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May/June 1990

The  
**SKEPTIC**

A rational look at pseudoscience and the paranormal in the British Isles

*Denizens of Another World*  
*Astrology: Sign of the RAM*  
*A Matter of Antigravity*  
*Famous Fakes and Forgeries*  
*Skeptic Amongst the Psychics*

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# Hits and Misses

Steve Donnelly

## Egregious Eggplants

God moves in a mysterious way his wonders to perform—at least he does in Leicester—if reports in a number of newspapers and on BBC Radio 4 at the end of March are to be believed. In this age of information technology, tablets of stone and inscribed golden plates have been cast aside in favour of—no, not magnetic tape or laser discs but—the humble aubergine. The Kassam family were the first to discover an aubergine which, when sliced, revealed the words 'Ya-Allah' ('God is everywhere') spelled out in Arabic in the pattern of its seeds but other Muslim families in Leicester have since found similar patterns in their own aubergines. Since the discovery, more than 5 000 people have visited the Kassams' home to witness the miraculous message first-hand. According to the latest edition of the *Fortean Times* such divine revelations are not entirely unknown in the world of Islam. For instance, in June 1988 scores of Muslims flocked to a mosque in Kenya to see a lamb which had been born with markings that appeared to spell out the name of the prophet in Arabic and in April of last year the words 'La Illaha Illallah' were discovered on the outside of a growing mango in Hyderabad, southern India. Any *Skeptic* reader fortunate enough to find similar messages in his or her aubergines, mangoes or other foodstuff (but not Blackpool rock) please let us know.

## Beast of Banff

Scotland's favourite monster, Nessie, may soon have to take a back seat to a newcomer with the rather frightening sounding name, the Beast of Banff, according to a report in the *Observer Scotland* on 18 February. There have been more than a dozen sightings, in Banffshire, of an animal described as 'very large, very muscular with quite short legs' and 'a sort of pointed head'. Up to this point in the description this could be referring to one of a number of Scotsmen of my acquaintance but the description goes on to talk of a long straight unbushy tail. The Beast which is dog- or fox-like in appearance is more upright than dogs or foxes and according to some witnesses could be a wolf. Some local people are even suggesting that it could be the famous puma of Caithness which ought to be 'thirsting for publicity after nearly two years without a mention in newspapers'.

## Another Green Revolution?

Last summer we published an article by David Fisher (*Homeopathy for your HiFi, B&IS 3.4*) on the bizarre, pseudoscientific theories which often surface in HiFi magazines. The magazine *HiFi Answers* was particularly prone to publishing pseudoscientific gobbledygook including suggestions that cutting a corner off one page of every book in your living room or putting a sheet of paper under the legs of your HiFi system would drastically improve the sound

quality of the system. The *Independent on Sunday* on 18 March reported an important addition to David Fisher's list of 20 ways to improve your enjoyment of recorded music—so compact disc owners please take note.

The article reported (with a healthy dose of skepticism) the news from a rapidly growing group of HiFi buffs in Los Angeles that the sound quality obtainable from your compact discs can be 'terrifyingly improved' by the use of a simple felt-tipped pen. Apparently when a green felt-tipped pen is applied to the outer and inner edges of a compact disc the laser will produce a cleaner, crisper sound. Unfortunately, a sort of 'HiFi Inhibitory Effect', appeared to take place when a closed-minded British engineer tested the system. Sound Engineer Bill Foster failed to detect any difference whatsoever between a green-ringed disc and an unringed equivalent. 'Your ear can be fooled enormously' said Mr Foster. 'You can hear anything you want to hear. The worrying thing is that the chemicals in the pens could actually eat through the CD and ruin your disc'.

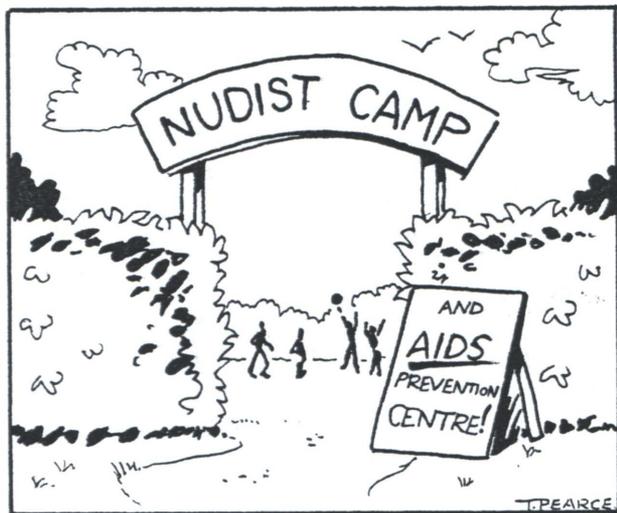
## Elvis Revisited

*Hits and Misses* reported in the last issue that that legendary King of Rock-and-Roll, Elvis Presley, was definitely dead and was training to be a doctor in heaven. Unfortunately, although the *Sun* 'newspaper' was reliably informed that this information was correct (by Elvis himself) it appears that it may nonetheless be less certain than was first thought. An article in the *Guardian* on 24 January describes the Elvis telephone hotline which has recently been set up in the United States. All you have to do is dial 900-246-ELVIS from any phone in America and you can join the 'central processing system to collect and broadcast Elvis sighting reports'. The phone-in service last year had 1.5 million callers reporting sightings, asking for information on sightings or just sending their best wishes to the great man. An employee of the company responsible for the hot-line is quoted as saying 'We are neutral on whether Elvis is alive. We have an open mind. There are photographs, reports of angels, impressive stuff'. If the public interest in—and sightings of—the King continue, then Elvis will soon surpass even Jim Reeves in the posthumous performers' popularity poll.

## Man of the Cloth

And whilst on the subject of telephone hotlines, the *Hull Daily Mail* on 12 January reported on a new phone-in service in the UK called *Adrenaline Research* which has been set up by medical biochemistry graduate, Nicholas Dynes Gracey. Mr Gracey believes that a major cause of illness in humans is overheating caused by wearing too many clothes. 'We are mammals and therefore warmblooded but we treat ourselves like reptiles which lack an internal means of controlling their

temperature' he claims. This may simply seem like an amusing subterfuge by a closet nudist to convert the world to his way of living but it has more serious overtones. According to the report, Mr Gracey claims that overclothing suppresses the spine's action as the 'body's thermostat' and weakens the body's immune system thus rendering people more susceptible to AIDS. This nonsense can be heard for the entirely reasonable fee of only 24p per minute cheap-rate rising to 48p per minute during peak times.



## Poll Tax Hex

If you have been worrying, of late, about paying your Poll Tax bill then let me put your mind at rest. Forces bigger than both of us are at work to ensure that we won't have to pay our Community Charge bills (and I'm not referring to street riots). According to an article in the *Guardian* on 22 March the Coven of Earth Magic, with the assistance of the Long Man of Wilmington, has recently exorcised the Poll Tax in a spring solstice cleansing ceremony. (Of course readers of this magazine are liable to treat the claims of the Coven of Earth Magic with considerable skepticism but the Coven cast a spell against the Channel Tunnel rail link and this project has been in severe financial trouble ever since). Five witches and several camera crews gathered in Wilmington with effigies consisting of straw dolls with faces snipped from newspapers to conduct the exorcism ceremony. The effigies of Margaret Thatcher, the leader of Eastbourne council, the Mayor and the local MP were then ritually cast onto cleansing flames. The Coven pointed out, however that it means no harm to any living being—the purpose of the ritual is simply to cleanse and purify.

## The Montana Septics

There's nothing like a septic tank for bringing even the most spiritual people back down to earth. This was certainly the case recently in Livingston, Montana where members of the Prophet's Church Universal and Triumphant were preparing to retreat to a nuclear fallout shelter to protect them from the consequences of the nuclear war which they felt was going to begin in March or April—the favoured date being the Ides of March. The *SubGenius Digest* reported that 45 communal shelters have been built in the Livingston area by church

members who adhere to a blend of New Age mysticism, survivalism, anti-communism and divine prophecy. The sect leader Elizabeth Clare Prophet was warned by sanitation officials that 2 000 followers would not be permitted to inhabit the network of shelters due to a lack of adequate sewage disposal facilities. The church will be subjected to both criminal and civil prosecution if members inhabit the shelters before the group gets permits for its septic tanks—assuming, of course, that the Montana legal system survives Armageddon.

## Village of Fear

Strange happenings have been taking place recently in the small mountain village of San Gottardo in Northern Italy. Events began on Valentine's day when a villager noticed that the fuse box outside his house had begun to heat up and burn for no apparent reason. According to the *Sunday Express* on 11 March, within two days a whole catalogue of similar events was recorded—all centred on a narrow winding lane called Via Calora (this seems ironically fitting as 'calora' sounds as though it is probably Italian for 'heat'). Television sets switched themselves on and off, a chair caught fire and a pair of ski-boots and a plastic canopy also went up in smoke. Men from the local electricity board arrived equipped with measuring equipment which they were sure would identify the source of the problem. But it didn't—instead the plastic switches and buttons on the equipment melted, rendering it useless. A visit by the joint mayors of the village to the Via Calora also failed to reassure the local inhabitants as the car in which they arrived spontaneously caught fire. 'We watched the rear plastic light slowly melt in front of our eyes. There was more and more smoke and then it burst into flames. I couldn't believe what I was seeing' said one of the mayors. The problems were not just confined to inanimate objects as, by now, the villagers were beginning to be afflicted by headaches, sickness and stomach pains. The problem was still unresolved on the date of publication of the *Sunday Express* article and people were beginning to leave the village in fear—although there has been a massive increase in the number of sightseers visiting the area to see the 'Mystery of the Berici Hills'. Experts from all over Italy have also descended on San Gottardo but have so far failed to identify the source of the problem. Amongst the villagers, the bizarre occurrences are blamed on a variety of agencies including UFOs, Martians, the devil and various other supernatural entities.

## How to Get A Head

If you have ever worried about the possible disputes which may break out when your estate is divided up after your death, the *Independent* on 26 March reported on a means of blowing a raspberry at your would-be inheritors. The Alcor corporation in California (where else?) will help in two ways—firstly, by virtue of high charges, they will leave you no money to will to your descendants and secondly they will enable you to outlive them all anyway. Alcor is a firm in the vanguard of the 'life-extension' movement which aims to freeze paying customers (or bits thereof) soon after death and thaw them out again when medical technology has advanced

sufficiently to restore them to life. Two options are available, full body suspension or the somewhat cheaper head suspension. In this second—more grisly—alternative, immediately after death a non-clotting agent is injected into the body which is cooled to just above 0 °C. More drugs are then injected to keep the body's pH level stable, a main artery is opened to drain all the blood and anti-freeze is pumped through the veins above the neck. The head is then amputated, placed in a steel container and despatched to California for storage in liquid nitrogen at -196 °C. The life extension centre in England will be sited at Eastbourne for easy access to London's airports and absolutely not because of the large number of potential customers in the area according to Alan Sinclair, a retired electrical engineer who has invested £230 000 to set up the centre. Although the British centre will be independent of Alcor and simply use its services, Alan Sinclair intends to bequeath it to Alcor on his death. Any *Skeptic* readers interested in this type of immortality should try to ensure that they have an estate worth at least £30 000 (at current prices) if they want to keep their heads only but almost £70 000 will be required for the full body job.



## Homeopathy Revisited

Of the various types of alternative medicine which are on offer in the British Isles, homeopathy seems to be inexplicably gaining in popularity. For instance a full page article in *Today* on 22 January pointed out that NHS doctors write out 750 000 homeopathic prescriptions and that more than 8 million people (including Prince Charles and Paul McCartney) turn to homeopathic medicine every year. In *Hits and Misses* in the last issue I made some negative comments about suggestions that homeopathy should be fully incorporated into the NHS and that medical schools should introduce modules on homeopathy into their undergraduate courses. Interestingly, these comments were not well received by some (otherwise skeptical) colleagues with medical connections who presumably feel that homeopathic remedies, although not fully understood, nonetheless have something to offer the British public above and beyond the placebo effect. I think it is important to make a distinction between homeopathy and the general use of natural remedies

(sometimes called naturopathy) as both types of alternative medicine may be on offer from a homeopathic practitioner. The subject of natural remedies is an exceedingly complex one and beyond my areas of competence but it is clear that, as many 'orthodox' medicines were originally derived from plants or other organic substances, some natural remedies may have genuine physiological effects.

But homeopathy is another matter entirely. The theory of homeopathy, which was developed about 200 years ago by a German doctor Samuel Hahnemann, is that vanishingly small amounts of certain substances can cure disease by provoking the body's natural defences into fighting the agents of the disease. The substance chosen to treat a particular illness is generally one which, in larger quantities, would itself produce the symptoms of the illness. As this seems to have something in common with the conventional use of vaccination to treat infectious diseases it has a definite air of plausibility which is perhaps lacking in other alternative therapies such as iridology and reflexology—but if one considers the details, homeopathy is no less absurd. The preparation of homeopathic remedies involves the extreme dilution of the active ingredients. To achieve the required dilution a small quantity of the substance is thoroughly dissolved in a large volume of water and then a small quantity of this liquid is mixed into a new large volume of water and so on through a number of stages. This process is frequently continued until *no single molecule of the active substance remains in solution*. This rather pure water is then used to make up the homeopathic medication.

