed subject matter, in the opinion of many, involves phenomena that do not exist. While others would dispute this (scientists among them), nevertheless the hallmark of every other scientific discipline – the repeatable finding – has remained elusive [2]. Because of this, it is a discipline that stands at the crossroads between rationalism and superstition. Many have fought this battle on the assumption that rationalism must ultimately triumph. But what if this is not possible? We only have to look around

us to see that life is more complex than scientific rhetoric permits.

Modern scientific discourse and practice appear heartless. Modern evolutionary and cosmological theory place us here as the unintentional by-products of essentially random processes. Meanwhile, in the last century we have witnessed an unholy alliance between the scientific community and the global military-industrial complex, with the means to wage mass campaigns of technological and psychological war against civilian populations turned into a branch of big business [3]. All this, and technologically driven environmental degradation to boot. No wonder so many people are dissatisfied with the uncomfortable world view that seems to be on offer. A view that posits no intrinsic meaning to the presence and evolution of life in the universe. From any reasonable standpoint, rationalism seems to have exceeded its limits. Attempts to offset this discord between the reality people want and the one that is on offer have led numerous people to turn elsewhere: to religious dogma and fundamentalist beliefs of various kinds, to new age religions and therapies, to beliefs in ghosts, UFO's and alien abductions. This climate of "almost anything goes" can be contrasted with an equally unrealistic desire for simple solutions to complex problems – with rapid military solutions to protracted political and economic difficulties just one example of this.

The challenges posed by the post-modern world view however go much further than the rejection of scientific values and the multiplicity of different "realities" to be sampled at leisure in the global marketplace. So far one can still return from excursions into these

territories to find one's own core reality and core identity intact – identities which contemporary social theory tells us are in fact socially constructed illusions. But how much more tenuous will these become in a world where the manufacture and simulation of reality for our entertainment reach ever higher levels of sophistication – levels where it truly becomes impossible to tell the difference between what is real and what is simulated? At such a historical juncture who would be able to say what features the experienced world must possess in order to enjoy the status accorded to what we currently think of as conventional everyday reality? Would uncertainty on this question mean that we had simply become unable to distinguish real from virtual existence or that we had in fact now discovered that reality always was permeable to multiple interpretations and was not governed by unique laws of nature? Who would be able to say that a world where levitation, mind reading, spoon bending and fairies were commonly accepted and experienced as true made any less sense than one where war is waged for peace and innocent people killed for justice? Post-modern society therefore presents fundamental challenges to those who pursue an interest in the paranormal. Challenges which in all likelihood will deepen. What we understand by reality, scientific rationality and objectivity will need to be fundamentally re-appraised in the face of these challenges.

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SKEPTICS IN THE PUB

Speakers: TBA

Skeptics in the Pub is an evening held once a month (in a pub, strangely enough) for anybody who has an interest in, or is skeptical about, the paranormal. Each month an invited speaker gives a talk on their chosen specialisation. The talk is followed by an informal discussion in a relaxed and friendly pub atmosphere. The event is held at the **Florence Nightingale Pub, Westminster Bridge Road, London**. Entry fee is £2. For further information, such as details of forthcoming meetings and travel directions, please contact **Scott Campbell (0115) 846 6964**, scott.campbell@nottingham.ac.uk or log in to <http://www.skeptic.org.uk/pub>.



Rhyme and Reason

Steve Donnelly

Religious Beliefs

I NORMALLY AVOID getting involved in discussions of religion in the context of skeptics and skepticism. The main reason for this is that I do not believe that there is necessarily any intrinsic conflict between a belief in one or more deities and a scientific approach concerned essentially with falsifiable phenomena. If someone's religious beliefs have no observable and testable consequences on the universe then, in a sense, they are of no interest to the scientist or the skeptic. Therefore, although I do not possess any myself, I do believe that it is possible to hold religious beliefs and, at the same time, to have a scientific and skeptical worldview. Indeed, there are many people with religious beliefs that, in the main, do not contradict their rational worldview. For instance, a god who initiated the Big Bang but who has been strictly non-interventionist since that moment (light-the-blue-touchpaper-and-retire school of godhood) may be a strictly unnecessary construct, in my view, but belief in Him/Her/It does not conflict with an otherwise logical and scientific view of the Universe. For instance, the late Nobel laureate, solid-state physicist Sir Nevill Mott in an essay entitled "Can Scientists Believe?" [1], espoused almost exactly this type of belief when he replaced the usual omnipotent and omniscient deity with an altogether more fallible one.

