Volume III, No. 3 May/June 1989

The British & Irish SKEPTIC

A publication dedicated to the scientific examination of claims of the paranormal

Near-death experiences
Pyramids, pyramyths and pyramidiots
Here come the Quackbusters!
Nicholas Witchell's Nessie
Twitching sticks
European skeptics conference

£1.50
IR£1.70

U.K. Skeptics	Secretary: Michael Hutchinson, 10 Crescent View, Loughton, Essex, IG10 4PZ.
Irish Skeptics	P.O. Box 20, Blackrock, Co. Dublin, Ireland. Chairman: Peter O'Hara; Members: Frank Chambers, Michael Farragher, Jacqueline Helme, Johanne Powell.
Manchester Skeptics	71 Bury and Bolton Rd, Radcliffe, Manchester. Chairman: Toby Howard; Secretary: Dr Steve Donnelly Treasurer: David Martin; Committee: Frank Koval, Jack Steel, Mike Rutter, Jon Schofield, Alan Ings, Dr Dave Love.
London Student Skeptics	Mike Howgate, Department of Biology, University College, London WC1E 6BT.
Campaign Against Health Fraud	Box CAHF, London WC1N 3XX.
CSICOP	The Committee for the Scientific Investigation of Claims of the Paranormal, Box 226, Buffalo, New York, USA.

Electronic mail	The Skeptics' Electronic Mail (email) network is coordinated by Dave Love (`skeptics-request@uk.ac.daresbury`).
Prometheus Books	UK Distributor: Michael Hutchinson, 10 Crescent View, Loughton, Essex, IG10 4PZ. Tel: 01-508 2989

ISSN 0955-6575

The *British & Irish Skeptic* relies heavily on readers' contributions of articles, ideas, letters, and newspaper clippings, etc. Please mark clippings clearly with the name of the publication and the date. Articles and comments may be reprinted only by permission of the original author; however such permission is automatically granted for all in-house material (that unsigned or signed by the editors) to the publications of national or regional groups recognised by the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP), including those of CSICOP itself. U.K. subscription rates (six issues) are £10 per year (see back page for overseas rates). Any additional donations to the *British & Irish Skeptic* or any of the regional commitees will be most gratefully accepted and directed to the appropriate destination.

We depend on our readers to keep us informed! Our thanks for sending clippings for this issue go to Chris Wright, Austin Moulden, Anthony Garrett, Andrew Tomlinson, Alan Remfry, David Fisher, Jennifer Bradshaw, Ernest Jackson, Nick Beard, Mavis Howard, Redge Lewis, Steuart Campbell, Chris Torrero, Gerald Fleming.

CONTENTS

Vol. III, No. 3: May/June 1989

Editors: Dr Steve Donnelly and Toby Howard

Thanks to Mary McDerby for typing, and to Tony Arnold, Jane Bousfield, Gaynor Donnelly, Dave Love and Frank Wales for proof-reading.

The *British & Irish Skeptic* is published bimonthly from 71 Bury & Bolton Road, Radcliffe, Manchester M26 0LF, U.K. Opinions expressed are those of the authors, and do not necessarily represent those of the editors, associated regional committees, or the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP).

Hits and Misses

Steve Donnelly

Crystal Balls Up

It is to be hoped that a group of four British clairvoyants on a recent trip to Ireland were able to help the police with their enquiries with a greater degree of success than normal. The *Independent* on 10 May reported that the four assorted fortune tellers, complete with tarot cards, crystal balls and supernaturally-endowed exo-sticks (no, I don't know what an exo-stick is either), were touring Ireland giving card readings, private consultations and clairvoyance sessions when disaster struck. Thieves broke into their car and stole all the tools of their trade and their chequebooks as well as pictures of the grandparents of one of the psychics which normally accompany her in her psychic sessions. After the event (naturally) all four claimed that they had experienced premonitions that something was about to go wrong. To anyone who paid to attend their clairvoyance sessions I can only hope that their predictions were a little more specific!

Spirited Dispute

Christians in the town of Driffield put the protest back into protestantism when they organized mass prayer meetings in an attempt to prevent a spiritualist convention taking place in the town. The *Hull Daily Mail* on 8 March reported that they were praying for God's protection. But he must have sided with the Spiritualists on this occasion as the organizers refused to call off the event. According to a spokesman for the Christians 'The event is bringing the wrong sort of spirituality here—the spirit of darkness'. The organizer of the event, on the other hand retorted 'Whether they like it or not, spiritualism is having a rebirth and it was certainly around a long time before Christianity'.

Living Doll

'It looks like an ordinary toy. But behind Annabelle's innocent face lies terror. A world of poltergeists. A world of evil.' And Annabelle, believe it or not, is a rather attractive rag doll. The *Sunday Mirror* on 26 March continued its article, entitled 'The Devil's Doll', by explaining that Annabelle comes alive and possesses incredible strength that can hurl men across a room and slash flesh. According to 'one of the world's top psychic investigators', Ed Warren, Annabelle is possessed by the spirit of a six year old girl who died in a car crash and who, amongst other things, caused a priest's car to leave the road and crash and so disturbed a policeman that he left his job. The diabolic dolly currently lives in a display case in a small museum at the home of Ed Warren with a notice warning 'Positively do not open'. I only hope that Annabelle can read.