Hahnemann himself was aware that this absence of molecules could pose some kind of philosophical problem but got round it by postulating that the extreme dilution left behind a 'spirit-like essence of the original substance' (something that a certain Dr Benveniste fleetingly seemed to have demonstrated). But even if one were to acknowledge the possibility of this extremely unlikely and unproven hypothesis it still fails to raise homeopathy above the level of 'witchdoctory'. The problem is that even the purest of distilled water contains relatively large (on a homeopathic scale) numbers of dissolved impurity molecules—and although successive dilutions will reduce the number of molecules of the original substance to (near) zero, the unwanted impurity level will remain unchanged. This implies that even if the medication contains a few molecules of the active ingredient (or its spiritual essence) its effects will be totally swamped by those due to the relatively vast numbers of molecules of almost every conceivable type contained within even ultra-pure water. Logically, a glass of water should thus be a remedy for any illness and certainly just as effective (placebo effect apart) as any homeopathic medication.

So the next time you visit your homeopathic practitioner pose him (or her) the following conundrum suggested by Dr David Fisher: Given two bottles of different homeopathic medicines (of identical appearance) from which the labels have been removed devise a test to determine which is which.

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**Steve Donnelly** is a physicist, a lecturer in electronics, a committee member of the Manchester Skeptics and the UK Skeptics and co-editor of the *Skeptic*.

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# Muddying the Waters

Dave Langford

*A Victorian UFO contactee reveals all . . .*

Towards the end of 1989 I heard the rumours. In 1990, confirmation came in the form of a big, fat and much-hyped hardback. Yes: I, humble and obscure Langford, had been selected from millions of other SF authors as an influence on that god amongst men, Whitley Strieber. It is a proud and lonely thing . . .

It is time for a flashback to 1978.

The original daft suggestion came from Paul Barnett, now better known as the author John Grant but then my editor at David & Charles Ltd, and struggling to break free of this publisher's relentless specialization in trains and canals. Constantly editing things called *201 Interesting Stretches of Canal Visible from Norfolk Railway Lines* can make you yearn for new horizons.

His brief to me was: write a spoof book about a nineteenth-century UFO encounter. 'Examine' the 'evidence' as a physicist would. Lambast modern ufology for its lack of scientific rigour. Make the Victorian UFO sufficiently over the top that no close reader could believe it. What larks, what larks! More than one sceptic has been tempted in this way to exert the happy irresponsibility of the SF writer, only to find the resulting satire embedded (like a fly in ointment) in the pseudoscience which was supposed to be satirized . . .

For the antique UFO report, Paul lent me a period style-book in the form of Thackeray's *Adventures of Philip*. My wife searched her family tree for an impeccably documented ancestor: William Robert Loosley, undertaker and craftsman of High Wycombe in Buckinghamshire, and provider of posh furniture to Disraeli. Unearthed from the dusty recesses of my typewriter, Loosley's first-person narrative (in tone oddly reminiscent of Thackeray, with a random larding of Biblical phrases) had, it seemed, been miraculously preserved for more than a century, just handily for publication in 1979.

A surrounding commentary by that little-known savant David Langford proved quite inconclusively that during his carefully recorded encounter in the Buckinghamshire woods, Loosley was exposed to advanced knowledge of nuclear physics, quantum mechanics, general relativity, black holes, and indeed everything else I could remember from an Oxford physics course.

No, this isn't a plug for the book, long out of print despite its snappy title of *An Account of a Meeting with Denizens of Another World, 1871* (David & Charles, 1979; St Martins Press, 1980). I come to bury it, not to praise it, and as usual my publishers had the same idea. There was an abrupt change of editors, and the new chap combined integrity with economy by omitting two key elements of the original plan—simulated pages from 'Loosley's manuscript', and a non-zero publicity budget. Instead he wondered whether the book

could make its own way as a jolly good SF novel. In the face of this rampant indecision about how and whether to promote it, my squib passed away quietly to that remainder shelf from whence no traveller returns.

Nevertheless, *An Account* had made its mark. The grottier sort of newspapers and magazines ran Amazing UFO Proof stories, their devotion to investigative journalism being amply shown by the fact that not one asked the obvious question, 'How about giving us a look at this 108-year-old manuscript, then?' Enshrined in many a footnote, plus two pages of the doubtless deeply scholarly *The World's Greatest UFO Mysteries* [1], Loosley has passed into history—at least, that peculiar alternative history beloved of so many ufologists [2]. My finest hour came when I was attacked for the excessive caution and scepticism of my own commentary on Loosley's narrative.

Later I found that I wasn't the only SF writer to have gleefully muddied the waters of research. John Sladek, as 'James Vogh', had gone to the extent of inventing the lost 13th sign of the zodiac. His books on the sign Arachne, he told me, 'were conceived as jokes, but very quickly turned into moneymaking enterprises. Only they didn't make a lot of money, either. So finally they turn out to have been a gigantic waste of time.' I probably picked a slightly better market. Astrology already has its fact-proof theories and doesn't require more, while ufology seems prepared to assimilate any odd incident whatever, declaring it to be further conclusive confirmation of something or other.

(And as we all know, an explained or exploded incident never attracts the same attention as the original enigma. Even the *Skeptical Inquirer* displayed no interest in an offer to confess my own folly in their pages—though they did condescend to report the revelation when, instead, I published it as an essay in *New Scientist* [3].)

The moral seemed to be that SF authors writing with tongue in cheek should stick with SF. In offtrail phenomena as in bodice-ripping romance, the book market sniffs at jokesters but rewards sincerity, even misguided, self-deluding and totally barmy sincerity. (I do not, at this juncture, mention Whitley Strieber and *Communion*.) It felt vaguely depressing to have contributed another snippet of disinformation to the already over-large folklore, without even the compensation of getting rich. I ended my first confession with apologies to all, most especially my bank manager.

Now, the sequel.

Personally I still incline to the opinion that any true first contact with alien thingies will be as clear and unequivocal as the message beamed Earthwards in my and John Grant's disaster novel *Earthdoom*: 'YOU EARTHLING SCUM ARE THE

DREGS OF THE UNIVERSE. WE COME TO ANNIHILATE YOU PAINFULLY AND RAPE YOUR PLANET.' However, I do admit that there are ufologists of integrity . . . which according to me means a readiness to entertain the wild supposition that UFO does not necessarily stand for Alien Space Vehicle Piloted By Little Putty Men With Enormous Eyes.

One such researcher, Jenny Randles, contacted Paul Barnett with the glad news that the story of *An Account* had been incorporated—without any visible criticism of its content—into the latest work by no less than Whitley Strieber.

(Later, still rocking with laughter, she passed this on to the even more noted ufologist Jacques Vallee, who is supposed to have slowly said: 'Oh. God. You mean that *An Account*'s a spoof, then?')



AN ACCOUNT OF A MEETING WITH  
*DEWIZENS*  
 OF ANOTHER WORLD  
 1871  
 WILLIAM ROBERT LOOSLEY  
*Edited and with commentary by*  
 DAVID LANGFORD

For the first time in my life I became frantic to get hold of a book by Strieber. Luckily, before I could do anything terminally rash such as part with money, his British publishers sent me a copy of *Majestic* (Macdonald, London; 1990; £12.95 hc; 318pp). This I skimmed avidly until I found the good bit, which is on pages 46 and 47.

In what some might call a dramatic break with his former practice, Strieber presents this as a novel, though one very closely based on truth. This allows him to tinker a little with his source material, and indeed to omit source references which might be checked. Although his two good pages are a direct condensation from *An Account*, there's no mention of the book itself, or of its being copyrighted in my name. Perhaps being a major bestseller puts you above things like literary ethics.

Again, because Strieber is going on about the purported UFO crash in New Mexico in 1947 [4], he carefully backdates the discovery of William Robert Loosley's fabulous manuscript from the 1970s to 1941. (The 1979 edition of *An Account* says that it was found 'only a few years ago', which by no stretch of imagination includes 1941. Internal evidence

is arranged to indicate a date later than 1975. Of course it had been, as it were, found in 1978.)

Even in this book's brief summary, Strieber's keen critical intelligence can be shown by his rendering of a rather carefully phrased comment about this hard-to-locate MS:

'I can only declare that the manuscript has so far withstood every test of authenticity to which it has been subjected.' (*An Account*, 1979.)

'The ms. has been authenticated by British antiquarians.' (*Majestic*, 1989.)

Exercise for the beginning student: which of these sentences admits the possibility that the number of 'tests of authenticity' might have been less than one?

Exercise for the advanced student: how closely based on 'true incident' can be a book whose reconstruction of 1947 US Intelligence documents incorporates a text which I didn't draft until 1978? Come to think of it, why wasn't the Loosley story publicly expunged from UFO legend after the appearance of my 1988 *New Scientist* article?

Exercise for a weary reviewer: do I really have to struggle on to page 318 and its plea for me to rush in a letter telling Strieber about all the occasions on which I've been abducted and/or offered little yellow flowers by passing aliens?

Exercise for you all: if someone reproduces a story and believes it to be factual, does he perhaps have a responsibility not to tamper with the facts? Conversely, if someone does so while believing it to be fiction, might the word 'plagiarism' not conceivably apply? [5]

I suppose that I should at least be cheered by the prospect of reaching, for the very first time, a readership numbered in the millions. Surely this is every pure-souled author's dream. Before long I will learn not to chafe at anonymity, and to stop making the obsessive calculations which begin: 'two pages out of 318, that's . . . that's . . . I wonder how much 0.63% of Whitley Strieber's royalties would be?'

#### Notes

1. Nigel Blundell and Roger Boar: Octopus, London, 1983.
2. It still goes on. For example, the Plymouth *Western Evening Herald* for 30 January 1990 carried a piece by the 'mystic' Marilyn Preston, which links the flattening of grass by Loosley's mother-ship with the recently famous phenomenon of 'crop circles'. Tra la.
3. 26 May 1988.
4. You have to be a pretty hard-line ufologist to put much credit in an incident chiefly attested to by documents—the MJ-12 or 'Majestic-12' records of a supposed US government investigation—which appear to be such embarrassingly bad forgeries. See example Philip J. Klass's 'New Evidence of MJ-12 Hoax' in *Skeptical Inquirer* (Winter 1990), the latest in a sporadic series about these dubious papers. Now you know where Strieber got his title.
5. The extremely general and hypothetical phrasing of this paragraph has no connection with a certain author's alleged fondness for lawsuits. Well, not much.

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Dave Langford is a Science Fiction author who lives in Reading.

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See page 19 for a postscript to this article

# A Skeptical Look at Astrology

Anthony Garrett

*The ancient Babylonians believed that the positions of the stars and planets could exert an influence on human behaviour and so, it appears, does twentieth century man. Many people regularly consult their daily newspaper horoscope whilst 'professional' astrologers compile charts for film stars, politicians and business concerns. In this two-part article, physicist Anthony Garrett answers some basic questions about astrology and describes a recent meeting at which a professional astrologer confronted professional astronomers.*

## What is astrology?

What is commonly called astrology divides into two: prediction of personality of an individual from the positions of the stars at birth; and prediction of events likely to befall an individual, given that person's birthday and the present disposition of the heavens. The second of these is the popular type commonly used in newspaper 'horoscopes'. Few serious practitioners of the first kind regard it as reliable. Nevertheless it is the type which most people encounter on a day-to-day basis.

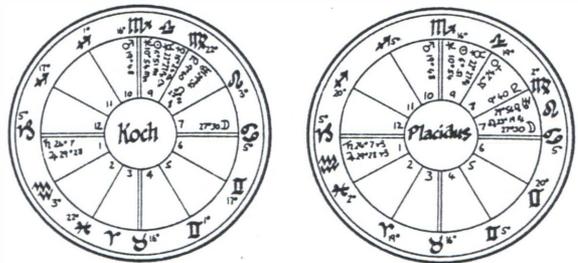
Invariably the statements found in popular astrology columns are so broad as to fit—or to be made to fit—almost any recent or subsequent event. Examples, pulled at random from a popular newspaper on the day of writing, include 'A well-intentioned friend will want to take you on one side and whisper some wise words in your ear', 'After the last few days you deserve a well-earned break' and 'Just for once forget your aspirations and start enjoying your life'.

The more serious birth-chart side of it suffers from the same problem. Look at this personality sketch:

'Some of your aspirations tend to be pretty unrealistic. At times you are extroverted, affable, sociable, while at other times you are introverted, wary and reserved. You have found it unwise to be too frank in revealing yourself to others. You pride yourself on being an independent thinker and do not accept others' opinions without satisfactory proof. You prefer a certain amount of change and variety, and become dissatisfied when hemmed in by restrictions and limitations. At times you have serious doubts as to whether you have made the right decision or done the right thing. Disciplined and controlled on the outside, you tend to be worrisome and insecure on the inside. Your sexual adjustment has presented some problems for you. While you have some personality weaknesses, you are generally able to compensate for them. You have a great deal of unused capacity which you have not turned to your advantage. You have a tendency to be critical of yourself. You have a strong need for other people to like you and for them to admire you.'

I expect that this fits you well. It came from a standard horoscope and was used by Bertram Forer in 1948 in a demonstration of astrological susceptibility. Forer's subjects were individually told that the sketch was custom-made for them, and were asked to rate it for accuracy on a 0–5 scale.

16 out of 39 gave it a perfect 5, the mean was 4.26, and only five rated it below 4. Thirty years later the same profile produced almost identical results. This typical example of how most people view themselves, together with the crucial but subtle fact that we notice coincidences but ignore non-coincidences, accounts for the popularity of astrology. Its predictive methods are not even consistent: one technique is incapable of assigning horoscopes to anyone born north of the Arctic Circle. (This hasn't done Eskimos much harm.) Two other, popular systems—sidereal and tropical astrology—are based respectively on the constellation and sky sector in which the sun falls at the time of birth. They frequently lead to opposing predictions.



In personal consultations, the latitude of horoscopes like Forer's can be combined with information gleaned from other sources. For example, it is likely that someone with a constriction about the base of the third finger of the left hand has been married and is presently unmarried (why is the ring off?), and face-to-face statements about 'traumas concerning one who was close to you' could hardly fail to impress. Appearance gives more away than we generally realise. Then there is verbal fishing for information, a technique known to stage magicians as cold reading, which is quite extraordinarily convincing to somebody not in the know. Consultants may not even realise they are using this technique.