The type of religious beliefs that have prompted me to write this column, however – those that were instrumental in the events of September 11th – have nothing whatever in common with those of Sir Nevill Mott. One of the most important aspects of a scientific approach to acquiring knowledge is the humility that comes from always doubting and questioning one's beliefs. How different this is from the fundamentalist religious believer whose understanding of the universe comes from scriptures that he knows to be the word of God. And how can he be so certain that they are the word of God? Because it says so in those self-same scriptures, of course. The degree of certainty in one's beliefs necessary to fly passenger aeroplanes into buildings full of innocent people is something that I hope could never come from a rational or scientific approach to knowledge acquisition – no scientist should ever have that degree of certainty in the correctness of his conclusions. It is tempting to imagine that Islamic society, being only 14 centuries old compared with the two millennia

of Christian society, is still in its mediaeval period and that a fundamentalist Muslim with an axe to grind may thus be more dangerously irrational than his more enlightened Christian counterpart. Don't believe that for a moment. In the days following the September 11th attack on America, the American televangelist, the Reverend Jerry Falwell appeared on a TV programme hosted by like-minded Christian Broadcasting Network presenter Pat Robertson. Speaking of the events of September 11th, Falwell said "The ACLU (American Civil Liberties Union) has got to take a lot of blame for this . . . God continues to lift the curtain and allow the enemies of America to give us probably what we deserve . . . I really believe that the pagans, and the abortionists, and the feminists, and the gays and lesbians who are actively trying to make that an alternative lifestyle, the ACLU, People for the American Way – all of them who have tried to secularize America – I point the finger in their face and say, 'You helped this happen.'" Robertson agreed: "I totally concur" was his response to this diatribe. The logical conclusion to this line of thought (not that logic comes into it) would be to do nothing whatever to protect society against terrorism as no degree of security measures would be able to prevent an omnipotent God from wreaking his vengeance on America.

A scientific/rationalist approach does not, by itself, solve the problems of society and will not even provide unequivocal answers to questions such as whether a society should use nuclear power, grow genetically modified crops or put fluorine in water supplies. But neither will it lead to the imposition of practices and restrictions that may not, under any circumstances, be questioned because they are based on incontrovertible revealed truths.

So let us all continue to acknowledge the imperfections of our partially rational and libertarian British society and continue to question the outpourings of scientists, politicians and spin-doctors alike. But let us also all pray to our favourite (preferably non-omniscient and non-omnipotent) deities that neither the raving ayatollahs nor the likes of Falwell and Robertson ever exert the slightest influence over the way we run our affairs.

Notes

[1] Mott's essay appears in a book of the same name edited by him: N.F. Mott (1991). *Can Scientists Believe?* London: James & James.

Philosopher's Corner

Julian Baggini



IN MY NEW BOOK, *Release the Genius Within: Operational intelligence explained* (New Dawn Books), I show that there are basically three character types which are not innate, but the product of our own psychological development™.

The first is the acceptive reactor. An acceptive reactor is a person more bounced around by life than really in control of it. As they never step back and analyse what is going on around them, they are doomed to always be reacting to events, rather than really taking control of them. They are easily led astray by persuasive talkers, advertisers and politicians because they have not developed the skills necessary to analyse and judge their arguments. They take some things to be true and others to be false, yet they have no clear understanding as to why they do so. Sometimes they are right and sometimes they are wrong, but which occasion is which seems largely a matter of luck.

The second type, the critical raptor, thinks they are very wise indeed. Jealously guarding their pet theories, they pity the poor souls who criticise them only because they do not understand. They read books of ideas only to pour scorn on those they disagree with and to plunder quotations which fit their own views. They live, in many ways, in their own insulated world, coming out only to tell everyone else they're wrong and to buy groceries.

The third type of person is the critical constructor. This person treats their own views with as much scepticism as those of others. They are always ready to subject any belief to rational scrutiny. Their broad outlook and openness to new arguments gives their life a kind of freedom and space which others often lack. They learn a sense of perspective and of humility. They also learn when thinking is appropriate and what kinds of reasoning are suited to different purposes. They do not always expect final answers, but follow Aristotle's advice to expect only that degree of precision which each subject-matter allows.

Most people reading a magazine like *The Skeptic* will see themselves as critical constructors. But, unfortunately, many are actually critical raptors. The problem lies in what I call an imbalance of critical chemistry. Developing a rigorous and intellectual set of critical mind-tools is essential if we are to release the genius within. But what often happens is that this process of development starts to become an end rather than a

means. The destruction of other people's views becomes something which the critical raptor comes to enjoy for its own sake. The skills and thrills of this negativity thus occlude any development of the constructive side of the mind, or what I call the inner cognosphere.

In my new book, *Release the Genius Within: Operational intelligence explained* (New Dawn Books), I explain what some of these constructive mind-tools are. One is what I call empathological transfer. This is the ability to examine what someone is writing or saying and instead of looking for what is absurd or wrong about it, to start with the assumption that this is a reasonably intelligent fellow traveller who might have something useful to say.

There are plenty of examples of this in scientific writing. Read an article or book by an eminent scientist and you'll probably dismiss it as containing little more than techno-babble and platitudes. However, what is probably happening is that you are being deflected by the tone and register of the writing. You have a prejudice against the kind of dry, reductive writing characteristic of science and, as a result, you are blinded to any truths that it might contain. The clear-cut, exhaustive, reductive categories the scientist deals with and the artificial technical vocabulary they employ may well be objectionable, but through empathological transfer you can get beyond that to the truth within.