Alternative Diet

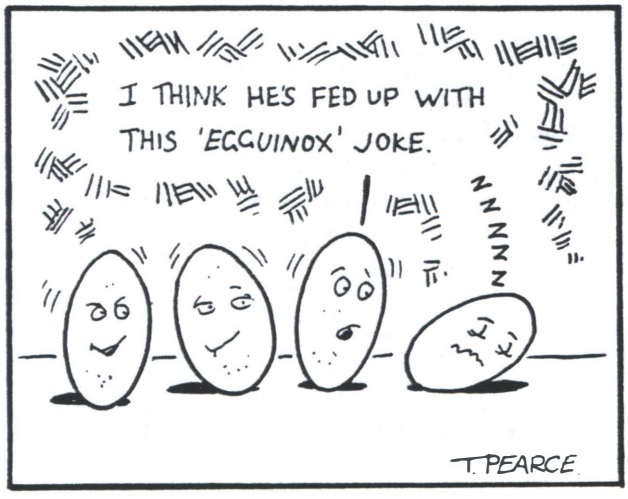
For those of you who are interested in eating wholesome food which may improve your health and which may, for all I know, keep you in tune with the cosmos, a couple of interesting articles appeared in the (American) *Sun* newspaper on 23 May. Apparently, cheeseburgers are the latest health food. A certain Dr Michael Pariza has discovered that cheese and hamburger contain significant amounts of a fatty acid which inhibits cancer in laboratory animals. And any readers who have perhaps rejected cheeseburgers in favour of a vegetarian diet—Forget it! The *Sun* also carried a story on the vegetarian mum (earthling not martian) who gave birth to a green baby—and remember this newspaper is at least as accurate in its reporting as its British namesake! The mother, Rose Pavese, who spent her pregnancy on a strict vegetable diet is quoted as saying 'I don't care what color he is. All I know is he's a very beautiful baby and looks like his father apart from the green skin'. In Kermit's immortal words 'It's not easy being green.'

Hard Boiled Belief

Staying for a moment on the other side of the Atlantic, the *New York Times* on 19 March gave some credence to a group of people known as vernal equinox egg balancers. (Yes, really!). As the name implies these (no doubt upright) US citizens believe that it is easier to balance an egg on one end during the vernal equinox. According to the *New York Times*, despite statements by scientists that the equinox produces no

effect, the issue is still shrouded in mystery. Apparently experienced egg balancers swear that eggs 'stand up straighter (?) when the earth stands up on its axis and the forces of the solar system are in special alignment.'

I should imagine that being on the earth's spin axis would also make egg balancing easier and would like to suggest that some enterprising scientist attempt to obtain finance for an expedition to the north pole in mid-September to investigate this effect. Costs could be kept down by heating and cooking using cold fusion power.



The Vedic Medic

According to Deepak Chopra MD, from Lancaster Massachusetts, by listening to our 'inner intelligence' we have the power to rid ourselves of illness and achieve a state of perfect health. The Guardian on 13 May reports that, although he is a conventionally trained endocrinologist, Dr Chopra believes that an ancient Indian system of medicine known as Ayurveda has the answers to our health care needs. He believes that common disorders such as depression, insomnia, cancer, heart attack, hypertension and stroke can be cured by changing our mental attitude. The Ayurvedic methods practised by Dr Chopra include herbal treatments, meditation, massage and a variety of cleansing techniques and should rapidly gain popularity as they appear to have something for every devotee of 'alternative' medicine. The article quotes a village healer, Dr Brihaspati Dev Triguna, as advising 'Eat your food slowly and move your bowels at the same time every day'. This will apparently restore the body's intelligence and restore its instinctive desire for health. Interestingly, similar advice (well, without the intelligence and instinctive desire bit) was given in 1908 by Robert Baden-Powell in his book *Scouting for Boys*!

Ion Lady

Ayurvedic techniques also featured in reports in several daily newspapers of a method purportedly used by Margaret Thatcher to keep in shape. The *Daily Mail* on 20 May, for instance, reported that the PM had been treated by a certain Madame Veronique who immersed her in a bath and passed a weak electric current through the water. (Many opposition MPs would like to administer this therapy also but perhaps using a less weak current). This therapy combined with aromatic, Ayurvedic massage is apparently the secret of Mrs T's sparkling form. For those readers who have an inbuilt resistance to belief in the value of current therapies such as this let me assure you that it has great positive potential!

Seeds of Doubt

A number of newspapers, from the inimitable *Psychic News* to the serious *Daily Telegraph* have recently published articles on the amazing healing powers of a certain Geoffrey Boltwood. According to the *Daily Telegraph* on 25 April, two London medical scientists carried out tests on Mr Boltwood which involved the 'healing' of cress seeds whose germination had been inhibited by soaking them overnight in saline solution. The tests consisted of Boltwood taking a handful of 120 seeds in his bare hands for two minutes and directing his 'healing energies' at them. As a control, he also took another set of 120 seeds in his hand but did not 'heal' them. The seeds were then laid on wet filter paper and put in a growth room for six days. The growth rates of the batches of seeds were monitored by one of the scientists who was unaware of which seeds had been healed. The growth rate of the healed seeds in five such experiments was claimed to be twice that of the untreated ones.