There exists no remotely plausible explanation of how astrology might work. While this does not rule it out—most effects are observed before they are explained—it provides strong corroboration. And before trying to construct a theory it is as well to be sure there is something to explain.

Recently a 'double-blind' test of astrological predictions has been undertaken. A double-blind experiment is one in which the tester does not know in advance the 'correct' result, and so cannot cue the subject in on it unconsciously. This

protocol was essential, as unconscious cueing has proved responsible for spurious results in many fields in the past. Equally important was the involvement at every stage of some of America's leading astrologers, so that there could be no cry of 'foul' after the event. The result (published in the leading scientific journal *Nature*, 5 December 1985, volume 318 pages 419–425) was decisive:

'We are now in a position to argue a surprisingly strong case against natal astrology as practised by reputable astrologers. Great pains were taken to ensure that the experiment was unbiased and to make sure that astrology was given every reasonable chance to succeed. It failed. Despite the fact that we worked with some of the best astrologers in the country, recommended by the advising astrologers for their expertise in astrology. . . despite the fact that every reasonable suggestion made by the advising astrologers was worked into the experiment, despite the fact that the astrologers approved the design and predicted 50% as the 'minimum' effect they would expect to see, astrology failed to perform at a level better than chance (33%). Tested using double-blind methods, the astrologers' predictions proved to be wrong. Their predicted connection between the positions of the planets and other astronomical objects at the time of birth and the personalities of test subjects did not exist. The experiment clearly refutes the astrological hypothesis.'

Some astrologers nevertheless defend astrology using the very weak correlations apparently found by Michel Gauquelin between certain physical attributes (such as sporting prowess) and the position of Mars at birth. But it would be surprising if there *were*'t correlations between the positions of some planets and some professions, in view of the number of each; and this may be the true explanation. (This is not the same as testing against chance levels within any one profession.)

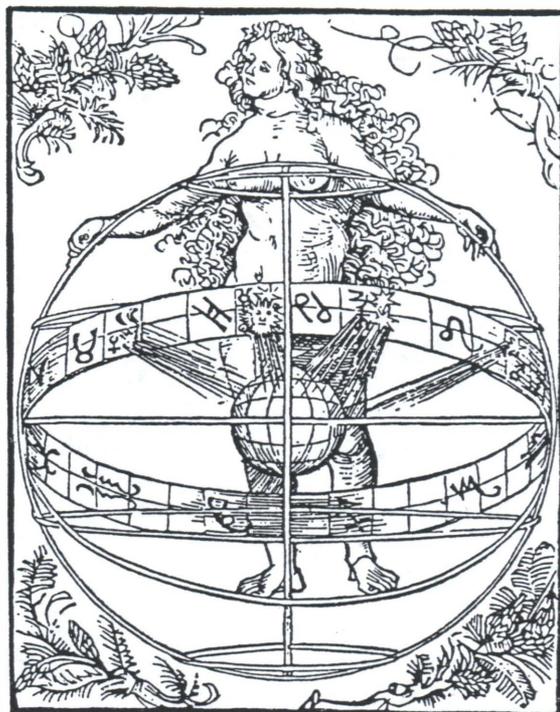
Even if Gauquelin's correlations prove to be statistically significant, they are very selective and bear no resemblance to astrology, whose practitioners set great store by its validity for all. And a far more plausible explanation would be the effect of the weather in very early life—which is of course correlated with time of year. Moreover, the *Nature* result still shows that astrologers cannot do what they claim.

In 1975 a who's who of 192 US scientists, including 19 Nobel laureates, signed a statement *Objections to Astrology*. Why did they feel it necessary? Is astrology not just harmless fun? The answer is *no*: astrology fools people, and is potentially dangerous. In one of the superpowers, the last President's schedule—including summit meetings on whose outcome depends world stability—was drawn up with the input of astrology. A court case involved an astrologer who had advised against a needed operation for a child; the child died. Companies increasingly look at the birth charts of job applicants: *you* could be the loser. Once enough of an electorate believes in it, astrology will become part of political manifestos. Undoubtedly most astrologers are not dishonest, merely deluded; but the more astrology becomes part of the fabric of life, the more important will be the decisions taken at every level based on nonsense—to the detriment of everybody.

## A Truly Astronomical Lunch

On Thursday, 1 March, a lunchtime forum on astrology was held under the aegis of Glasgow University Astronomical Society (GUAS). Originally two astrologers had agreed to attend, but one—a leading local practitioner—withdrawed at short notice, pleading unforeseen pressure of work, and the forum was re-arranged such that the other, Jane Ridder-Patrick, gave a brief initial talk on astrology followed by a lengthy and lively question-and-answer session, concluded with summings-up from Ms Ridder-Patrick and Dr. Alec McKinnon, an astrophysicist at Glasgow University.

Ms Ridder-Patrick's willingness to address a potentially hostile audience was greatly appreciated. Few of the audience will have been aware, though, that her colleague's late withdrawal was part of a common pattern. It happens frequently at meetings of this sort, and while I know nothing in this case to suggest that withdrawal was due to inability to sustain the argument, it is plausible in general. Certainly this



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is a systematic effect, and has a systematic cause.

Ms Ridder-Patrick's address distinguished between 'hard' sciences like physics and chemistry, and 'softer' ones like psychology, sociology and arguably astrology. The major difference is the greater ability of 'hard' science to screen each effect out from others, and study it in isolation. However, the distinction is irrelevant as soon as a testable prediction is generated: whatever be the causes, the prediction can be tested, and confirmed or disconfirmed to whatever accuracy the experiment is capable of. Do astrological birthcharts generate testable predictions? It was difficult to determine Ms Ridder-Patrick's view, for this depends on what is meant by astrology, and getting a clear definition proved impossible. As discussed in the first section, however, leading American astrologers exhibit no such reticence: those nomi-

nated by the astrologically respected US National Council for Geocosmic Research, to advise in the joint astrologer-scientist test published in *Nature* were clear that astrology *does* generate testable predictions. This test was important for two reasons: it was performed by scientists and astrologers cooperatively rather than antagonistically; and it was performed double-blind to prevent unconscious cueing by experimenters of subjects. No other test has combined these elements, and the outcome was clear: astrology performed at chance levels and was unable to sustain its predictions.

I queried Ms Ridder-Patrick about this experiment. She had heard of it, but had not read the write-up, despite professing great interest. (I know of no coherent field of knowledge in which a test of the foundations has been met with such silence by its practitioners. *Nature* is available in most public libraries.) Initially she expressed generalized doubts about the protocol, but when it was pointed out that this impugned the competence of the astrologers involved, she changed to a polite version of 'no comment'.

There is more than one astrological system: Ms Ridder-Patrick referred several times to Hindu as well as to Western astrology but, as mentioned above, their predictions differ. Moreover, astrological predictions changed in the past when new planets were discovered. Rather than regard these as inconsistencies, Ms Ridder-Patrick suggested that as more Sun-orbiting bodies were discovered, their incorporation improved astrology. This highlights a difference between astrology and astronomy: the latter has mechanisms telling us how strong are the effects of one body on another. Astrology has none, and consequently every grain of dust in the asteroid belt might be as important as Mars or Jupiter. Moreover the inner workings of astronomy have been reversed in the past to actually find new planets: a situation inconceivable within astrology.

Ms Ridder-Patrick's notion of astrology was concerned with helping people to come to terms with themselves. This worthwhile aim is shared by the psychotherapeutic community, and Ms Ridder-Patrick was quite at ease with the suggestion that a birthchart merely acted as a psychological

focus for astrologer and client to tune in on. This being so, one wonders why a few lines on a piece of paper, constructed according to where a few planets once were, is such an effective focus. One also wonders at the therapeutic facility of astrologers, for while acute intuition is part of the make-up of a good psychotherapist, knowledge of the interplay between conscious and unconscious is another facet, in which many therapists—unlike astrologers—are systematically trained. With psychology an infant science having potential for abuse, it is disturbing that anyone can practice it through unregulated astrological means.

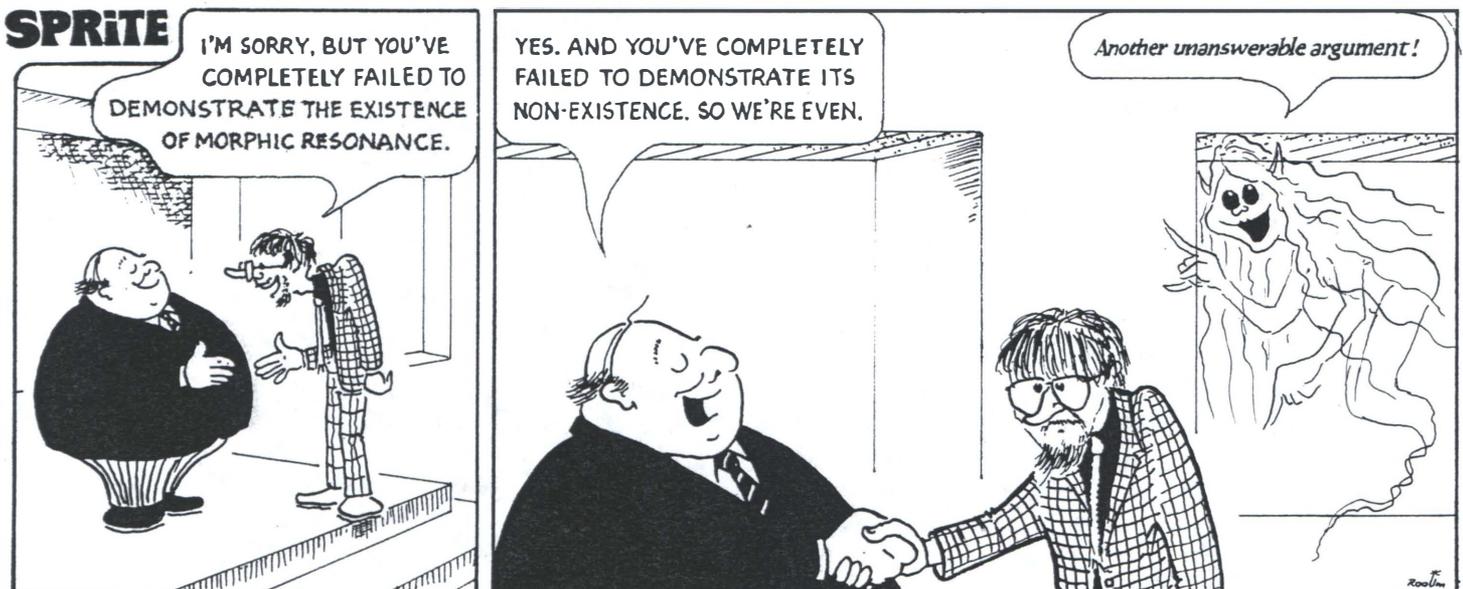
Most incredible was Ms Ridder-Patrick's statement that she 'didn't believe in astrology'. This was later qualified by her assertions that 'it doesn't matter what people believe'. In the sense that, out of a given set of hypotheses competing to explain some observations, the extent to which the observations favour one hypothesis over another is irrespective of who believes it, it certainly doesn't matter. (Truth is truth whether people believe it or not.) But people holding different beliefs may allow them to modulate their preferences for one hypothesis over another (prejudice), and may also conceive of different hypotheses to start with. What we believe certainly does matter. I doubt that Ms Ridder-Patrick tells her fee-paying clients what she told us: that she doesn't believe in astrology. In this statement and in her acceptance that birthcharts may be nothing more than psychological foci, she is very atypical, and it is important that others who meet this branch of astrology be aware of it.

Practitioners of astrology tend to be more intuitive, less analytical. Both facets are important to one's make-up. And if one can inform the other, as did Carlson's experiment, it cannot reasonably be ignored. Like GUAS, I am grateful to Jane Ridder-Patrick for airing her views before a sceptical audience in a forum which at all times remained good-natured. In view of the preceding facts, though, it is difficult to regard them as tenable.

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Anthony Garrett is a physicist and a committee member of the U.K. Skeptics.

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# The Sign of the RAM

James Gorman

## *Reflections on astrology in the computer age*

I have just had my horoscope done by a computer program. This wasn't an experiment in artificial intelligence. I wasn't asked to read a sheet of paper that informed me that I was 'a free spirit' and to determine whether this bit of wisdom had come from a person or a computer. That would have been an impossible test, since all horoscopes read as if they were written by computers. I simply bought a computer program called *Deluxe Astro-Scope*, plugged in my date, time, and location of birth (latitude and longitude were required—no Mickey Mouse here), and waited while the disc drives whirred, Alan Turing turned over in his grave [1], and the printer spewed forth ten pages of planets, aspects, midheavens, and modalities. It even told me, in a roundabout way, my sign—Taurus [2].

The printout contained an enormous amount of exotic information that's no doubt of great value to the professional astrologer. I can now tell you that my Neptune is in House Twelve, my moon in conjunction with Mars, my Jupiter in Aquarius—and my bill is \$295—for the floppy disc and accompanying documentation. Insight isn't cheap. The program provided me with some startling pronouncements on my character. It said, for instance, 'You have an unyielding nature, which makes it very difficult for those with alternate opinions to co-exist with you.' This, of course, is absolute nonsense.