Another constructive mind-tool is what I call gatewaying. Sometimes, one can practice empathological transfer but still find that the truth in what someone is saying is flawed or incomplete. Gatewaying is a process whereby one can take hold of these threshold truths and push them forward so that they become more complete truths. So, for example, when a politician says that there are only three choices, the old left wing way, the old right wing way and the new third way, they may be simplifying matters too much. Nevertheless, their way of dividing up the options may contain a threshold truth which, with some development, can become a complete truth.

You probably think you're a critical constructor. But unless you use constructive mind-tools such as empathological transfer and gatewaying, you risk being a critical raptor. I urge you therefore to continue your psychological development and I also urge you to buy *Release the Genius Within: Operational intelligence explained* (New Dawn Books).

Nostradamus Said What?

David Hambling takes a look at the predictions of Nostradamus in relation to the tragic events that took place in America on September 11th 2001

DID NOSTRADAMUS FORESEE the attack on the World Trade Centre, and does he predict terrible events to come? According to an e-mail doing the rounds in September 2001, the 16th century astrologer and cookery writer warns us:

"In the year of the new century and nine months,

From the sky will come a great King of Terror...

The sky will burn at forty-five degrees.

Fire approaches the great new city..."

"In the city of York there will be a great collapse,

2 twin brothers torn apart by chaos

while the fortress falls the great leader will succumb

third big war will begin when the big city is burning"

This would be quite amazing if it were accurate. In fact, the lines have been cobbled together from different sources and changed to fit the situation. The main body of Nostradamus' predictions are the *Centuries*, each of which contains 100 four-line verses.

From Century 10, there is the famous quatrain 72:

"The year 1999, seventh month,

From the sky will come a great King of Terror:"

So we're a couple of years late on that one.

From Century 6, Quatrain 97:

"At forty-five degrees the sky will burn,

Fire to approach the great new city:"

Except that New York is at 41 degrees latitude, not 45 degrees. 45 degrees would be more like Montreal, or, as it happens, Belgrade.

The next three lines are not Nostradamus at all. They come from Neil Marshall, a Canadian student who used them as an illustration of a vague prediction that could be interpreted many ways. His actual words were somewhat different:

"In the city of GOD there will be a great THUNDER

Two brothers torn apart by chaos

While the fortress ENDURES the great leader will succumb"

(My emphasis on the changed words)

The final line, about the third big war, appears to be a complete fabrication.

This kind of forgery is all quite unnecessary. With so many hundreds of quatrains to choose from, all written in cryptic ambiguities, you can always find something to fit the case with a little creative interpretation.



Century 2, Quatrain 83

"The Great Trade of a great Lyons changed,

The most part turns to early ruin

Prey to the soldiers swept away by pillage:

Smoke through the mountains."

"The Great Trade" is the World Trade Center; "a great Lyons" is New York (like Lyons it is not the capital but a major banking centre), and the "mountains" are the skyscrapers of Manhattan. How amazingly accurate ... I may have creatively translated "fog" as 'smoke' and left out the reference to Switzerland, but how many people are likely to notice that? Or that the quatrain was previously regarded as an uncannily accurate prediction of the siege of Lyons in 1795?

David Hambling is a writer specialising in scientific and military topics. He wrote about intelligence and evolution for *The Skeptic* 14.2.



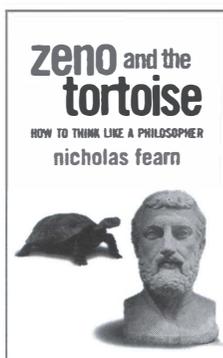
Reviews



USEFUL PHILOSOPHY

Zeno and the Tortoise: How to Think Like a Philosopher by Nicholas Fearn
Atlantic Books, £9.99, ISBN 1903809134

This is really a fun book. Fearn, a philosophy graduate of King's College, tries to teach us some tricks of the philosophy trade. Each of twenty-five short chapters is identified with one well-known author and explains a basic thinking tool he (sorry, no she's) invented or prominently used. The story begins with Thales of Miletus who introduces us to the principle of "reduction" of complicated issues to simpler questions. It ends with Jacques Derrida, whose "deconstruction" method finds contradictions inherent in most of our familiar and cherished ideas and beliefs.



The book is organized along a time-line covering some 2600 years of western thought, but it is not a history. Rather, it provides an introduction to the tools each philosopher used, together with a brief biographical sketch. Some of the ideas are widely known to educated persons. Socrates' invention of "cross examination", Plato's reasoning by analogy between cave and reality, Aristotle and his teleology of immediate and ultimate purposes of things. Others are less eminent. Thomas Reid defended "common sense" – not something for which philosophers are famous. The concept of "emergent properties" is due to Gilbert Ryle.