The *Telegraph* report and a similar long article in the *Scotsman* on 19 May claimed that, in a test carried out in front of a journalist and photographer, Boltwood succeeded in causing seeds to germinate, and even grow roots a centimetre in length by healing them for two minutes. A further two minute bare-handed treatment resulted in the growth of a stalk and a tiny white leaf on one of the seeds.

If genuine, and carried out under conditions which excluded trickery these results are startling and would (and will in any case) constitute valuable propaganda material for the proponents of psychic healing. However, I have seen conjurers produce billiard balls, eggs and metres of silk handkerchiefs with sleeves rolled up to the elbows and subsequently cause the same objects to vanish mysteriously. Scientists are not dif-

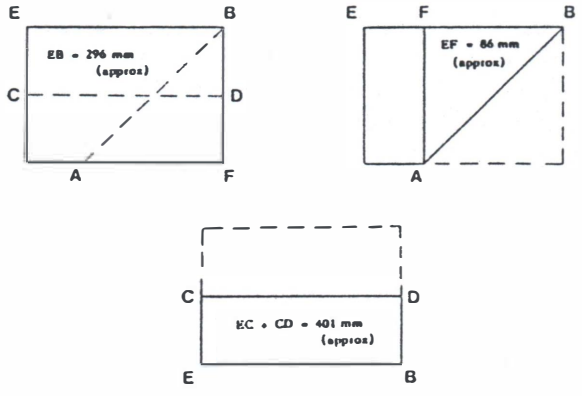
ficult to delude and as the scientists involved were both reported as having interests in homeopathy and psychic phenomena I would question both their objectivity and (more importantly) their competence in detecting sleight of hand. For a moderately talented conjurer it is not a difficult feat to substitute one set of cress seeds for another.

An additional twist to this continuing saga was reported in *Psychic News* on 3 June. Apparently that well known skeptic and contorter of cutlery, Uri Geller, issued a £10000 challenge to Boltwood to repeat his germination feat which he had previously performed on a LWT television programme entitled *Friday Now*. So much interest was generated by the initial programme that LWT advertised that Boltwood would appear on the show again the following week. Boltwood, however, did not turn up for the programme and rejected Geller's challenge. He subsequently stated that LWT had harassed him to appear again on the show and claimed that some LWT employees were closed-minded and 'made life very difficult'.

I can't help wondering if the presence of David Berglas, a professional magician, on the programme might have had some influence on Boltwood's decision not to appear.

Numerological logic

For anyone old enough to remember a song called (I think) a *A Deck of Cards* a gentleman by the name of Vernon Jenkins has some startling revelations on a similar theme. The song recounted the tale of a GI who had no bible, only a deck of cards, but to whom each card suggested a biblical theme. Well, if Mr Jenkins is to be believed, the next time you go to church, throw away your playing cards—and take a sheet of plain A4 paper instead! According to a pamphlet from Mr Jenkins the first eight words of the bible—in the original Hebrew—are also the numbers 913, 203, 86, 401, 395, 407 and 302. Now if you measure the page (A4) which you are now reading you will discover that its length is about 296 mm (actually it is 297 mm but God's not perfect).



If you now fold it in various ways (see illustration) you will see that it is possible to obtain measurements, in mm, which correspond (approximately) to the 7th, 3rd and 4th biblical words. By even more complex operations with a metre rule and the sheet of paper, the other numbers can be persuaded to reveal themselves. All of which, goes to demonstrate the reality of our Creator. For anyone interested in Mr Jenkins' findings you can obtain a copy of his leaflet from PO Box 504, Cardiff CF4 7UB.

The leaflet concludes with the thought 'Can we, with complete confidence, any longer regard the biblical account of The Creation as a myth? Is it likely that The Creator would "underwrite", in such a remarkable way, anything but the literal truth? Further, can we now seriously question any of the miracles or, indeed, any of the events recorded in God's Word? Is it likely that This God would be constrained by human opinion, or be prone to error?'

Personally, I just find it reassuring that God used the metric system long before Napoleon and was into origami!

Magical motor

Ball bearing races are common components in a variety of machines which have rotating parts but are not generally regarded as sources of energy in their own right. In the April issue of that increasingly wacky publication *Electronic & Wireless World*, however, Bulgarian physicist Dr Stefan Marinov describes his invention—the ball-bearing motor. He claims that if current passes through ball bearings on an axle it is set in rotation enabling this simple system to perform as a motor without any additional components. The article goes on to explain that the motor is a thermal motor (not an electromagnetic one) and that the motive power comes from the expansion of individual balls as current passes through them. So far, so good—perhaps. But Marinov, after explaining the basic mode of operation goes on to discuss his measurements of energy into and out of his invention when it is in operation which lead him to conclude that 'the mechanical energy delivered by the ball-bearing motor is *produced from nothing*, in drastic contradiction to the energy conservation law'. Journalist Frank Ogden who was fortunate enough to witness a demonstration of the machine in action did not seem entirely convinced that the machine drew energy from nowhere when he described the wire connecting the motor to a car battery disintegrating under the enormous current which the device drew!

Dr Steve Donnelly is a physicist, a lecturer in electronic and electrical engineering, secretary of the Manchester Skeptics, and co-editor of the *British & Irish Skeptic*.