Mine isn't the only astrology program; it's one of many. Depending on your point of view, computers have invaded astrology, or astrology has invaded computers. There are at least two companies devoted to astrological programs: AGS Software of Orleans, Massachusetts, from which I purchased *Deluxe Astro-Scope*, and Matrix Software of Big Rapids, Michigan. The emphasis in their catalogues is on professional astrology. In the Matrix brochure a headline trumpets 'Make money with your home computer!' And AGS notes that 'you can make Electronic Astrologer Astro-Reports consistent moneymakers in a horoscope calculation service.' That's not why I ordered the program, but I was glad to hear it. If the writing business goes sour, I'll be more than happy to tell you (to borrow the typography of the printout) whether your horoscope is dominated by FIRE, EARTH, AIR, or WATER—for a small FEE.

The programs Matrix and AGS offer can do almost anything. With them you can not only cast an individual horoscope but also check the compatibility of two people, do astrological research, biorhythms, numerology, and tarot readings. You can even do a little sexual astrology for consenting adults. The brochure from AGS touts their *Deluxe*

*Sex-O-Scope* as providing 'a playful, witty, R-rated description of romantic and lovemaking styles and preferences. Does not include explanatory pages—these we leave to your ingenuity!'

My mother warned me about people who combined sexual innuendo and exclamation points, so it was with some trepidation that I called AGS about the program I wanted. I needn't have worried. My conversation with the woman who answered was thoroughly official. Instead of asking, alluringly, 'What's your sign?' she said, 'What's your operating system?' I wish I could say that when I answered 'CP/M' she said, 'Ah, you're business oriented, a pioneer, with a large library of free software,' but she didn't. She asked me about my RAM, not Aries, the sign of Bismarck and J.P. Morgan, but Random Access Memory—that RAM, the sign of Stephan Wozniak and Steven P. Jobs.

As to the program she sent me, I can't fault it. It provided better, or at least more, advice than I ever got from the newspaper. At times it appeared incredibly perceptive, as when it pointed out that I was 'courageous and daring.' Then it would go ludicrously off the mark, describing me as 'vain and lazy.' Still, it was nice to have the feeling that someone was taking an interest in me, talking to me, about me, even if he was saying nasty things. The astrological second person ('you are tall, dark, and handsome', 'You will become amazingly wealthy, today') is irresistible in its illusion of intimacy, whether it comes from a computer, a newspaper column, or an astrologer in the flesh. Even when you know perfectly well

that a million other people are reading 'You are a deeply passionate person who needs endless love—from lots of different people,' it can still feel as if someone has finally understood you.

The only problem with astrology is that it's all hooey. I didn't make this up just to be mean. I got it out of the *Encyclopaedia Britannica*, to which I often turn for guidance when I'm not reading my horoscope. The encyclopaedia said, in a tone I thought was a bit harsh, that after Newton astrology became 'scientifically untenable' and, in the West, 'more and more fraudulent.' It called it a pseudoscience and said, 'Modern Western astrology, though of great interest sociologically and popularly, generally is regarded as devoid of intellectual value.' In other words—hooey. What, then, does it mean for the culture as a whole that computers are being put to uses 'devoid of intellectual value'? I think it's very good news.

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The advent of computerized astrology marks the intrusion of silliness into the halls of science. The computer is the closest most of us get to a scientific advance. It's an electronic icon, the reigning trinket of twentieth-century technology. It's one thing to use such a device to pretend you're commanding the Starship *Enterprise* and trying to crush the Klingon Empire (at least that's *science* fiction). But it's another to force the computer to play handmaiden to the occult, to irrationality and superstition. That's a scandal, an outrage. As Henry Higgins would say: How simply frightful! How humiliating! How delightful!

It's not that I rejoice in seeing the poor computer dragged in the mud of the zodiac. It's just that I've been worried by dire predictions that computers will dehumanize us, that they'll take over our lives, suck the juice out of them, and leave us nothing but bits and bytes. Computer astrology seems to put the lie to these claims. Astrology may be dumb, but it's human. If even science writers are sitting around forcing computers to do silly, irrational, and useless things like cast the astrological charts of Prince Charles and Howard Cosell [3], then we are as likely to end up dominated by the chill, restrictive logic of the computer as a Taurus is to change

his mind.

One has to remember, when considering the potential dehumanizing effect of computers, that being human isn't always such a noble thing. Part of being human may be caring for families and friends, reading (or writing) great literature, and going to India to help Mother Teresa. It is, however, equally, if not more, human to bet on horses, philander, read your horoscope, play games, and try to make money by selling astrology programs. All these activities, and others, remain possible, if not easier, with computers. There are programs to handicap horses, keep bowling scores and averages, do biorhythms, throw (or perhaps I should say compute) the I Ching, and teach you how to win at blackjack. There's *Deluxe Sex-O-Scope*. On the same machine you can go shopping, trace your family tree to Prince Charles (or Howard Cosell), and send electronic love notes to compatible computer owners. And there are the games, from *Space Invaders* to *Bible Baseball*. In one catalogue of software for Apple computers there are two pages of general science and more than forty pages of games. Obviously, computers aren't turning people into humdrum machines. People are turning computers—as they have every other bit of technology, from the internal combustion engine to the machines (I know they exist, even though I've never seen one) that make rubber dinosaurs—to their own frivolous and irrational pursuits.

It's true that I'm only talking about home computers, so I don't want to wax overly optimistic. Until we get the computers at the Pentagon and the Kremlin I-Chinging and doing horoscopes for every person that ever lived, we're not really safe. But there are teenage hackers who can set that up for us. And if you can't abide astrology, think of it this way: a computer that's busy worrying about the difference between Gemini and Virgo isn't fooling around with your bank account.

Remember, these words come to you from 'a perfectionist' with 'a deep and inquiring mind' who, although he 'loves practical jokes' and has 'a tendency to be shallow,' is nonetheless graced with 'cool logic.' I couldn't have put it better myself.

#### Notes

1. Turing, whose sign was Cancer, was an early theorist of artificial intelligence.
2. What the computer didn't tell me, but I knew anyway, was that there is a homonym for my sign, 'torus,' the term in solid geometry for the doughnut shape. This fact has given me a perverse yearning to dress up as a glazed doughnut, walk into a California singles bar frequented by mathematicians, and say to some blonde who looks as if she knows her solid geometry, 'Hi, I'm a torus.'
3. Prince Charles, a Scorpio, has 'a preference for rich, elegant surroundings & possessions' (sic). Cosell, an Aries, is 'quite tolerant of others' faults,' as everyone knows.

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**James Gorman** is a science writer who lives outside New York City. This article is taken from a collection of his essays, published by Heinemann and entitled *The Man with No Endorphins*. It is reprinted here with permission.

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# The Weight of Evidence

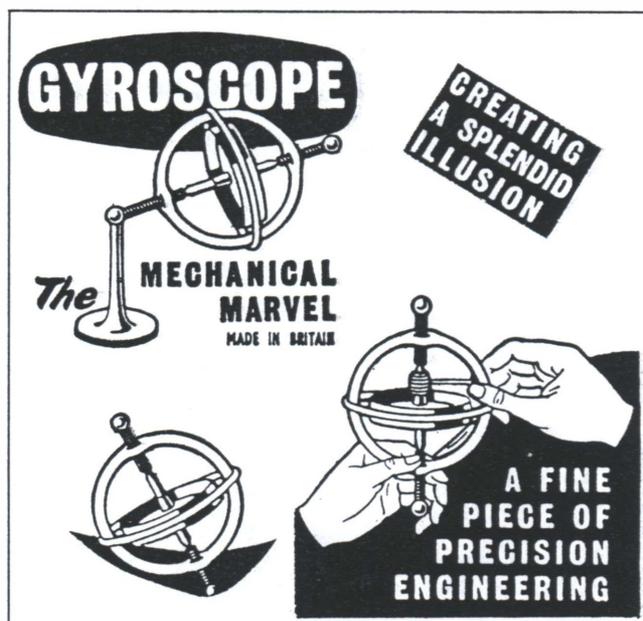
Dave Love

## *Gyroscopes can't levitate UFOs*

*Hits and Misses* in the last issue carried an item on the rather unbelievable report from Hayasaka and Takeuchi [1] of a reduction in weight of gyroscopes dependent on their direction of rotation relative to that of the earth. There have been some recent (and probably final) developments in this episode of fringe science which are the subject of this article. (Although there are some odd aspects to the first report, this affair does not seem to merit the label of pathological or pseudo-science as I and others have recently had recourse to describing 'cold fusion', for example: it was published in the appropriate place after prolonged peer review and presents an apparently clear-cut result from a fairly easily repeatable experiment which is not at the limit of sensitivity of the apparatus.) It seems to have come to an unusually swift conclusion after a good deal of commotion involving crank inventors and UFO enthusiasts.

Gyroscopes simply consist of some sort of spinning wheel mounted in a framework which can move freely. They behave rather counter-intuitively, tending to move at right angles to the direction in which you push them. You may be familiar with the behaviour of toy gyros, like the one I had as a child and recently re-discovered, or with the classic 'top'. For instance, if after spinning up the rotor with a drawstring you let one end pivot in a hollow and it leans over under the influence of gravity it merely rotates ('precesses') about the pivot as long as it keeps spinning fast enough. If you put it in a box and move it around it reacts back on your hand in a surprising way. Even if you've never played with one of these interesting toys, you may have had the help of the gyroscopic effect of the wheels of a bicycle to keep you upright—ever wondered why you fall over when the wheels stop going round? This behaviour, although surprising, is perfectly well understood in standard mechanics [2], although only with the aid of some non-trivial maths. It is *so* well understood that gyroscopes form the basis of highly accurate navigation ('inertial guidance') systems which rely in various different ways on the gyro's tendency to react against attempts to push it at right angles to the direction it spins.

Better people than amateur 'inventors' like Sandy Kidd have concluded that gyros don't obey the usual laws of mechanics and could be used as anti-gravity or free-space propulsion devices. Eric Laithwaite, Professor of Electrical Engineering at Imperial College, was once given an unfortunate opportunity to expound such views in an otherwise good series of the annual televised Royal Institution Christmas lectures for children. I don't know whether he still holds such opinions, but they are odd coming from him since his electrical machines have some rather similar features. Apparently



Hayasaka and Takeuchi have a history of similar opinions. There seems to have been no other motivation for their experiment.

So, what did they claim, exactly, and why wasn't it credible? They spun up gyroscopes to high speeds (over 10 000 rpm) and then weighed them on an ordinary chemical balance (familiar from school chemistry or physics classes) as they slowed down. The gyros were spun about a vertical axis both clockwise and anticlockwise. Apparently the weight increased as they slowed, but *only* for clockwise rotation. An anticlockwise-spinning gyro showed no change in weight. They ascribed this to some sort of interaction of the gyro's spin with that of the earth about its axis, but did not present evidence to confirm this by repeating the measurement at different latitudes. If they were correct the size of the effect should depend on latitude, disappearing at the equator and switching direction in the southern hemisphere. If they really believed in the effect it seems surprising that they didn't dispel more doubt by arranging a trip to a lab at a different latitude. The size of the effect, incidentally, is quite small—the gyroscopes weighed a bit under half a pound and the claimed change in weight was up to about 10 mg, which is roughly the weight of a stamp.

It is interesting to consider whether there is evidence from other sources for or against such an effect i.e., whether like many paranormal claims, it flies in the face of evidence to the contrary. It seems that there isn't much, but maybe you can think of some. One place where it might show up is in the

motion of the planets in the solar system, which is well understood in terms of standard gravitational theory. A spin-dependent contribution to the weight should lead to inconsistencies in the description of the motion of the planets and moons, which all influence each other to some extent. (Note, for instance, Venus spins in the opposite direction to the rest of the planets). However, the rotational speeds involved (once per day in the case of the earth) are so much smaller than those used by H&T that such an effect would probably not have been observed. Whether there is good evidence against it from other sources like navigational gyros, I don't know, but it does seem plausible that any such effect could have escaped detection previously.

So why should there be such a problem accepting the result? Unlike Benveniste's water with memory or Fleischmann and Pons' cold fusion, it is not so much because it flies in the face of established physical theories and measurements, but rather because of deep ideas about the *form* such theories should take (and always do). The angular momentum of a gyroscope, which is proportional to its mass and speed of rotation, is a 'vector' quantity as obviously is the corresponding quantity for the spinning earth. Vector quantities have both a size and a direction, in this case the speed of rotation and the direction in which the axis about which the rotation occurs points. When you write down a mathematical equation which describes an effect due to the interaction of two vector quantities it can be such that the effect either is the same or reversed when you reverse the direction of one of the vectors. H&T's supposed new physical phenomenon does not work like this; the effect which is apparently seen for the vectors with one orientation just disappears when one is reversed, contrary to the the general principle.

Well, this result became widely known. It was immediately obvious to some that the effect was responsible for powering UFOs, despite its reported very small size. Many claimed to have thought of it first, although they didn't publish it like H&T for some reason—they can't say that the establishment rejects such things out of hand. There were even stories of patents having been granted previously on the basis of such an effect, although I am surprised that they would be granted any more than for perpetual motion machines. Physics departments in the US, at least, got a lot of callers, although I haven't heard of too many in the UK. It didn't cause a stir to the extent that cold fusion did, but rather more than another recent slightly fringe suggestion of a flaw in gravitational theory, the 'fifth force'. I'm not sure why, especially as the fifth force could be interpreted as 'anti-gravity' and presumably could also power UFOs; and crackpots are always gunning for Einstein. For some reason, his theory of gravitation (general relativity) which both the fifth force and H&T's result disagree with, doesn't seem to attract the same amount of knockers as his theory of special relativity, which describes motion at very high speeds.