Not fame but innovative tools decide who made the cut. Popper and "falsification" made it, but Kuhn and Lakatos are missing. Neither Newton nor Leibniz are mentioned, but perhaps the calculus is not a philosophical idea. Even Bertrand Russell does not appear. Only Wittgenstein appears twice.

Many of the tools discussed are familiar, but their use is laid out plainly. We have heard of *reductio ad absurdum*, of Ockham's razor, Bacon's inductive reasoning, Descartes' demon, and Rousseau's social contract. Here these often loosely understood ideas are lined up, their meaning explained, their origin and use discussed, and each is set into a context of one philosopher's thought. All this, and in addition the book is well written, clear and straightforward.

Wolf Roder

SOMETHING HAPPENS

Little Green Men, Meowing Nuns and Head Hunting Panics: A Study of Mass Psychogenic Illness and Mass Panic by Robert E Bartholomew McFarland and Company, £28.45, ISBN 0786409975

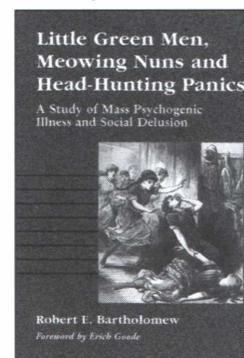
What is happening when scores of women become convinced a phantom slasher is attacking them, or when scores of men are persuaded they are losing their penises? In the past, the tendency has been to take an all-or-nothing approach: either it's an event – these things are really happening – or it's a non-event: they aren't, it's sheer fantasy.

This is the common-sense approach, and up to a point, it is a reasonable approach: either the Virgin Mary appeared to Bernadette Soubirous or she didn't; either Linda Napolitano was abducted by aliens or she wasn't. But even when investigation reveals that a particular event did not take place in the literal sense, it is not good enough to say that nothing happened: because clearly *something* happened to make the individuals involved think it happened.

This is why the swing today is towards experience-based studies, which start with what the witnesses report, whether or not it has a basis in consensus reality, and take it from there. We are coming to see that erratic and anomalous phenomena – poltergeists for example – can best be understood in terms of human behaviour, but this is not the same thing as saying that the phenomena have no existence apart from the human mind. Rather, it suggests that the human mind is the best place to start looking if we want to understand why these claims are made, and why they take the form they do.

For some time now, Robert Bartholomew has been offering us articles and books helping us to understand strange phenomena by approaching them in this way. His *UFOs & Alien Contact* (1998, with George S Howard) is of fundamental importance to our understanding of the UFO phenomenon, adopting a global approach to the subject and placing the individual experience in the wider context of psychosocial behaviour.

This new book brings together a number of his papers on specific examples of collective outbreaks which at one time or another have perplexed investigators and set the



experts tilting one against another, each mounted on the hobby horse of his choice. He shows how both the popular label 'mass hysteria', and the scientific classification 'mass psychogenic illness', tend to be used in a careless manner which fails to take into account the social and psychological processes underlying the outbreak.

Up to a point it is a thorough-going skeptical book. Was there ever a 'Halifax Slasher', did the 'Mad Gasser of Mattoon' have flesh-and-blood existence? Were the Swedes overflowed by 'Ghost Rockets'? If you are driving from Esher to Cobham do you risk having your windshield shattered by the 'Phantom Sniper'? Bartholomew shows that in each of these cases, as in the many others he cites, the culprit was no more real than the devil who copulated with witches at medieval sabbats or the aliens whose flying saucer crashed at Roswell in 1947.

But debunking the myths is not Bartholomew's primary purpose: he is concerned to lay bare the process whereby such myths come into being. Here he is on contested ground, for theories proliferate in the absence of hard fact. For some, those who subscribe to a collective belief that the aliens are coming to save us are hysterics: they are quite literally sick in their minds. For others, attempts to explain are meaningless, we should be looking for the inner truth which transcends reason and will lead us to a higher level of reality. The teachings of the Catholic Church allow for the possibility that a statue of the Virgin Mary would turn its head to gratify her worshippers. Folklorists and anthropologists interpret such outbreaks as sick-building syndrome or body-part-stealing in relation to their preferred agendas.

Unfortunately, the area is so incompletely mapped that these and other alternative theories are hard to refute; but Bartholomew makes out an overwhelming case for a psychosocial approach. That is, the individual experience takes place because the individual is the kind of person s/he is, and it takes the form it does because the individual lives in a particular cultural milieu which shapes it to conform with prevailing belief systems. For men to start panicking because they seem to be losing their penises may seem absurd to western Europeans, but in the context of Chinese folk-beliefs it is an ever-present threat, too real for comfort.

This is no mere academic study. These things happen – and Bartholomew shows us that they happen far more frequently than most of us imagine. Writing of Epidemic Hysteria in Schools, he writes: "This article is intended to be of practical value for school administrators, teachers, parents, and health professionals who may be summoned to intervene in such cases." The author himself acted as consultant when such outbreaks occurred in Malaysia. The recent epidemic of Satanic abuse allegations is an alarming reminder that even our ostensibly sophisticated western culture is far from being immune to social delusions whose consequences can be tragically real.