Quackbusters

Nick Beard

The official launch of the Campaign Against Health Fraud

We launched the Campaign Against Health Fraud at a press conference on 8 May. Held at the Royal Society of Medicine, many national newspapers attended, as did Sky television, and a couple of radio stations. Sadly, a planning mixup resulted in ITV and BBC being told they were not allowed to film the conference. The Journal of Alternative and Complementary Medicine were accidentally left off the invitation list, which prompted suspicions from them that they were excluded by design. Delusions of grandeur?

Media coverage was extensive, most of the nationals carrying a story. Mike Baum, Professor of Surgery at King's College Hospital told the stories of two of his patients who have suffered a greatly reduced chance of cure as a result of a homeopathic attempt to treat their tumours. And the 'complementary' therapists argue doctors need to learn a little humility? Where can there be greater arrogance than in the correspondence course run by naturopaths who think they can treat cancer?

Of course, not all the coverage was positive. The *Guardian*, perhaps not surprisingly, expressed its fears in an editorial of 12 May. Entitled 'Quack Steps', it said that there were 'untruths' in the Campaign. Not managing to specify what these untruths are, it managed to trot out the standard woolly-thinkers explanation of why alternative medicine is important. Four out of five of 28,000 people told the Consumers' Association that they had felt better after an alternative medicine course. The same number would probably feel better after antibiotics for influenza—does that alter the fact that antibiotics are ineffective against viruses? At least they published our reply.

Some of the most irritating attacks came from those who should have known better. The Editor of the *Nursing Times* wrote a careless piece, in which she did not even get the name of the Campaign right. The notion of research seems to have been far from the author's mind as she penned her response to the press release. 'Nurses have been working ... to introduce complementary therapies to their practice' she tells us—and refers the reader to an article on 'therapeutic touch' by nurses. Are we to assume that these nurses are not interested in whether these therapies are effective? Again the accusation was made that the Campaign lacks humility. How much humility is to be found in nurses who believe that they can cure by the laying on of hands—and have no need to test the idea?

One might expect mild animosity to a medical campaign from the nursing establishment. Most astonishing was the editorial in *Hospital Doctor*, which accused us of instigating a witch hunt, which would have the same effect on medicine as 'queerbashing' had on the homosexual community! As we replied, it is most disquieting that the editor of a medical magazine should consider clinical trials to be equivalent to a mediaeval trial by fire.

The Council for Complementary and Alternative Medicine (C&A medicine?) accused us of trying to stir up public fears. Indeed we are—and winning much public support if our mailbag is anything to go by. We also appear to be causing much consternation among the alternative movement. Alternative practitioners who shun clinical trials should indeed be feared by the public.

All has not been bleak. We have received many letters of support, and not a few new members. Investigative journalist Duncan Campbell has been making good use of our service, and publicly thanked us for it. A good collaborative tale is in the offing—importations of weird bugs, with weirder claims for their therapeutic worth. Watch this space.

We are still, however, short of cash, and so if you want a regular copy of our excellent newsletter, send your twelve quid today.

Dr Nick Beard trained in medicine and psychiatry, and is currently studying knowledge-based systems.

For more information about the Campaign Against Health Fraud, write to Box CAHF, London WC1N 3XX.

Contributors!

We always welcome contributions from our readers: articles, book reviews, letters—anything! Although it's not essential, we'd be delighted if you could send your contributions on $3\frac{1}{2}$ or $5\frac{1}{4}$ inch floppy disks. It makes our job much easier! The preferred format is IBM PC-compatible, but we can also handle BBC, Mac and almost anything else. We need files saved as straight text files. Please mark disks clearly with their contents, and your name and address. All disks are returnable.

Pyramids, pyramyths and pyramidiots

Barry Williams

How can such a simple shape inspire so much nonsense?

What is a pyramid? Is it a polyhedron whose base is a polygon and whose sides are triangles having a common vertex? Well, yes it is, but it is far more than that. The pyramid, which in its megalithic manifestation played a very important role in the histories of two early civilisations, has excited more speculation and fantasy than has any other solid geometrical shape. Cubes and dodecahedrons have never had the press of the pyramid.

Before we investigate some of the more fantastic myths that have attached themselves to pyramids, we should review some of the facts which, to the inquiring mind, are far more fascinating than the fantasies.

The Pyramids of Egypt

The heading of this section is the title of the book widely regarded as the definitive work on the topic. Written by I.E.S. Edwards, keeper of Egyptian antiquities at the British Museum from 1955–72, this book presents the facts in a most readable form and is the reference for the archaeological information in this article.

The history of Dynastic Egyptian civilisation covers more than 3000 years, of which the Pyramid Age accounts for fewer than 500, although this form of construction continued, in a much debased form, for a further 500. There are more than 80 known pyramids in Egypt, some of which are so ruined as to appear only as heaps of rubble.

It is not surprising that many people have exercised their imaginations to speculate on the purpose of these massive stone structures and on the methods used in their construction. Although there is much that is unknown about the Egyptian pyramids there can be little doubt that they were built according to funerary rites of the Egyptian religion and that the construction methods used were quite possible within the limits of technology of the time.

The Egyptian religion was firmly based on the existence of an afterlife, which depended for its continuance on the protection of the mortal remains of the former citizen. In pre-dynastic times, important people were buried under a mound of sand the shape of which seems to have gained some religious significance. During the First and Second Dynasties this mound was made more elaborate and became a rectangular, decorated mud brick structure, called a mastaba. Naturally enough, the mastaba of the Pharaoh was the most imposing, although many fine examples have been found of those of nobles and officials.