Well, the fifth force now seems to be ruled out after a year or two of investigation. Rather faster, I'm sorry to have to tell any experts in UFO propulsion, H&T's result has also been squashed, as widely expected by physicists. Two groups, experts in the weights and measures game, have repeated the experiment with improved apparatus and published null results [3,4]. The American group [3] found no effect with an

improved gyro design. They did not suggest what error there was in H&T's result although they did point out that vibrations had a big effect on the balance readings. Vibrations had been blamed for the effect previously [5]. The French group used a different, more sensitive balance and did observe the effect. However, they could account for it in terms of temperature variations and the subtle effect of the twist applied to the balance pan as the gyro rotor slowed down. The effect of vibrations was also evident in their work.

The lesson, as in the case of cold fusion, is that you have to be careful of anomalous results like this obtained by non-specialists (H&T don't seem to have a metrological pedigree.) Unfortunately the careful, reliable results from the experts only come along rather later after unnecessary fuss from UFO buffs and aggrieved 'inventors' in this case. Fortunately this period has been unusually short this time, and there has been no sign of the reprehensible behaviour on the part of the originators of the claim as there was with cold fusion. This appeared to be a clear-cut result from a simple measurement in physics, but turned out to have serious problems not appreciated by the experimenters. One is tempted to extrapolate the lesson to (para)psychology experiments with all their additional complications to trap the unwary compared with the behaviour of a simple chemical balance.

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Dave Love is a physicist and chairman of the Manchester Skeptics.

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# Why Do People Believe in the Paranormal?

Jean Dorricott

## *Skeptical happenings in Lowestoft*

It was my turn to give a talk at our evening class on the paranormal.

Our experiments on card guessing, hypnotic regression to past lives, reading the Tarot, and white magic hadn't been conclusive, and I was determined that this time we should have some success.

As I was known to be skeptical about card guessing psi, I told the audience that I'd been looking up other ways of testing this marvel. 'You can relax while I do the hard work of mental concentration. Shut your eyes and wish, and then focus your mind on two geometric shapes, one inside the other.' After a brief interval I drew a circle inside a triangle on the blackboard to gasps of astonishment. Nearly half of them had thought of the very same thing or the reverse. Everyone had thought of a circle.

I continued this phenomenal success with number guessing. 'I want you all to relax again, and to think of a number between 1 and 50. To make it a little easier, I'll choose a number with two digits, both uneven, like 13, but both different, not like 11.' When I wrote 37 on the board, again half of them had chosen that very number.

Now I moved on to more complex visualisations. 'I'm going to think of a simple outdoor scene. I want you to do either a sketch or just make a note of whatever comes into your mind.' Then I drew a scene and eventually held it up to them. I had included a house with a tree on each side of it (one coniferous, one deciduous), a stick man walking to a boat on a lake, with hills behind it, and the sun shining above. All these items except the man had been visualised by at least one member of the class, though no one had seen them all. The lecturer decided this was because I'd chosen too complex a scene.

We agreed this was the most successful series of experiments we'd done as a class.

I had joined the evening class on the paranormal half way through the autumn term (November 1989), with the intention of inserting a little healthy scepticism into the group. This class has been running very successfully for about ten years in Lowestoft, and several spiritual improvement groups have been set up over the years to promote healing in particular. I was impressed by the lecturer's attitude, which was to respect standard medication etc. and to take no payment unless this was offered after healing. The healers present were similarly cautious in their approach, though their beliefs in spirit possession would be damaging to anyone who thought themselves possessed, but I was put down firmly when I made this comment.

Over twenty people attended, and they were all firmly convinced that paranormal events have been proved scientifically. Disbelieving scientists were dismissed as ignorant materialistic sceptics. We discussed various concepts at some length, such as Steiner's theories, the lost continents of Atlantis and Lemuria, auras and methods of experimenting with these using Dr Kilner's glass screen and Adamenko's toboscope. The approach was experimental—we were asked to think about a sick person at a particular time, and apparently she felt better for this.

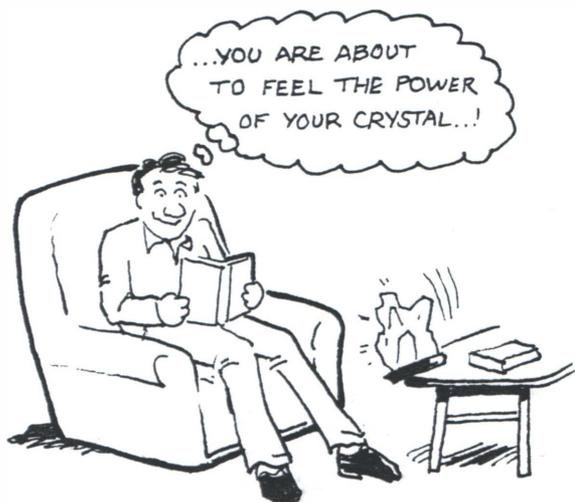
During the spring term numbers dropped, but several members took a good deal of trouble to gather information on their particular specialities, and produce talks for the rest of us. Topics were practical and included witchcraft, UFO's, hypnotherapy, and use of the Tarot, ordinary cards and the *I Ching* for divination.

Finally, as resident sceptic, I was asked to do my stint. As my day approached, the time allotted shrunk from 2 hours to half an hour and then 20 minutes. Undismayed, I prepared enough data for the full 2 hours, assuming correctly that if I could make it interesting enough, I should be allowed to extend my time. By this time, it being March, the numbers had dropped to 8.

It took me some while to decide how to approach this opportunity. My main aims were:

1. to put forward the human face of science and the fascination of some of this century's discoveries.
2. to explain why scientists in general are sceptical of paranormal claims.
3. not to cause upset to any of the people present, and to steer clear of those topics they'd gone to such pains to prepare.
4. to warn them of fakes.
5. to put things over fairly simply, remembering the wide range of scientific understanding among the listeners.
6. to make the talk amusing and provide activities.
7. to provide backup notes for people to take away at the end, including a booklist.

After my initial psi success, they were all interested to hear the rest of my talk. I started by explaining that science is a self-correcting discipline, and that scientists are as fallible as anyone else, using Fleischmann and Pons and the fusion fiasco as my example. By use of a very simple demonstration, I explained how controlled experiments are set up. Before the talk I had grown some cress in 2 metallic pie dishes on paper hankies, watering one from the tap and the other with water in which a quartz crystal was placed. I



Tim Pearce

logged all my observations over an 8 day period, and put these beside the cress on the bench. In the 4 pages of notes I provided for later reading, I also gave instructions on testing claims that crystals improve fuel consumption [1].

Then I explained the importance of the double blind procedure in experiments with human administrators. There were a lot of questions and interest was considerable throughout.

My second major point was to explain why the majority of scientists are sceptical, using Dr Susan Blackmore's examples of the unreliability of original material held by the SPR [2]. I explained how little we know of human physiology (for example, effects of stress on production of brain opiates) and psychology—and here I dehoaxed them, amid groans and laughter, on the population stereotypes with which I'd started the talk. Details of these were included in the notes [3].

I handed out copies of Von Daniken's Palenque 'astronaut god' [5], and showed how important it is to study the relevant literature, to avoid misunderstanding the figure. Psychic archaeology was the next topic—how difficult is it to guess where prehistoric remains might be found? For this I had drawn a sketch map of the area around Chichester, reorientating it by 90 degrees, included towns (without names), the sea inlets and rough contours of the Downs. By following simple rules—for example, the Romans made straight roads near the sea along plains if possible; stone age humans tended to use hill walkways and build on easily defended sites, using dewponds for water, etc. I showed how easy it would be for a GCSE student to pinpoint possible sites. They tried this on the photocopies, and later compared their results with the actual map. This experiment didn't work as well as I'd hoped, as I did not explain the task adequately.

It was now time for coffee, and I knew I was going to have problems with a PK demonstration. For this I'd fixed a horseshoe magnet to my bra strap, and put on a thick jumper to hide the bulge. Apart from the discomfort of overheating, while I was talking the magnet fell out. I retrieved it and

debated on a quick dash to the loo during the break. There wasn't time—I got involved in discussions about visions and second sight. I handed over a compass to our witch, and he attempted to move it psychokinetically. No luck. Several of the others came to try their powers, and I slipped the magnet back into position. Although I have no slight of hand ability, and didn't attempt to hide what I was doing, no one noticed. Eventually, the group were thrilled by my powers. 'Wouldn't it be odd if you, the sceptic, were psychokinetic' they exclaimed, crowding around.

'I'm afraid it's only a Geller' I told them, and they collapsed about laughing as I withdrew the magnet.

Apart from one or two more comments the talk was practically finished, and the lecturer took over to regain a bit of lost ground!

I think that on the whole I was fairly successful in my aims, although I didn't have time to explain the attraction of scientific discovery.

By humorous and non-threatening presentation, I managed to get across the complexity of the scientific approach, and I hope I encouraged them to look more rigorously at pseudoscientific claims. It alarmed me that believers could so easily be fooled by simple tricks, even by someone they knew to be sceptical. Their knowledge that I had tricked them over the mindreading had no effect on their faith in the PK experiment.

Did I make much impression on the class's beliefs? Discussions at later classes indicated no change, but one has to take the long term view here. And we parted friends, agreeing that the classes had been most useful for their presentation of varying viewpoints.

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## Acknowledgements

My thanks for backup help and advice is due to Steve Donnelly who also provided a back number of the *Skeptic* and loaned me his copy of *Crystal Power* by Lawrence E. Jerome, and to Mike Hutchinson who also lent me James Randi's *Test Your ESP Potential*, and sent four highly useful Prometheus books.

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Jean Dorricott is a housewife, mother of three and part-time home tutor to sick pupils of 14–16 years old. Her scientific training was in biology.

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# The Art of Fakery

Mike Howgate

## *Fakes and forgeries at the British Museum*

*They cannot destroy fairies by antediluvian tests, and when once fairies are admitted other psychic phenomena will find a more ready acceptance.*

—from a letter to Edward L. Gardner from Sir Arthur Conan Doyle, 21 October 1920.

The normal attitude of establishment science to such nonsense and the damaging effect it can have on the popular understanding of science is one of studied academic disdain. But occasionally, very occasionally, a major scientific or public institution makes a stand against pseudoscientific nonsense.

A few years ago the Natural History Museum featured a small gallery display entitled 'The Feathers Fly', which questioned Sir Fred Hoyle's authority on evolution and in particular paleontology. Sir Fred and friends, who had put forward the notion that the famous intermediate reptile/bird fossil *Archaeopteryx* was a fake, have kept their heads below the parapets ever since. A new exhibition at the British Museum, which runs until September is much larger and tackles a much broader spectrum of—this time—real fakes. Although it is primarily concerned with artistic and antiquarian fakery, there is much of interest to the student of scientific pathology. There is a potted history of faking, from pieces of the 'true cross' to the Cottingley 'fairies' photographs, a section on dating and detecting fakes and a look at some still problematic artefacts.

The first section of interest, section three of the exhibition and the catalogue, is entitled 'The limits of belief: religion, magic, myth and science'. In it we are treated to a pot-pourri of the real outer limits of belief. Faked letters purportedly from JC himself, but Anglo-Saxon or Medieval concoctions, sought to provide extra Biblical 'evidence' for his curative powers and his gentile appearance. Reliquary pendants containing bits of saints, pieces of the true Cross and drops of the milk of the Virgin Mary launch us into a weird world of mythical beasts and alchemical transmutations.

Griffin's claws (ibex horns), Mermen (half fish and half monkey) and Sea Bishops (contorted Skates) lie alongside an iron knife with a golden tip. An early James Randi noted 'the Imposter with legerdemain trick, changing the plain knife, after its dipping, deceived the Eyes of his nimble motion, and brought forth the other with the Gold Blade; then again the Great Elixir being spilt on the ground, and pretended could never be made again . . . (it was) purchased by the late possessor, at a very considerable price.'

These lead on to more 'scientific' frauds. The carved

fossils used to hoax Professor Beringer of Wurzburg in the early sixteenth century. The penny didn't drop until he saw his own name in one of the fossils. He then tried to buy up all the copies of his monograph on them. The same cannot be said of Conan Doyle who seems to have gone to his grave believing in the cut-out fairies of a pair of young Yorkshire lasses. This display could have been improved if a copy of *Princess Mary's Gift Book* from which the cut-outs were taken had been included.

The famous Piltdown Man hoax must, however, take pride of place in this section. The original skull fragments are on display as well as the associated fauna and artefacts, including the carved bone 'cricket bat'! This must have been the real clincher that the British Piltdown Man was higher up



Mary Evans Picture Library

the evolutionary scale than the continental Neanderthals or Heidelberg Man. The discoverer, Charles Dawson, has always fallen under suspicion as the perpetrator, but there have always been other likely candidates and motives galore. However, further exhibits point the finger at Dawson as an inveterate local hoaxer.

It was a revelation to me that the infamous 'Toad in the Hole' (PG Tips *Unexplained Mysteries of the World* No.4) was communicated by the same Charles Dawson to the Brighton and Hove Natural History and Philosophical Society in 1901, eleven years before he announced Piltdown

Man. Other 'finds' of Dawson's have since been proved to be fakes. These include a supposed Roman cast-iron statuette (now considered nineteenth century), stamped Roman tiles from Pevensey Castle (early twentieth century fakes), a Norman prick spur (no such thing says the BM) and a prehistoric hammer made from a recent Red deer antler. 'Say no more' as the saying goes.

The next section of interest to readers of the *Skeptic* is section 9: 'The scientific detection of fakes and forgeries'. This has interesting examples of the techniques of ultraviolet and X-ray radiography, mass spectrometry and thermoluminescence as well as various dating methods. Central to the latter is the Turin Shroud. This is on display as a very effective life-size transparency, but although the accompanying caption states that the carbon-14 date is definitely AD 1260-1390 it pulls back from a definitive trouncing of the shroud by ending on a note of compromise: 'However, until it can be properly established how this striking image came into being, the mystery remains incompletely resolved.'