Current world events are a fearful warning of the divergence between the world's belief-systems: vast popu-

lations are marching to a different drum than the one we take to be the norm. There is an overwhelming need for the different cultures of the world to understand one another's viewpoint, and to recognise the fact that to judge events only from the perspective of our own experience can lead to serious misunderstanding. Bartholomew and his various co-authors offer us a timely book which can help us to see that only when bizarre happenings are placed in a psychosocial context – the cultural milieu of those who experience them – can we begin to see them for what they are.

Hilary Evans

LUCKY BAG

Parapsychology: The Science of Unusual Experience
by R Roberts and D Groome (Editors)
Arnold, £12.99, ISBN 0340761687

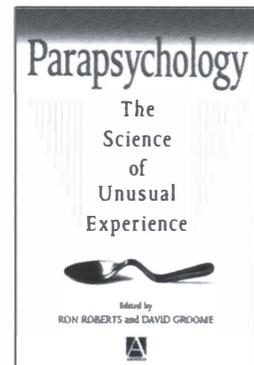
Framed between introductory and summary chapters by Ron Roberts, ten British-based academics – including some, like Chris French and Richard Wiseman, well-known to readers of *The Skeptic* – present brief but well-judged accounts of the state of current research on such topics as probability and coincidence, placebo effects, astrology, alien abductions, ESP, NDEs, meditation, and so on.

In this respect, the book clearly adopts a fairly wide interpretation of the term "Parapsychology" and, inevitably in a book of this length, the treatments of the individual topics cannot be comprehensive. Within these limitations, however, the discussions are reasonably detailed and the evidence (mostly) up-to-date.

It is the sort of book which I would happily recommend to a student seeking a way into the topic or to anyone wishing to get a flavour of modern, scientific, psychological analysis of paranormal phenomena. There is also a reasonable reference section to assist further study. The emphasis is, obviously, on the role of psychological processes in these phenomena, and the stance of most of the writers could be characterised as "open-mindedly skeptical". This means that even a "believer" friend of mine could read it through to the end and was moved to say that "at least it wasn't just another debunking-fest" and that she had "learned a few things". I imagine the authors would be well-pleased by this reaction.

Veteran skeptics, however, may find much of the material familiar (although they will be surprised to discover on p.117 that Dr Johnson apparently wrote a three-volume *Life of Boswell*).

John Gillies



DOWNHILL ALL THE WAY

The Complete Idiot's Guide to New Millennium Predictions by the New Age Collective and Lisa Lenard
Alpha Books, £13.99, ISBN 0028631129

There seems to be a trend in publishing towards insulting one's readers: after the *For Dummies* series, the *Complete Idiot's Guides* (are they guides for complete idiots or complete guides for idiots?). Formerly confining themselves to computing, they are now found elsewhere.

The cover of this one is not reassuring, promising ways to see the future with astrology, numerology, tarot, palmistry and psychic intuition, while the back says of course you're no idiot – you've had your birth chart done, numbers calculated, cards analysed, palm read... Well, if you've done all those things – and paid – *you are* an idiot! True, it opens with one spot-on prediction: by the time it's read Y2K may have come and gone without a whimper! But then it's mainly downhill all the way.

There are small upturns at the beginning: Chapter 2 has some interesting discussion of our fascination with the future as shown by science fiction (*Nineteen Eighty-Four*, *Brave New World* and *2001: A Space Odyssey*), and when the new millennium began, with useful information of the history of the calendar, and Chapter 3 some interesting statistics. At the end it's good too, with concrete predictions on science and economics – but in between it's the above-mentioned hooey as listed on the cover. I'd say it's like the curate's egg, good in parts, except that joke is always misunderstood – the curate in that famous *Punch* cartoon who stammered that parts of his egg were excellent was desperate not to cause offence; an egg is either good or bad and obviously cannot be good in parts. This book is, however, good in some small parts and very bad in others.

Ray Ward

BYE BYE ME

The Shattered Self: The End of Natural Evolution by Pierre Baldi
MIT Press, £16.95, ISBN 0262025027

This is an excellent survey of contemporary trends in molecular biology and biotechnology, including cloning, now a front-page issue for humankind as well as sheep. Baldi discusses the ethical and social implications of such developments by systematically presenting the technological context, especially computers, to explain what he calls fiction science.

A distinctive feature of his approach, and a very eye-opening one, is his back-of-the-envelope calculations,

more properly called order-of-magnitude physics, which help the reader cope with the bewilderingly large numbers involved. These figurings are part of the main thrust of the book, which concerns the ways in which our traditional notions of self are undermined, re-drafted or trashed by the calculable possibilities confronting us.

Thus, he reckons, "the external self is a relatively easy to define quantity. It can be estimated to lie within a comfortable range of 1018 bits, a size undoubtedly within reach of computer storage technology."