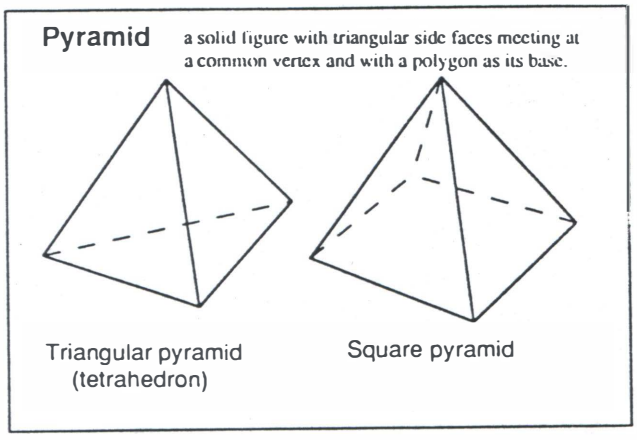
In the Third Dynasty, circa 2680 BC, the Pharaoh of the time, Zoser, was fortunate in having as his Chancellor, one Imhotep, who is credited with the building of the first pyramid (and, incidentally, the world's first large stone building). Imhotep was deified by later Egyptians, possibly the first recorded instance of someone 'coming up through the ranks'.

It is tempting to speculate that Imhotep thought to himself one day 'If I put another mastaba on top of the first one and then another on top of that, until I reach six, then my Pharaoh will be much more important than his old Dad', but excavations of Zoser's Step Pyramid reveal that many changes in design occurred during its construction.

First, an unusual square mastaba was built in the unusual material of stone. Then it was added to, in various stages, until it became rectangular, then built upwards to become a four step pyramid, then extended on two sides and upwards to become a six step pyramid, which was its final form. All of this indicates that there was no sudden infusion of new ideas from 'somewhere else' that suddenly changed 'primitive' Egyptians into brilliant engineers and stonemasons, a theory beloved of the more irrational speculators on matters Egyptian. It is clear that Imhotep was an unusually intelligent man but it is equally clear that his ideas did not spring from mysterious sources. His learning curve is inscribed in stone.

From the first step pyramid, we can trace the development of this form of architecture through the first true pyramid, to the apogee of pyramid building, the Great Pyramid of Khufu at Giza. This is the one about which all the fantasies have been constructed and it certainly is a remarkable piece of engineering. The first notable fact about the Great Pyramid is that the time which elapsed between the invention of pyramid architecture by Imhotep and the construction of this, the largest and best of them all, was only a little over a century.

The Great Pyramid is unique in many ways. When it was built, it was the heaviest building (at around 6 million tonnes) ever built. It still is. It consists of approximately 2.3 million blocks of stone, with an average weight of 2.5 tonnes. Its base is 227 metres square, accurate to within 20 cm on each side.



Its original height was 150 m, although the top 15 m have disappeared. It is accurately aligned to the four cardinal points, with its least accurate side, the east, diverging by only 5' 30" from true north-south, which, for a civilisation that had no compass, was not bad.

Its base covers 13.1 acres, its sides make an angle to the ground of 51' 52" and it was built using technology no more sophisticated than the lever, the roller, the inclined plane, stone and copper tools, intelligent minds and hard work.

We should clear up a few popular misconceptions at this stage, misconceptions largely propagated by the works of wilfully ignorant authors such as Erich von Dãniken, who surely must hold the distinction of being more wrong about more things than any other person on Earth.

The Egyptians were not primitive people at all. They were every bit as intelligent and sophisticated as we are today, and, although their technology was simple, it was adequate for the task and they were expert in its application.

The Egyptians did not use slaves to build the pyramids but citizens who were paid in food for their work (there is even evidence that the Egyptians invented the strike for better wages). We know that the expert work on the pyramids was carried out by a full time team of craftsmen, and we can assume that much of the heavy labour was carried out by unskilled 'casual labour', probably the local farmers who had nothing to do while their land was inundated by the annual Nile flood.

The Egyptians moved large blocks of stone on wooden sleds, pulled by teams of men with ropes. Von Dãniken would have us believe that the Egyptians had no rope and that wood was in short supply because 'trees did not grow in abundance along the Nile'. Both statements are lies. Many ropes have been found in Egyptian tombs, and the Egyptians used a lot of wood, much of which they acquired on trade with neighbouring countries, and many examples of which have been found.

The Egyptians did not carry out human sacrifice in dynastic times (although there is some evidence that pre-dynastic Egyptians did) and there is no evidence that live humans were sealed in pyramids with their dead Pharaoh. This latter is almost certainly Hollywood invention.

Mummification was carried out for the purpose of preserving the remains of Egyptians for the afterlife and not, as von Dãniken would have it, for resurrection by returning astronauts. The techniques of mummification are available to us in some considerable detail, from existing texts. The internal organs were removed and stored separately from the body, and the body was treated with various salts and resins and wrapped in linen.

All of this may have have been counter-productive, as some older mummies of earlier Egyptians, merely buried without treatment, have survived better than those of Pharaohs. The evidence suggests that dessication caused by interment in dry sand is a far better preservative than any of the treatments given to pharonic corpses.

What really gives the lie to von Dãniken, however, is the fact that the brain was removed in pieces, through the nose, and not preserved. The Egyptians believed that the heart was the seat of the soul, and that the brain was not of particular importance. In the case of von Dãniken, this may well be true.