The final section, 'The limits of expertise' looks at some tantalising examples of where the experts agree to differ. The Vinland map, The Grime's Graves female figurine and phallus and the 'Aztec' rock-crystal skull (PG Tips 23) which, although the teeth seem to have been incised by a jeweller's wheel is still on the 'problematic' list.

*Fake? The Art of Deception* is an exhibition at the British Museum, Great Russell St., London WC1, from 9 March to 2 September 1990. Admission £3, concessions £2, exhibition catalogue £16.95.

Mike Howgate is convenor of the London Student Skeptics and a frequent contributor to the *Skeptic*.

### Muddying the Waters - A Postscript

As it turned out, many of this article's queries and speculations were more or less answered when (after bitching to his publishers), I heard indirectly from the great man himself. Apparently he never even saw my book. Apparently Whitley Streiber, the most famous UFO pundit in the entire universe, does his research in such quick-buck compilations as *The World's Strangest Mysteries*. This instant remainder from Octopus includes the exact same text and typography as the earlier rip-off of my book in *The World's Greatest UFO Mysteries*, complete with a misquote about the manuscript's 'authentication'. (Nigel Blundell, compiler of both books believes in recycling his own as well as others' writing.) And therefore, the US publishers' lawyers triumphantly concluded, I have absolutely nothing to complain about.

... Except that even this debased text says quite clearly that the Loosley MS was hidden for 'nearly 100 years' since 1871 and gives enough information for even a feebly conscientious researcher to get in touch with me. Dear old Whitley just wrote to Octopus and, getting no reply, went right ahead and used the story anyway.

However, it does look as though future editions of *Majestic* will carry, on the copyright page, a proper acknowledgement to my book. That leaves me happier, if no richer.

Dave Langford  
12 April 1990

## European Skeptics Conference 1990

August 10 and 11 1990  
Bruxelles, Belgium

The 1990 European Skeptics Conference will be held in Bruxelles, Belgium, on Friday August 10 and Saturday August 11 1990, at the Vrije Universiteit Brussels (the Free University of Brussels). The advance programme is as follows:

**Friday, August 10:** 'The State of the Paranormal in Europe'. Speakers include

- Michael Hutchinson, member, UK Skeptics
- Lars Peter Jepson, Department of Physiology, Carlsberg Laboratory, Denmark
- Claude Benski, Secretary-General Comite Francais pour l'Etude des Phenomenes Paranormaux
- Cornelius de Jager, Stichting Skepsis, The Netherlands
- Armardeo Sarma, Convenor, Society for the Scientific Investigation of Para-Science (GWUP), West Germany

**Saturday, August 11:** Main Conference Session. Speakers include

- Professor Susan Blackmore, Psychologist, University of Bristol, UK
- Professor Cornelius de Jager, Stichting Skepsis, The Netherlands
- Dr A. Gertler, Institute for Forensic Medicine, East Germany
- Professor Ray Hyman, Psychologist, University of Oregon, USA
- Professor Jean Claude Pecker, Astronomer, College de France
- Professor Evry Schatzman, Astronomer, President, French Physics Association, France
- Professor Henri Broch, Physicist, University of Nice, France
- Professor Paul Kurtz, Philosopher, State University of New York at Buffalo, USA
- Vladimir Lvoff, Science writer, Leningrad, USSR

Registration: 1,578 BEF (\$45). For information contact Barry Karr, CSICOP, P.O. Box 229, Buffalo, New York, 14215 USA. Phone: (716) 834 3222; Fax: (716) 834 0841.

# Skeptic at Large

Wendy M. Grossman

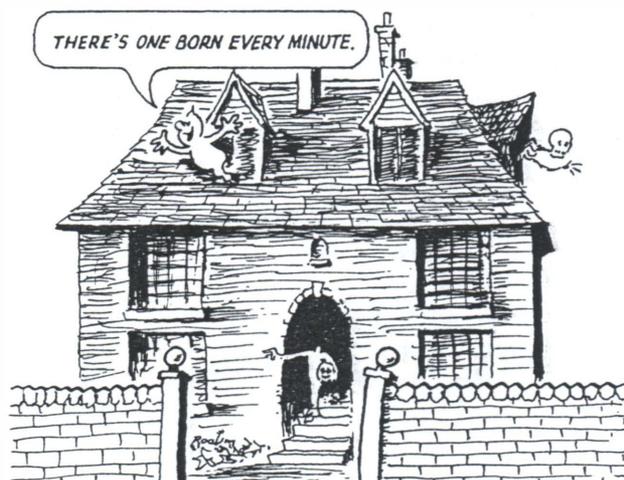
## Ghosts in Court

I love America. It seems like every time I go back, something else weird has happened while I was away—probably, I think *because* I was away. This trip, the newspapers were reporting the case of a Nyack, NY, house with three well-documented ghosts (I mean: the owner of the house wrote an article for *Reader's Digest* about them). She decided to sell. A lawyer (cue for dead lawyer jokes) decided to buy the house. He put down a \$39 000 deposit, or thereabouts. Then, or so he alleges, he found out that the house was haunted. So, lawyer cancels sale and demands his deposit back. Naturally, the whole thing goes to court, where the judge ruled that it was the lawyer's tough luck: *caveat emptor*. Moral: always check back issues of *Reader's Digest* before buying a house. The lawyer's comment: 'we have been victims of ectoplasmic fraud.'

A lot has been written in the *Skeptical Inquirer* and elsewhere trying to pin down just why it is that America has become such a haven for paranormal and fundamentalist belief. I have a theory about this: I think it's due to the failure of our national religion, sometime about 1968. I mean our quasi-religious patriotism. It's less marked now—than it was in, say, the fifties. These days you can disagree with the government and even, in some cases, be naturalized in a foreign country and retain the rights and privileges of a genuine American. But the discovery during the Vietnam era that America was not God had, I think, a profound effect on people who were raised to believe that America had all the answers. The loss of that certainty made them look elsewhere, to the most rigid forms of religion, and to belief systems which date from a time when life was thought to be simpler and more manageable.

I think it all comes down to the same thing: the hope that somewhere out there someone knows what's going on and can give us some sort of guarantee that we're doing the right thing. Personally, of course, I think the most likely scenario is that if there is such a person or Being, he/she/it is more likely to be in the image of the old man in the *Hitchhiker's Guide to the Galaxy* than in the image of any of the Gods humanity has thought up so far. But that's a personal matter. (But think about it—it's got to be a bunch of maniacs running the universe; how else would we get the poll tax?)

In any case, America seems to get stranger and stranger. Recently, I understand, Joan Quigley has written a book saying that everything either of the Reagans did was her responsibility. This raises some interesting questions. Was she personally responsible for the Iran/Contra affair? Should the judge at Poindexter's trial be demanding her charts? Can her reading of the stars explain Reagan's curious amnesia? Should we now consider electing Quigley for president? Or at least petition Dan Quayle to hire her as his personal adviser?



The thing about astrology—and I'm sure I'm by no means the first to have noticed this—is that whatever happens, it's not your fault; it's just there in the stars, and there's nothing you can do about it now. If anything, it's your parents' fault for not having consulted their local astrologer in the first place and making sure the moment of conception was a propitious one for a favourable birth. (I wonder if anyone's ever decided to have an abortion on those grounds?)

Along these lines, it's worth reporting that a couple of friends of mine, who recently moved to Kentucky, say there's a lot of opposition in their area to New Age beliefs—there's even an action group of concerned citizens. This might be encouraging, if it weren't that they opposed the New Age on religious grounds. Seems these ideas are sent by the Devil. Shirley MacLaine's oft-repeated statement 'I am God' (or even, 'I AM GOD') is, you see, blasphemy: by teaching others to say it too, she is teaching them sinful pride, and so on.

Anyway, I was amused, this last trip, to discover that the paranormal in America, having journeyed from the lunatic fringe (I, a New Yorker, mean California) via comedians to the mainstream, has now finally reached the apogee of acceptance: a folk song, of course. Mark Graham, whose provenance is unknown, has penned a little gem. Style: Appalachian mournful. You can figure it's either everything a psychic wouldn't tell a client or a traditional song about lost love from a century hence. The chorus:

*I've seen your aura and it's ugly  
Your spirit must be rotten to the core  
And to a New Age guy like me  
You just bring pain and misery  
So, my dear, I cannot love you any more.*

I'm singing it at all my gigs now, with banjo, in my best mountain style. It's very satisfying to sing.

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Wendy Grossman is the founder of the *Skeptic*, a member of the UK Skeptics and a writer and folksinger.

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# Psychic Diary

Toby Howard

*Friends of friends of friends of friends . . .*

Did you hear the one about the take-away chicken that turned out to be a deep-fried rat? Or the beehive hairdo that concealed a carnivorous spider? Or the alligator in the sewers, the mouse bones in the Coke bottle, the pet in the microwave? These are the kind of bizarre 'urban legends' that we all seem to have heard, but they have one thing in common: they've all happened to a FOAF—a friend of a friend—or, more often, a friend of a FOAF. They're FOAFlore.

Jan Harold Brunvand, Professor of English at the University of Utah, believes that the more variations there are on a tale, the less likely it is to be based on real events. Take, for example, the 'Choking Doberman' story. One American version runs like this: a woman returns home from work to find her large Doberman dog lying on the floor wheezing and gasping for air. Unable to see what's wrong she takes the dog straight to the vet, who decides to perform a tracheotomy to let the dog breathe. The woman leaves the dog with the vet and goes back home, to find her telephone ringing. She answers it: it's the vet, shouting *Get out of the house straight away! Call the police!* During the tracheotomy the vet had found two black human fingers lodged in the dog's throat, and was concerned that they belonged to an intruder who might still be in the woman's house. He was. When the police arrived they found an unconscious black man crammed into a bedroom wardrobe, lying in a pool of blood, and minus two fingers.

In *The Choking Doberman and Other 'New' Urban Legends* (Penguin, 1987) Jan Brunvand collects an enormous number of American, British and Australian variations on this story. The kind of dog ranges from German Shepherd to Alsatian, the intruder may be dead or apprehended, different parts of the body are missing, the racial element (often present only in oral versions of the story) may be different, and so on. But, the tale is based on a number of 'motifs', the key elements which structure the story, and around which specific cultural and prejudicial details swirl. In the *Choking Doberman* we have—at least—the *suffering pet, the urgent telephone warning, racial hatred and fear, sexual menace, the come-uppance of the evil-doer*. I can imagine the story being told in my local, metamorphosing to reflect the 1990 Manchester zeitgeist: the Doberman is now a Rottweiler; the location is a large detached house in Wilmslow, a prosperous predominantly white middle-class suburb; on one of the fingers is a red, green and black ring—the colours of the Rastafarian. The telephone is an answering machine, and the vet's message is waiting when the woman returns. When the police arrive there is a be-tracksuited intruder crouched bleeding underneath the bed. *Plus ça change . . .*

The *Choking Doberman* story illustrates one of the key elements in the nature of FOAFlore. While it is in itself an unpleasant story, with its overtones of menace, racial hatred and mutilation, it is somehow not offensive, in the way that we might find a joke unacceptable for being 'racist', 'sexist' or 'sick'. Brunvand's analysis of the origins of the story illustrates that the nature of FOAFlore is enormously complex: the *Choking Doberman* is a distillate of many other FOAFtales: *The Elevator Incident, The 'Wagger' story, The Severed Fingers, The Robber Who Was Hurt*—each with a similarly tangled provenance. As a tale develops and spreads, motifs are shared and exchanged; some versions fade, but some have such strong elements, with which we can all identify, that they become icons. Anyway, we like to hear tall stories: they help us escape from the humdrum, and they 'brighten up Mondays'. FOAFlore is art, and we are the artists.

Perhaps the most well-known FOAFtale is 'The Vanishing Hitch-hiker': a man picks up a hitch-hiker; she gets into the back seat; after they've driven for a while, he looks back—she's vanished; he stops the car, scared to death; later he learns that exactly a year ago a hitch-hiker had been killed in that exact place. The extraordinary number of variations on this tale is an indication of the fundamental strength of its basic 'ghost' motif. It is painstakingly documented in Brunvand's first urban legend collection *The Vanishing Hitch-hiker* (Picador, 1983). There is even a song: connoisseurs of horrible records will enjoy 'La rie' by Dickie Lee (Kenny Everett's *World's Worst Record Show*, Yuk Records, 1978), which is based on 'Vanishing Hitchhiker' motifs. One researcher has tried to track down some British versions of the tale, and actually believes that the legend has a basis in fact (*The Evidence For Phantom Hitch-Hikers* by Michael Goss (Aquarian, 1984)).

Most professions have their own FOAFtales. In computer circles, there are many: the disgruntled ex-IBM employee taking an axe to a multi-million-dollar computer; the secret command built into a computer by a mischievous engineer which causes it to catch fire, or—my favourite—the one about the secretary with her new word-processor. On the sleeve of her floppy disc is the legend: *remove disk from outer cover*. After a few minutes struggle with a pair of scissors she finally manages to get all the packaging off, and is left with a neat circle of brownish plastic. I happen to know this one is true; I heard it from a colleague who had a friend who knew a bloke . . .

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Toby Howard is a lecturer in computer graphics, and co-editor of the *Skeptic*.

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# Reviews

## Life, the universe and the paranormal

Stuart Holroyd, *The Arkana Dictionary of Perspectives*, (Arkana, paperback, 241 pages, £5.99, 1989).

This book is a collection of short—and not so short—entries on many topics, in seven sections: Worldview, Science, Spirituality and Esoteric Thought, Psychology, the Paranormal, Medicine and Health, and Society, Environment and Technology. One is tempted to add 'Life, the Universe and Everything.'