When Baldi writes about music, a matter of professional interest to this reviewer, he strangely omits to make such calculations, preferring instead to speculate about manipulating genes to extend our auditory range, to get around "the boredom of twelve-note melodies". Yet, as John Barrow recounts in *The Artful Universe*, Mozart once wrote a combinatorial waltz offering 2×10^{11} possible waltzes, while Harvard's David Mutcer programmed a synthesizer to create 8850 possible melodies. Baldi opines that performing musicians will be phased out in a century or so, in favour of some kind of global mega-system, but kindly offers us another job: playing the genome so that our pattern-recognizing skills could help identify gene regions.

No need for musicians to feel victimized, though: "Human intelligence is a relatively recent phenomenon, only a few thousand generations old, and it has not been doubling its capacity at each generation, as computers do. One day it might be viewed as a historically interesting, albeit peripheral, special case of machine intelligence."

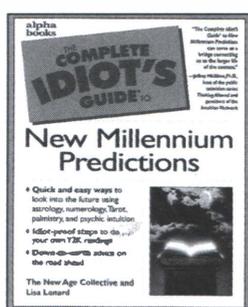
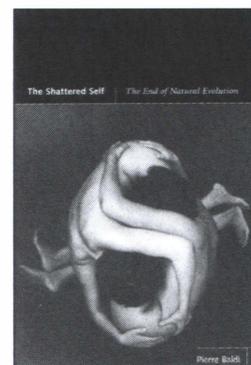
Paul Taylor

WHY DO WE NEED THE BENT SPOONS, URI?

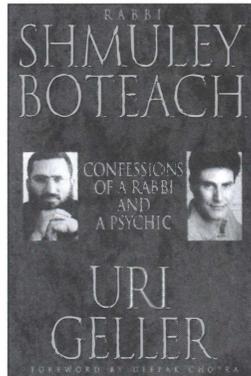
Confessions of a Rabbi and a Psychic by Shmuley Boteach and Uri Geller
Robson Books, £16.95, ISBN 1861054106

This book is presented as a series of letters between Geller and the founder of the L'Chaim Society in Oxford, who is also the author of *Kosher Sex* and a former *Times* Preacher of the Year.

To this reader, the contents lack the authentic, discursive tone of true correspondence and sound more like journalism. Why should two men who meet often and "talk day and night" feel the need send each other letters so full of ponderous "philosophy of life"-moralising and autobiographical detail? It has all clearly been written with an eye to prompt publication.



Only when both men talk about their childhoods does the book become remotely interesting. Both come from relatively poor backgrounds, with cold or absent fathers and parents who eventually divorced, and both seem to have had a difficult adolescence. When Boteach remarks that “from an early age, I have been conscious of my desire for recognition” you feel that this is true of both men and is a core part of their friendship. Hence the relentless, back-slapping mutual admiration and name dropping that so disfigure parts of the book.



As for the “extraordinary revelations “ that are promised, your life would have to be dull indeed for anything either man says to be even an ordinary revelation. Boteach is quite interesting on the origins of Judaism and Old Testament interpretation but has nothing new to say to, or about, Geller. For the rest, I would guess he is recycling the sort of brisk (but not always entirely helpful) things he says to his Oxford students.

Does Uri Geller finally reveal the origin and nature of the paranormal powers that have astonished the world? Sadly not, though he takes every opportunity to remind us that he does, in fact, possess such powers. The world’s greatest destroyer of cutlery still won’t tell us *why* we need all those bent spoons.

Mike Hutton

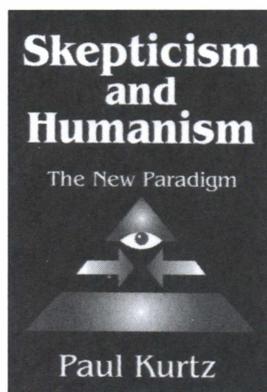
A BRILLIANT MIND

Skepticism and Humanism: the New Paradigm
by Paul Kurtz

Transaction Publishers, \$39.95, ISBN 0765800519

Paul Kurtz is, of course, the founder of CSICOP. This is a collection of mostly brief pieces in four sections, the first (“Skeptics of the World Unite!”) on skepticism, the others (“Beyond Religion”, “Neo-Humanist Politics” and “Humanism Writ Large”) on aspects of humanism, for which Kurtz is a most persuasive and eloquent advocate.

Many are from the journal *Free Inquiry*, of which Kurtz is editor-in-chief, or are based on papers given at a variety of events around the world. Skeptics will of course find the first section of most interest. It includes the best summary I have seen of why



Gauquelin’s “Mars Effect” does not stand up to scrutiny (written with Jan Willem Nienhuys and Ranjit Sandhu), preceded by a brief summary of scientific tests of astrology by Kurtz and Andrew Fraknoi.

Kurtz also, in “Skepticism and the Paranormal”, gives an excellent outline of skeptical criticism of paranormal claims, with nice phrases like the “stretched-sock” and “unsinkable-rubber-duck” syndromes. The Heaven’s Gate mass suicide is thoughtfully discussed, as are alternative medicine, whether skeptical enquiry can be applied to religion, and why people believe or disbelieve.