Motivation

We will look further at some of the fantasies that have been built around the Great Pyramids later, but first let us consider 'why build a pyramid in the first place?'

The answer to that is that we do not know. There are many logical hypotheses (and many more illogical ones) but there is no doubt that the purpose was of a religious nature. It may be that the pyramid was seen as a 'stairway to the heavens' for the dead Pharaoh to ascend to his rightful place alongside the sun god.

There is not direct evidence that the pyramids were the actual burial site of the kings, as no pharonic remains have ever been found inside or under a pyramid. The pyramids may have been built as a memorial and not as a tomb, although, in the absence of direct evidence, the latter purpose seems to be more likely.

One hypothesis, proposed by German-British physicist Kurt Mendelssohn, postulates that the existence of the pyramids was secondary to the fact of their construction. Mendelssohn proposes that the rulers of the recently unified Egyptian kingdom needed some work of national importance to weld together the various regional groups into a cohesive and centralised state. Mendelssohn's theory, propounded in his book *The Riddle of the Pyramids*, argues this case very well and, whether true or not, it is certainly

logical and it does explain some of the mysteries that surrounded these giant structures. This hypothesis falls within the parameters of reasonable speculation, as do many others associated with a period of history which, while better documented than many other ancient eras, is far from comprehensively understood.

What surviving texts tell us about the ancient Egyptians is at considerable variance with the popular mythology that surrounds them. They were practical and intelligent people, not given to excessive mysticism which is an error generated by the fact that the majority of surviving literature is concerned with death which in turn is explained by the fact that their tombs survived the millennia in far better shape than did their mundane dwellings.

Although there is clear evidence that the Egyptians had sufficient knowledge of astronomy to enable them to devise an accurate calendar, and thus to be able to predict their most important annual event, the flooding of the Nile, there is no suggestion that they developed astrology, a fact that should endear them to all skeptics.

In general, the Egyptians come down to us as remarkably likeable people, with little of the cruelty and brutality that characterises so many ancient civilisations, and not a few modern ones.

We do not know why the pyramid became such an important structure to the Egyptians, but there may be a clue in the sheer pragmatism of the shape. Once the decision is made to build on a monumental scale, the pyramid makes the most sense to people who had not devised arches or free standing columns. Once you build a pyramid, assuming you do it properly, it tends to stay put. Staying up is far simpler than falling down for a well built pyramid.

We should also address the claim commonly made by those who know nothing of Egyptian history and culture and who seek to achieve wealth and fame by writing books which are firmly rooted in that ignorance. This claim is the 'it would be impossible for us today to build the Great Pyramid'.

This claim is both arrant nonsense and likely to be true—nonsense because the reasons cited for the claim lie in techniques the Egyptians were alleged to have and that are no longer available to modern people, and true for an entirely different reason in that it would be hard to conceive of a politician or company director convincing the electorate or the board of the desirability of expending so much wealth on an intrinsically useless structure. (Prince Charles' opinions on modern British architecture notwithstanding) This question is addressed in Ronald Story's book *Guardians of the Universe?* A Japanese construction company estimated in 1980 that the cost of erecting a replica of the Great pyramid, using modern techniques, would be £250 million. If the labour intensive methods employed by the Egyptians were used, then the cost would approach £18 billion. It would be a brave government indeed that would suggest pyramid building as a cure for unemployment.

As for the 'lost' techniques, there is plenty of physical evidence of how the Egyptians chiselled the stones, carried them to the site, used ramps to get them to the necessary elevation and moved them around when there. What techniques have been lost?

Yet another mystery which bedevils the proponents of paranormal explanations is how the concept of pyramid building sprang up in two widely separated cultures as those of Egypt and Central America. The suggestion is that Egyptians colonised Central America and taught the Indians how to do it. This suggestion is difficult to sustain when we consider a few facts.

The Central American pyramids were designed for an entirely different purpose to those of Egypt—ceremonial rather than funerary. All Central American pyramids are at a lower angle than the Egyptian and were designed to be climbed after construction to the temples located on top of them. In the case of the Aztecs, human sacrifice seems to have been the major activity carried out on the pyramids, although this probably was not the case with the Maya.

Methods of construction differed greatly from those used by the Egyptians and, generally, the Central American pyramids were not used for monuments or burial, although one has been found to contain a body of some important person.

The crucial fact that makes any cross cultural exchange seem to be unlikely is that the earliest pyramids of Mexico are the so-called Temples of the Sun and the Moon at Teotihuacan, about the builders of which little is known, but who have been identified by some mystics as the Lost Tribes of Israel (who else!). These pyramids are comparable in size to those of Egypt, and are dated at just before the beginning of the Christian era. It would seem to be highly implausible that Egyptians, at the final stages of their long history, would venture halfway around the globe and then teach the natives a technology that they themselves had abandoned nearly two millennia earlier. It is far more likely that the practical significance of the pyramid shape for large construction appealed to two different cultures, neither of whom had developed the arch, quite independently.

We can dispose of the absurd pseudoscientific claims of ancient astronauts, time travellers and remnants of pre-existing high-tech civilisations as espoused by the likes of von Däniken by a simple examination of the facts which have been discovered by genuine archaeologists and other scientists. Such claims can be put down to wilful ignorance on the part of their proponents. Of more interest are some of the weird cults that read mystical significance into the measurements of the pyramids, particularly those of the Great Pyramid of Khufu.