The inclusion in the title of 'New Perspectives' and the names of some of the sections tell us that here we are mainly concerned with topics generally considered to be outside the mainstream of modern thought and ideas. The author seems to believe that what is now considered to be the 'orthodox' is cracking apart at the seams, and is going to be replaced by some of the new perspectives he describes. He is very fond of the terms 'paradigm' and 'paradigm shift' and it is implied that a paradigm shift is occurring from determinism to 'the paranormal'.

The section on 'Worldview' covers evolution, existentialism, new age and pragmatism. The 'Science' section has many short entries on topics including critical mass, and fission and fusion, which are reasonable brief descriptions. Some of the longer entries cover Bell's Theorem, Darwinism, quantum theory and relativity theory. The third section—'Spirituality and Esoteric Thought'—includes entries on many Eastern religions and philosophies (as well as Scientology), but nothing—apart from some obscure sects—on the major religions such as Christianity and Islam. Maybe the major religions are not expected to survive the paradigm shift, being the orthodox. Also included in this section are entries on God, ley lines and Wicca.

'Psychology' covers such topics as behaviourism, body language, psychosis, and transactional analysis. The next section covers all the usual paranormal topics from astral travel to xenoglossy. The 'Medicine and Health' section mainly contains entries on alternative therapies. The item on 'Cancer therapy' describes dietary and stress reduction approaches, but hardly mentions orthodox approaches. The final section, 'Society, Environment and Technology', covers areas such as acid rain, the Beats (1950's counter-culturalists, if you remember), the Gaia hypothesis, nuclear power and wind power.

This is the work of one man, and he must have been very busy, especially if he actually read all the books listed in the bibliography. Can one man be expected to be sufficiently knowledgeable in so many fields as to be able to write a useful account? Anyone reading the lengthy sections covering evolution and Darwinism—and the additional entries on related topics—would get the impression that neo-Darwinism has all

but fallen apart. Darwinism appears to be condemned not because of the way it answers biological questions but more because of its use outside of biology to justify political ideologies and economic theories (the author mentions monetarism in this context). 'Punctuated Equilibrium', which was originated by Gould and Etheridge, is presented as if it were a nail in the Darwinian coffin. Admittedly it is easy to be misled by the publicity, but Stephen Jay Gould claims to be a Darwinist, as anyone who has read his popular books would know. I think it would be fair to say that the author does not like Darwinism, and he thus does not give a balanced account of evolutionary theory.

Many of the entries on the 'Science' section include comments concerning the paranormal; for example, the article on Bell's Theorem states that it may be relevant to telepathy, Wheeler's 'wormholes' through space could explain paranormal phenomena—as could 'super string' theory, with its eleven space-time dimensions. Of course, all this is pure speculation, and nothing is presented to back up these ideas. While it may be interesting to speculate, should such speculations be in a reference book? On the whole, the entries are shallow and, if the bibliography is anything to go by, are based on popular science books written from a pseudoscience point of view.

Should this book be on the skeptic's bookshelf? I think probably not.

—David Martin

## Encyclopaedia Paranormica

Richard Cavendish (Editor), *Encyclopedia of the Unexplained*, (Arkana, £12.99, 1989 (first published in 1976)).

This book is a large-format, well produced and highly readable guide to 'the unknown, the esoteric and the unproven'. It is not always particularly skeptical although a kind of balance is sometimes attempted. For instance, the entry on Eusapia Palladino states that she was a 'celebrated Italian medium who was well known to resort to trickery whenever she thought she could get away with it but who also produced what appeared to be genuine phenomena'. The book does however manage to avoid the kind of tabloid sensationalism which seems to pervade many popular books on the paranormal. It is well illustrated and the combination of normal, alphabetical entries with an index of persons and book titles, makes it fairly easy to find most topics of interest. An extensive bibliography is also included.

There are several pages on research into parapsychology with a considerable emphasis on the work of Professor J B Rhine at Duke University. This is perhaps unsurprising as Professor Rhine's name features in large type on the cover as the special consultant on parapsychology.

Although many topics of current interest are included there are some rather surprising omissions which perhaps make the book more of a retrospective look at the paranormal than a truly up-to-date guide to the weird and the wonderful. For instance, although there is a large section on mediums no mention is made of either Doris Collins or the late Doris Stokes. Similarly, UFOs are given a four page entry but no mention is made of latter-day UFO gurus such as Stanton Friedmann, and the whole topic of UFO abductions is omitted. (An updated version would be welcome).

Nonetheless—as a source of reference on topics as diverse as the ‘Association of Invisible Aryans’ and ‘Zadkiel’ and many others in between—this is a useful book and one which skeptics of (as well as believers in) the paranormal will be glad to have on their coffee tables.

—Steve Donnelly

## Astrology for Feminists

Sheila Farrant, *Symbols For Women*, (Mandala Press, paperback, 249 pages, £6.99, 1989).



Sheila Farrant's book is, as the 'blurb' states, both fascinating and informative. It does however slip into obscurity and superficiality at times due to the nature of the author's enterprise. Farrant makes use of theories imported from the fields of anthropology, linguistics and psychology in her attempt to offer more positive symbols for, and images of, women for astrological purposes. It is

perhaps also an attempt to render a book about astrology academically and intellectually respectable.

The book is based on the theory that language is not merely reflective of the world as it is but also productive, that language shapes our perception of the world and ourselves, and that our perceptions of our roles as women have been shaped by language which is basically male oriented. The symbolism of astrology is based on myths which have been interpreted for centuries in accordance with a masculine world-view.

Sheila Farrant believes, and she is not alone in this view, that society was originally matriarchal, and that mythology originally reflected this. The emergence of patriarchy necessitated, in order to be self-perpetuating, a re-interpretation of myth and consequently many symbols which had originally been positively feminine then became negatively so. By re-appropriating the symbols and re-assigning to them their original and positive interpretations women will have positive images with which to relate which will, in turn, lead to positive self-imaging.

Her re-interpretation of the roles of mythological figures is interesting but I found her reason for offering Eleanor of Aquitaine as a positive role model dubious.

This book will be of interest to feminists interested in revisionist myth-making, especially if they happen also to be astrologers. It does not demand any in-depth understanding of astrology on the part of the reader and is, obviously, given its title based upon the acceptance of the belief that the alignment of the planets at the time of birth influences character traits and possible futures.

As such belief rests on scientific evidence the categorical nature of such statements as:

*Leos are warm, sunny, bossy, the favourite extroverts of the Zodiac, yet underneath they are shy, and romantic. Their hearts are full of 'ardour' and they are born leaders.*

must be called into question by anyone of a sceptical nature. However if, (hypothesis!) the assumption that language is productive is correct then anyone with an open(?) mind, who reads this kind of analysis often enough, will find it self-fulfilling. As a Leo myself I find such a prospect not entirely unappealing.

—Anne Watkiss

## No Accounting for Folk

J.A. Paulos, *Innumeracy*, (Viking, hard-cover, 135 pages, £12.95, 1989).

Even as I carried this book towards the pay-desk, I was asking myself why I did not feel the slightest shame; the shame which I might feel if the work was called *Illiteracy*. The answer to this puzzle is explained right at the start of this excellent little volume. It is that innumeracy, unlike illiteracy, is generally seen as being something about which one can be uncaring; or even proud.

Some of Paulos' chapter-heading quotes may go a little over the top in dramatising this point; like the joke about the two aristocrats who tried to outdo each other in thinking of a large number. (The one who came up with '3' was the winner.) Nevertheless, there is more than a grain of truth in this, as Paulos' more serious examples (and my own private collection of 'mathematical Colemanballs') amply testify.

With regard to the overall approach of the book, one is in familiar Martin Gardner territory. Important mathematical and logical fallacies are exposed at breakneck speed, but with the minimum number of equations and with the maximum clarity. Indeed, one will only be disappointed if one is an avid reader of Gardner's books and has seen it all before. This is not a criticism of Paulos, just a slight regret that such books still have to be written and that nothing ever seems to dent the general public's eternal gullibility.

In the first chapter, the author bemoans the inability to appreciate even the magnitude of numbers (how long is a million seconds?). This was my least favourite chapter, as it is of little interest to me to know that all the blood in the world would flood Central Park to a depth of 20 feet, or that I have very probably inhaled a bit of Julius Caesar.

The second chapter (on probability) is much more pleasing, with old favourites like the birthday problem and probability-based frauds. (I am sure that one of these is currently being advertised in *Private Eye*). This leads naturally into the next chapter, and the reason why the book finds a mention here.

That is, the central chapter is about pseudoscience, and

reference is made to the efforts of CSICOP. It is carefully shown how pseudoscience is a natural consequence of innumeracy. Of course, it is not very surprising that this connection is spelt out, since Dr Paulos is one of CSICOP's fellows.

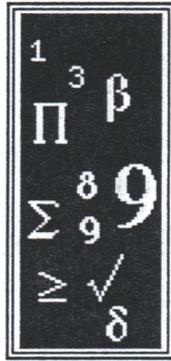
The next chapter explores the sources of innumeracy; the gist seeming to be that each member of society wants to put himself into the *Guinness Book of Records* and everybody else into *Sunday Sport*, what one might term 'regression from the mean', rather than to it. The problem is that the average really is mediocre.

In the final chapter, I found that Paulos shares many of my own preoccupations. That, for instance, society ignores mathematical verities at its peril. The Condorcet and Arrow paradoxes, the Wolf and Prisoner's Dilemma problems, etc., are not mere abstractions; they are snapping at society's heels all of the time. The damage which ignorance of them inflicts is real, but blame is directed elsewhere. At least, that is my reading of the chapter. More mundane, but more clearly divisive of society, are mathematically incompetent surveys (by Shere Hite, etc.) and pseudoscientific psychological measures (IQ).

There are signs that being numerate is not a good career move. One example in the book explains why PhDs may earn less than other graduates. Moreover, I have a set of mathematics notes ('intended for all functional areas of business analysis') from the Harvard Business School. An MBA from Harvard is widely regarded as being a 'licence to print money'. While not being entirely innumerate, the future captains of industry are apparently required to solve problems which are no more difficult than: capacity = 90, current output = 60, unused capacity = 30; what % increase in output is possible?

I have very few criticisms of the book. The lack of an index is always a disappointment for someone who has a passion for retrieving information. With regard to the contents, I wish that Paulos had not missed out an entire lower stratum of innumeracy; some of the crassest and commonest arithmetic errors are not treated. Perhaps AT&T do not (unlike BT) have posters which picture telephone directories and trees and tell the 'Green' onlooker that 10% less of the former means 10% more of the latter. Finally, perhaps I am mistaken but is not the famous calculation (repeated by Paulos), which estimates one's personal share of the nuclear stockpile, itself fallacious? It may be *mathematically* correct to divide megatonnes by people, but it is not physically meaningful. This is because the explosive effect is not a linear function of the weight: a megatonne weapon is not 1000 times more destructive than a kilotonne weapon. It is therefore meaningless to add or divide weight and then imply that the destructive effect (and danger) are affected in proportion. Here, distribution is everything!

In conclusion, this book can be viewed as a laudable attempt to shove an exposure of pseudoscience under the public's noses by using a Trojan Horse approach. On the other hand, I fear that the sort of person who buys the book will already be a convert. Nevertheless, it is possible that



many people will buy the book out of pure *schadenfreude*, in order to laugh at the innumeracy of others, and then realise too late (like the hero of *Angel Heart*) who the real victim is!

—David Fisher

## Time to Meditate

Peter Russell, *The TM Technique*, (Arkana, £4.99, 1990).

Russell studied mathematics and physics at Cambridge according to the bio, but I'm afraid it doesn't show. Likewise his grasp of cognitive science seems—to an amateur like me at least—decidedly suspect, despite later conversion to psychology. There is a lot of pseudoscientific nonsense connected with TM here and he is quite credulous of the paranormal claims for it like, levitation and remote viewing, which he accepts in a surprisingly matter-of-fact way. Disagreement with established science is explained since '95% of physics known 50 years ago has been modified as the result of new experiments': physics may be exciting, but not quite as turbulent as the implication.

Apparently there are seven 'states of consciousness', including deep sleep. That's what the Maharishi says, anyhow, and cognitive science doesn't yet seem to have much of an inkling about them. I'm intrigued to learn that the supposed higher states involve the disappearance of mental activity, which I thought was what comprised consciousness. The less pseudoscientific waffle is damned in my eyes by what he says about science.

In view of the extraordinary promise Russell held out for TM and research into it, I'm surprised that progress in the intervening years hasn't warranted at least a new edition of the 1977 version now re-issued. They are now hopping—I mean levitating—even in Skelmersdale, after all. For the other side of the TM story you might see the chapter in Randi's *Flim-Flam* if you haven't already. Although Russell gives plenty of references, there isn't much in the way of independent investigations amongst them.

—Daniel Levin

## The Great Perfection

Namkhai Norbu, *Dzogchen: The Self-Perfected State*, (Arkana, £4.95, paperback).

The author, born in Eastern Tibet in 1938, trained as a Lama before events took him to India and eventually Europe. Now a professor at Naples University, he also travels extensively to teach his form of Tibetan Buddhism at seminars and retreats.

This book, although slender, is quite complex in the ideas presented, and the use of technical Sanskrit and Tibetan terms may well prove daunting for the beginner. However, the text is put forward in a down-to-earth and friendly style, and the author gives frequent illustrations from everyday life and practice, and from his own experience and training.

In his work he describes the teachings of 'Dzogchen', 'The Great Perfection'—neither a religious nor a philosophical system, but a series of practices which have been incorporated into Tibetan (Tantric) Buddhism, as a realistic means of achieving 'internal awakening', a more evolved state of consciousness.

The author stresses that these teachings do not refer to religion, metaphysics, or any particular cultural system—you do not have to learn Tibetan, or even become a Buddhist, in order to practise Dzogchen. The real point of working with this system is to act so as to change one's perception of life, not simply to study books or to debate complex theories.