The sections on humanism cannot be summarized easily, but contain much of interest on the lessons of the collapse of Marxism, morality without God, liberalism, the growth of media giants, and much else. This book is a most stimulating insight into a fascinating and brilliant mind.

Ray Ward

DIG IT

Buried Alive: The Terrifying History of Our Most Primal Fear by Jan Bondeson

WW Norton, £18.95, ISBN 039304906X

As a claustrophobic, I wasn’t looking forward to reading this book, But Jan Bondeson’s skeptical account of the myths behind live burials is so fascinating that I couldn’t put it down.

Anyone who has shuddered at Edgar Allan Poe’s “The Premature Burial” will not be reassured to learn that this terrifying story reflected a common Victorian fear. Before modern medical science, it was not always easy to determine death. Urban myths of live burials abounded. There was the prematurely buried pregnant woman who gave birth in her coffin six feet underground, the aristocratic lady who woke in her tomb to find a grave-robber chopping her hand off, the man who was buried alive in his family vault and survived for years by eating rats ... and many more.

To combat this, Victorians invented a range of coffins with ingenious alarm mechanisms, so that anyone buried alive could summon help. Germany instituted “waiting mortuaries” where corpses were kept until putrefaction set in, at which point it could safely be assumed that they were dead. Not surprisingly, neighbours complained about the smell.

But were people buried alive? Bondeson is skeptical. Such cases are mercifully rare. No-one ever woke in a “waiting mortuary” – though there are at least two modern cases of people waking in a hospital morgue. The book is compulsive reading and demolishes many myths. But I still think I’ll specify cremation in my will.

Chris Willis



LETTERS

A Reply to Montague Keen

In a recent issue of *The Skeptic*, Montague Keen (2001) challenged the approach that I had taken in a previously published essay on the media and the paranormal. The aims of my original piece were twofold and fairly modest: first, “to consider the relative advantages and disadvantages of the roles of believer and disbeliever in media contexts” and, second, to “discuss the issue of bias in the media”. Monty acknowledges that he agrees with much of what I had to say but objects to my “selectivity”.

Such selectivity on the part of skeptics is not confined to what they say in the media, he claims, but can also be seen in the treatment of evidence for the paranormal in psychology textbooks and psychology journals. Although he does not explicitly state this, he implies that pro-paranormal authors such as Dean Radin (1997) are unbiased in their presentation of the evidence. Criticisms of parapsychology with respect to lack of replication, poor experimental design, and fraud may be forgiven, according to Monty, in “run-of-the-mill psychology lecturers” because they rely on the misrepresentations of introductory psychology textbooks. But if I, as one who claims “first-hand knowledge of the subject”, make these criticisms I am open to the charges of hypocrisy (because I

know they are unfounded) or incompetence (because I actually believe they might be true). In which case, I must opt for incompetence and give some reasons for my allegedly deluded beliefs.

I should perhaps begin, however, by admitting that I *am* biased in my approach to evidence relating to the paranormal. I have publicly stated this on many occasions, not least the very essay that prompted Monty’s criticisms. As I have written elsewhere (French, in press), “I do not believe that it is possible for human beings to be unbiased when it comes to judging controversial issues such as the existence of psi and I thus make no claim to be a neutral assessor of the evidence”. Although the scientific method is not perfect, it is the best way we have of minimising the effects of our own biases and it is for this reason that I strongly support good quality experimental parapsychology. What I do object to is the implication that I am any *more* biased in my approach to the evidence than proponents of the paranormal, such as Dean Radin or even Monty himself. We are all biased to the extent that we give more weight to evidence that supports our beliefs than to evidence that appears to contradict them and we all interpret ambiguous evidence in line with our preconceptions.

I also agree with Monty that conventional scientists, and psychologists in particular, often fail

to treat experimental parapsychology with the respect that it (sometimes) deserves. Once again, I have published my views to this effect:

[...] the techniques used by experimental parapsychologists have certainly become much more refined and sophisticated in light of previous criticism. It is simply not the case that parapsychologists are all amateurs when it comes to experimental design. Many of the most sophisticated experimental designs within parapsychology are easily on a par with the best psychological studies. Furthermore, some parapsychologists appear to produce evidence in support of the existence of paranormal forces even from such apparently well-controlled experiments. Such findings should either be accepted at face value or critics should attempt to specify the subtle methodological flaws that are producing the misleading results. (French, 2001b, p. 357)

However, just because I accept that I, along with the rest of humanity, approach controversial claims with certain preconceptions, it most certainly does not follow that “there is now overwhelming evidence from laboratory-based research into psychokinesis, telepathy and clairvoyance that the phenomenon of ESP exists” as Monty asserts.