Pyramyths and Pyramidiots

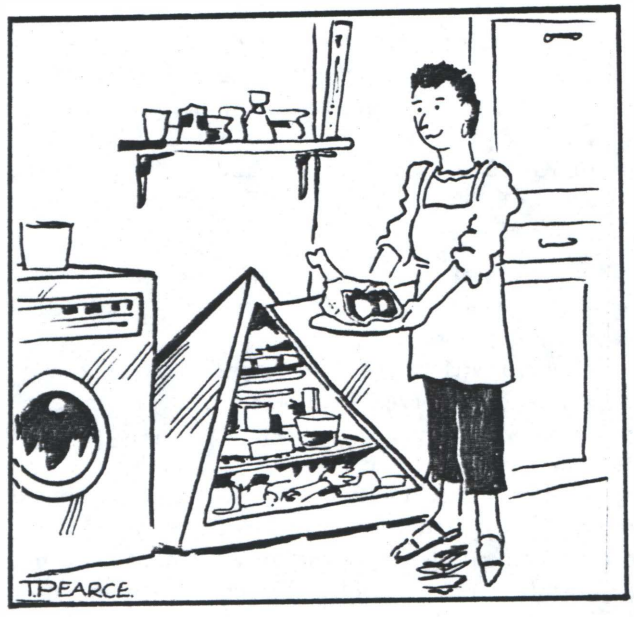
It would appear that the driving force behind the desire to mix measurement with Biblical prophecy, that drove many 19th century British authors to ascribe unwarranted significance to the Great Pyramid, was a distaste for the metric system of measurement, introduced after the French Revolution. No self-respecting and God-fearing Briton was going to take this example of atheistic Frog perfidy lying down. (Readers of middle years or older may have some sympathy with this view.)

Among the first to address this problem was a retired publisher, John Taylor, who believed that the pyramid had been built by Noah, to God's specifications, and who decided that 25 inches was the size of the Biblical cubit.

Taylor was the first to realise that the dimensions of the Great Pyramid suggested that the Egyptians had knowledge of the ratio pi (π; the ratio of the circumference of the pyramid to its height gives fairly accurate ratio of $1/2\pi$). As it is known that the Egyptians had not developed mathematics on a theoretical level to that extent, this convinced Taylor that the Great Pyramid was divinely inspired and presented a genuine problem to more scientifically inclined scholars.

One possible explanation that has been advanced is that, if the Egyptians used a rolling drum to measure long distances, then pi would have become part of the computation quite fortuitously and Egyptians would have discovered the ratio without being conscious of the fact. Whatever the truth of the matter, Taylor, who was an adherent of the proposition that the British were descended from the Lost Tribes of Israel, was convinced that the Pyramid had been built by these proto-Britons. Obviously the Egyptians could not have done it, as they were worse than the French. Taylor's ideas were taken up by no less a personage than the Astronomer Royal for Scotland, Charles Piazzi Smyth. (The real mystery in this story is how someone with such a foreign sounding middle name got to be Astronomer Royal.) Smyth had been a pupil of Sir John Herschell and, like Herschell and Taylor, he objected to the use of the metric measurement systems, which may help to account for some of the extraordinary theories he later propounded.

Finding that one of the casing stones of the Great Pyramid was approximately 25 inches, equal to Taylor's cubit, Smyth decided that the inch (one twenty-fifth of a cubit and approximately one 10 millionth part of the Earth's polar radius) must have been the divine unit of length. When it was discovered that the original casing stone was a bit over 25 inches (25.025 in fact), Smyth proposed that the 'Pyramid inch' of 1.001 was the actual divine unit (the British unit presumably got worn down a bit in the pocket of one of the Lost Tribesmen).



Of course it did serve to prove that the British measurement system was divinely inspired, which was one in the eye for those nasty French. Smyth used the pyramid inch and various other measurements made at the Great Pyramid to calculate the density of the Earth, its population and, for all we know, the winner of the third at Ascot.

It is obvious that, given the number of measurements one could make in a huge structure like the Great Pyramid, and with suitably preconceived ideas, one can come up with any answers one likes. This Smyth did.

His book, *Our Inheritance in the Great Pyramid*, contains over 600 pages of these calculations and predictions. The big problem was that all of this was theory—no actual dimension of one pyramid inch has been found. This was put right when Smyth, on a visit to Egypt, found a mason's boss on a slab of stone and declared it to be the Divine Standard. The 'science' of Pyramidology was now firmly established. It survived the revelation that one of Smyth's followers had been caught trying to file down the boss to make it more accurate and the discovery that surviving Great Pyramid casing stones were all of different sizes.

With the bit firmly between his teeth, Smyth and his many followers, who included the founders of the Jehovah's Witnesses, using his Pyramid Inch decided that various internal structures of the Great Pyramid were a record of the past history of the world (naturally beginning in 4004 BC), and that was not all. Further measurements showed that the future history of the world was also contained in the stones. The end of the world was variously predicted as happening in 1874, 1914, 1920 and 1925.

As with all failed predictions, when it does not happen you revise the data to get a new date (see Nostradamus). What Smyth and his followers were doing was bending the data to achieve their preconceived outcomes, a practice still followed by many practi-

tioners of the paranormal.