The vocabulary used is likely to be off-putting to scientific (and skeptical) Westerners, as it refers extensively to spiritual realms and their inhabitants, and includes metaphysical concepts often associated with the 'occult'; however, the content is not concerned with the 'supernatural' or 'psychic' as usually understood, and a few words of explanation may come in handy here.

All the Eastern teachings take for granted popular ideas of other worlds, psychic powers and so forth; however, their real reference is to our internal world, variously described in the Western tradition as 'mind', 'soul', 'psyche', 'consciousness', etc. In fact, it may be useful to consider these systems of thought and practice as being 'internal technologies', ways of studying and acting on our internal landscape, just as the familiar 'external technologies' of Western science act on the external (material) world around us.

The main tool of these 'internal' systems is, of course, a range of practices often known collectively as 'meditation' (a possibly misleading term in this context). Thus, reference in Eastern texts to gods, demons, subtle realms, and so forth, may be conceived of as a way of describing the effects of meditation on the human mind. These effects can be measured and evaluated, quite apart from the question of whether their causes can best be understood as lying in a psychic realm or, say, in brain physiology and neurochemistry, and many scientists are in fact now studying these effects in a Western setting.

One recurring theme in the Eastern meditative traditions is that our internal world—mind or consciousness—is usually clouded over with agitations (arising from worry, stress, and many other causes) which give rise to pain and unhappiness in our daily lives. On the other hand, they suggest that, behind these layers of turbulence, there is a region of pure mind or consciousness which is our true nature, and the source of our true wisdom, will and happiness. Thus, they say, the main aim of human life should be to uncover this area of the inner world, which they stress is already in existence. The way to uncover it is, of course, said to be meditation.

In the context of this volume, the pure mind or consciousness is known as Bhudda-nature, Dharmakaya, Wisdom Mind (Prajna), Original Mind, or just Nature of Mind (Sems, Changchubsems), and the practice of Dzogchen is a way of meditation designed to reveal it in everyday life.

'The aim of Dzogchen is to awaken people internally to their primordial state' (the Buddha-nature or Wisdom Mind) 'by observing themselves' and by relaxing body, emotions, and thoughts, until the agitations of the mind die down by themselves and the True Nature of Mind is realised—this, of course, is what is meant by Enlightenment. These ideas can only be tested and understood by trying them out in practice, which of course is the (genuine) scientific (albeit time-consuming) approach.

—Marc Moran

## Something for Everyone?

Sara Martin, *Body and Soul: Physical Therapies for Everyone* (Arkana, paperback, 207 pages, £5.99, 1989).

'The therapies in this book use the physical body as a starting point to look at the complete human being.' So starts this uninspired and uncritical look at some popular and not so popular alternative 'physical' therapies. They all start by looking at a particular (or group of) physical problem(s) and then extend this to the supposed emotional reason for these problems. This mind-body connection is explained, in the introduction, by a totally uncritical regurgitation of 'facts' from psychiatrists and psychoanalysts such as Wilhelm Reich. In this introduction we learn that the physical frame has been moulded over the years by ingrained habit and effectively holds the thought pattern trapped. The therapies all then explore various means of releasing this thought pattern by physical manipulation, some energetic such as dance therapy and aerobics and more subtle forms of manipulation such as the Alexander Technique and the Feldenkrais method. One other implicit concept that is embodied by all the therapies presented in the book is the 'life force'. It is explained that this is an ancient concept: we are part of an invisible energy system in which everything is interconnected, from the functioning of our smallest cell to the machinations of the universe. This then leads onto other profound homilies such as that the breath is perhaps the closest we come to sensing the life force at work: intangible, yet essential, it affects every part of the body (!).

The main part of the book is an alphabetical listing of 15 major therapies, and 20 variations on these—each section comprising an uncritical assessment of the technique and a breathless biography of the founder or discoverer of the technique. Then follows the illuminating 'personal views' from satisfied customers, all totally gushing and uncritical, and a 'where to go' section. This latter section is not terribly useful to those of us who don't live in the South-East of England—only 5 out of 55 references are to non-London or South-East England addresses.

My real criticism of the book rests with the uncritical presentation of 'therapies' such as Biodynamics and Bioenergetics. In the former we are told yet again of this energy, 'a kind of electrical current that moves through the body fluids'. When this current of energy is stopped in any way, it becomes trapped or magnetically encapsulated with the fluid instead of travelling freely through it. This then results in aches and pains and the more serious degenerative diseases. The latter technique also confuses the energy we talk of in physics and the general use of the word 'energy' to describe how we are feeling, and ascribes the connection to these all pervading energy levels (which are not measurable by scientists). The height of ridiculousness is reached by Polarity Therapy. This technique extends the energy theory to looking at the human body as a battery, with amongst other things the left hand negative and the right positive. This idea is really quite shocking. Some responsible editorial control could have made this an interesting look at these therapies, but as it is this book can only be described as uninformed and uncritical.

—Kevin Orrman-Rossiter



# Letters

## Matters of spirit

Occasionally, one may read of an invitation being extended to a 'psychic' or 'medium' to demonstrate their 'abilities' under controlled laboratory conditions. There is nothing daunting or off-putting about this type of invitation, nor the surroundings or conditions under which any investigation is to be conducted; but what seems to be lacking is the understanding of the 'scientific skeptic'. Should a magician perform a card trick under 'controlled conditions', then given the same elements, he will be able to repeat the trick a number of times; likewise should a scientist conduct a specific experiment, it will be expected that the experiment in question will be such that it can be duplicated by anyone who follows the laid down procedures of the experiment, for all the elements are the same.

When one 'applies' a Spiritual 'gift', one is applying that gift for the benefit of an individual person. This can be done regardless of the surroundings or conditions under which the 'application' is observed—but not regardless of the individual. For what benefit is there in applying a 'gift' on someone who has no need for its application? Perhaps the saying 'It is those who are sick who need the physician, not those who are well', will clarify the point.

In conclusion I will reiterate a statement which I made some time ago in regard to James Randi: I do not possess the dexterity of hand that would enable me to copy his 'tricks', as likewise I am of the understanding that he is not of the Spirituality to emulate our 'gifts'.

**Alan Power  
Birkenhead**

## Crop circles

There is more evidence than David Fisher presents favouring the air vortex theory of crop circle formation (B&IS IV.2, pages 15–20). Circles are always found near hills, in which a vortex might form. To

maintain the hoax explanation requires now a hill-specific practical joke or clandestine religion. The more arbitrary the explanation, the less favourable it is.

In addition I understand that one farmer who has been plagued with circles has, with characteristic cheer, erected barbed wire fences around his land to deter sightseers and possible perpetrators. The circles have not been deterred and the fence has not been disturbed. Again a hoax is not absolutely ruled out; but Ockham's razor prefers vortices.

It is too sweeping to assert that the value of eye-witness reports is 'zilch' (page 18, column two, point E). In virtually every scientific experiment ever done, measurements were taken by eye! Rather, the weight attached to eye-witness accounts should be less than is the custom, and more strongly dependent on the beliefs of the observer. Eye-witness accounts are not conclusive, but they should be investigated rather than ignored out of hand.

There was little need to refer to Terence Meaden's scientific integrity, in connection with his testing the vortex theory. What degree of proof would be acceptable to whom? There is nothing wrong and much right in advancing a hypothesis; I hope only that sufficient evidence will soon be forthcoming, from all sources, to settle the issue for all but out-and-out extremists.

**Anthony Garrett  
Glasgow**

## Population Stereotypes

I read with great interest Michael Hutchison's account of tabloid mass ESP tests in B&IS IV.2. I am very interested in the topic of population stereotypes myself and I can vouch for the fact that the phenomenon can be used to good effect with any reasonably large audience (say, thirty or more) to demonstrate that what might appear to be ESP is in fact no such thing. This can be used as a very

impressive hook to begin a critical talk on the paranormal.

I was somewhat surprised, however, that Matthew Manning chose the colour green to 'transmit' in the *Sunday Mirror* study and that James Randi predicted that the most popular response would be red (as it turned out to be). I was also surprised at the distribution of the responses provided. My reasons for this are that psychologists were aware of the fact that subjects tend to choose certain colours and numbers in preference to others for a while before Marks & Kammann (1980) popularised such effects and referred to them as 'population stereotypes'.

Many studies were carried out in the 1970s into what was then called the 'blue-seven phenomenon'. Basically, when asked to write down a number between 0 and 9 and a colour, the number 7 and the colour blue appear statistically more frequently than would be expected by chance. The colour response results of these studies in terms of percentage response preferences (where available), along with the data pertaining to the Manning experiment, are presented below for the three colours of interest. Of course, these studies did not claim to be studies of ESP but if I had been asked to predict the most preferred response in the Manning study, my money would have been on blue (and I would have lost!).

	N	R%	G%	B%
Manning	2355	28.5	24.41	17.9
Randi		29	23	22
Benel	70	?	?	56
Boutwell	128	?	?	48
Philbrick	33	21	?	33
Simon (1971)	490	10.20	9.80	48.57
Simon (1972)	533	14.34	9.04	41.85

I am intrigued to know therefore on what basis Randi made his amazingly accurate predictions. It is worth noting too that the response rate for green was much higher than would be expected on the basis of the studies listed. Perhaps Manning really *does* have psychic powers? Worse still,

perhaps (as some have long suspected) Randi is a fraud, in that *he* really has even stronger psychic powers and just *pretends* that he doesn't have! Only kidding! But seriously, I would be interested to know what Randi based his predictions on and why the response distribution is so different to that suggested by studies of the 'blue-seven' phenomenon. Any suggestions?

Christopher C. French  
London

### Bright stars

I speculated in a recent letter (B&IS III.1) that character differences might arise between people born in the summer and autumn months because at school they would have tended to be the youngest and oldest, respectively, in their class. For reasons such as this, slight differences might arise between people having different astrological signs.

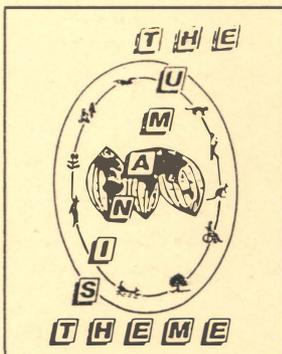
It has since been pointed out to me that intellectual and academic performance have been shown to be affected by month of birth for the above reasons. As well as tending to be older than their summer-born classmates (from infant school through to higher education), autumn-born pupils are inclined to have the advantage of several more months attendance at infant school than their summer-born classmates.

Dr Michael Startup, now at the Social & Applied Psychology Unit, University of Sheffield, and Dr R.J.H. Russell of Goldsmiths College, London, have investigated class of degree and month of birth in nearly 300,000 university students who obtained third class degrees and higher from 1972 to 1982 inclusive, having entered with 'A' level qualifications (R.J.H. Russell, M.J. Startup, *Personality and Individual Differences*, 1986, Vol. 7, pp. 839-846). They found that more graduates were

born in March, April and May than in other months, there being a smaller peak in September and October. Allowing for the population distribution (which was not affected by social class) the advantage was, as expected, for the older, autumn-born group. However, graduates born in July and August had the greatest proportion of degrees at 2-1 level and above, while those born from September to December had the lowest. (Students born in July had the highest proportion of degrees at class 2-1 and above (43.6%) and those born in November the lowest (41.5%)). The authors concluded that the advantages of an autumn birth continue up to University entry, after which time some intellectual faculty relevant to academic performance peaks and starts to decline, leaving younger students at a marginal advantage by the time they graduate.

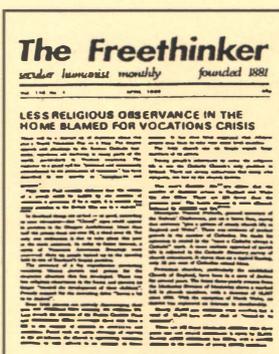
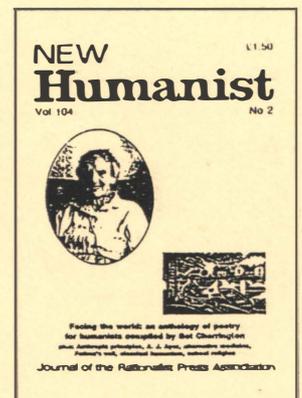
Michael Heap  
Sheffield

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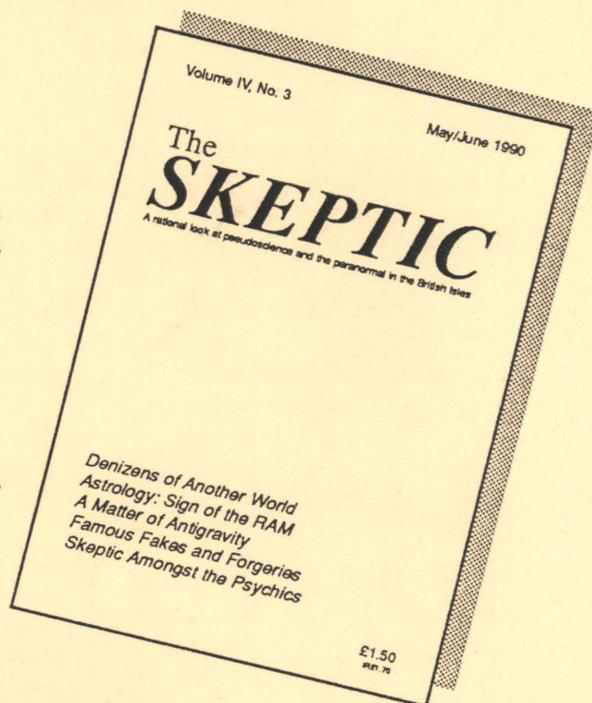
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