Unfortunately, failure to replicate is still an issue for para-

psychology, even with respect to the ganzfeld studies. Although Bem and Honorton (1994) appeared to provide a very strong challenge to critics with their original meta-analysis of eleven ganzfeld studies, Milton and Wiseman's (1999) meta-analysis of more recent studies found no significant difference from mean chance expectation. Isn't Monty being a little selective in failing to mention this?

Furthermore, shoddy methodology still occurs within parapsychology. The results of Schwartz, Russek, Nelson, and Barentsen (2001) received widespread media coverage and were proclaimed as providing proof that mediums could indeed contact the dead. I was invited by Robert Matthews to comment on the findings for a *Sunday Telegraph* article before they had been published and therefore before I had had the chance to actually read the paper. My comments were therefore very general in nature. Once the paper was actually in the public domain, it was soon apparent that the methodology was very poor indeed. Wiseman and O'Keefe (2001) present a detailed critique in terms of (a) the potential for judging bias, (b) the use of an inappropriate control group and (c) inadequate safeguards against sensory leakage (see also Steve Donnelly's column in the last issue of *The Skeptic*). I look forward to Monty's detailed rebuttal of the available critiques.

Fraud is a problem for all sciences and parapsychology is

no exception. Radin (1997) manages to present a discussion of the possibility of fraud within parapsychology without ever even referring to any of the actual well-documented cases, not even the notorious Soal-Goldney studies. These are the very studies that the late Professor Hans Eysenck was still holding up as prime examples of convincing evidence for ESP decades after they were published. Of course, Radin now knows that Soal cheated and therefore prefers not to mention the matter – now *that's* what I call selectivity!

It is possible that the reader is getting a little confused at this point. On the one hand, I'm arguing that parapsychology does not get the respect it deserves from the wider scientific community. On the other hand, I am arguing that it is still plagued by failure to replicate, shoddy methodology, and fraud. In fact, there is no contradiction here. All sciences are plagued to a greater or lesser extent by these problems, including both parapsychology and psychology (see French, in press, for further discussion). That does not necessarily mean that *all* apparently positive evidence within parapsychology can be explained in these terms, but such problems must be pointed out when they arise. Conversely, when studies appear to be well-designed and executed, that too must be acknowledged.

Monty accuses skeptics of failing "to engage in a frank

examination of [the] evidence to show where it is faulty". I have already referred to work by Milton and Wiseman (1999) questioning the replicability of ganzfeld effects and work by Wiseman and O'Keefe (2001) pointing out the flaws in Schwartz et al.'s (2001) study. As any student on my final year option will readily testify, I go into great detail concerning the weaknesses in a wide range of the available evidence. With very little effort, I could produce a huge list of detailed critical references to show that Monty's accusation is completely unfounded (see Marks, 2000, for a summary of some of these critiques). I have myself presented a detailed critique of certain astrological claims (French, Leadbetter, & Dean, 1997). The main problem is that such detailed critiques take a great deal of time and effort and there are a limited number of hours in a day. I sympathise to a great extent with the view expressed by Michael Faraday, the British physicist, who was asked once too often to investigate some new psychical wonder. He replied, "I will leave the spirits to find out for themselves how they can move my attention. I am tired of them".

Given that my main area of interest is anomalistic psychology (French, 2001b; see also *The Skeptic*, 14(1)), I intend to resist the temptation to be drawn into detailed discussion with every Tom, Dick, or Monty regarding their own personal favourite bit of evidence. As my research area,

I have chosen to try to formulate and empirically test psychological (i.e., non-paranormal) models of ostensibly paranormal phenomena. After all, such explanations will not be found if no one actually looks for them. It is possible that at some point parapsychologists really will produce convincing evidence that the paranormal is real (and I have spelt out what would convince me; see French, in press). Until that time, I will continue to mainly focus my efforts on the psychology of what looks as if it is paranormal but actually is not. If the great day finally arrives when the incontrovertible proof of the paranormal is made known (how long have we been waiting?), I will have actually contributed to this breakthrough by helping mainstream parapsychologists sort the wheat from the chaff.

Having said that, I will put as much time as I can spare into testing claims made by those such as Dean Radin (1997) relating to allegedly reliable parapsychological effects. I am currently supervising a postgraduate student who has so far carried out five experiments all of which have failed to replicate these "reliable" effects. I will also, no doubt, produce occasional critiques of mainstream parapsychological studies. I really do not think that I could be expected to do much more.

Finally, I do not really expect Monty to produce in-depth rebuttals of the many detailed

critiques written by skeptics (but I'll happily send him a very long list if he wants them). He has his own order of priorities with respect to what he considers to be the most fruitful way to spend his time and I have mine. Personally, I doubt that the psi debate will ever be resolved unless, perhaps, some real practical or technical application of psi could be developed (not just the *promise* of such applications, as described by Radin). Such eternal debate is more consistent with the notion that psi is a powerful illusion rather than the idea that it is real and we are making progress in understanding it. Only time will tell. In the meantime, I'll let Monty be as selective as he wishes to be in presenting the evidence.

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