Smyth could multiply any dimension by a suitably large number and come up with a significant measurement, such as the distance to the sun derived from the height of the pyramid (481 ft × 1000 million = 90 million miles). Not very accurate, and certainly not as accurate as God or a space travelling ET would know them, but they certainly fooled the customers.

Unfortunately for Smyth, like an earlier personage of Egyptian fame, he was nursing a viper in his bosom. His theories, largely because of his position, were treated with a degree of respect that they obviously did not deserve. One of his most ardent supporters was a chemical engineer, who along with his son, decided that to further refine Smyth's theories more accurate measurements were needed to be made on site. These two set to work to design more accurate instruments to make the measurements as exact as possible. As this took a long time, the engineer finally decided that he was too old to travel to Egypt and his son was sent out alone. He conducted several very accurate triangulations of the site and succeeded in proving conclusively that Smyth was talking through his hat (chapeaulallia?).

The young man, William Matthew Flinders Petrie, stayed on in Egypt to become the greatest Egyptologist of his time and to be regarded by many as the father of scientific archaeology. He was, incidentally, the grandson of the explorer of Australia's coastline, Matthew Flinders.

The fact that Smyth was wrong has done nothing to dissuade a lot of people from believing his predictions and his theories continue to be recycled to this day.

Pyramid Power or Much Ado About Nothing

All of the foregoing can be explained by the inability of some people to accept that ancient civilisations were capable of carrying out major works of construction or that these monolithic structures are intrinsically useless.

The next stage in the saga of pyramidiocy leaves the world of tangible pyramids and enters the realm of pyramid shape. More particularly, we will look at the effect of pyramids on the shibboleth of the New Age, 'energies unknown to science', or 'euts' as we will refer to them for typographical reasons.

It was probably inevitable that someone, sometime, would hit upon the idea that the pyramid itself had something to do with the process of mummification. This idea flies in the face of all the evidence of how mummification was carried out, including the records left by the Egyptians themselves, but it is in accord with the thinking of those who persist in seeing a problem where none exists.

Martin Gardner, in his entertaining book *The Magic Numbers of Dr Matrix*, traces the first reference to this idea to the early years of the twentieth century. At that time, a 'French occultist', as Gardner describes him, discovered that a dead cat became mummified after being placed in a model pyramid. As there appeared to be no great call for mummified cats in the ensuing half century, no more research seems to have been carried out.

Then, in the late 1950s, a Czech named Drbal claimed that a razor blade placed under a cardboard pyramid retained its edge for longer than would normally be expected.

Next, we find that various film actors (who may well be the descendants of the Lost Tribes of Israel) claim to be able to meditate better while sitting under a pyramid. Others have claimed that foodstuffs kept in a pyramid retain their freshness, wishes come true when written on paper and placed in a pyramid, pyramids kill bacteria. This is all remarkable stuff, if true, but how true is it?

Let us first consider euts, whether they obey rules, and how a pyramid might channel them.

Whenever a pseudo-scientist or a paranormalist is challenged to explain some phenomenon that science decrees to be highly improbable, he responds with euts. While not wishing to suggest that there are no such things as euts, we are not very encouraged to believe in them by the claims made for them.

It appears that they can do anything and are not governed by any rules at all. Proponents of pyramid power have claimed that pyramids can, *inter alia*, mummify flesh, preserve food in natural state and resharpen razor blades. It would appear, to the casual observer, that these three acts call for three different applications of energy.

To mummify flesh presupposes an ability to remove water molecules; to sharpen razor blades requires the ability to either add or remove metal atoms; and to preserve food means preserving the status quo. As the material from which the pyramid is constructed does not appear to effect any of these processes (they are available in cardboard, wood, polystyrene, copper, polycarbonate, steel and many other materials) and as they appear to have no control systems, how is the required process determined? Can the euts itself decide that the object in the pyramid is a razor blade or a dead cat?

If that is so, and that appears to be the only logical conclusion that follows from the claims, then we appear to be dealing with some form of sentient energy. This is an extraordinary concept and would require far more persuasive evidence for its existence than is offered by its proponents. Imagine the problems Einstein would have faced with relativity if gravity could think for itself!

Next we ask, 'What is inherent in the pyramid shape that allows it to channel this energy when other geometrical solids do not?' We do not hear about Cube Power or Sphere Power (although this article may generate such thoughts in some minds—it has happened before). The answer is that there is nothing about a pyramid that should give us reason to suppose that this shape holds a privileged position in the world of solids. Far more likely that the proponents of this fallacy are seduced by the supposed mysteries of the Egyptian pyramids and that as a result have invested the shape itself with mystical powers.

There is no reason to believe that pyramids exert some sort of influence on energy, be it known or unknown to science. This, of course, would not matter if there were examples of tests that 'proved' the opposite. However, while there are many references in the 'pro' literature to such tests, it is difficult to find reference to any properly conducted tests that give factual results rather than subjective opinions. Those tests that have been conducted using a double blind methodology give no comfort to the proponents of pyramid power.

In a test of French wine, as reported in the Winter 1987–88 edition of the *Skeptical Inquirer*, wine kept in pyramids was judged to be no different in quality from wine not so stored.

Proponents of pyramid power must fall back on the only rule that euts are known to obey. This is the law that states 'No paranormal event will occur in any location that contains a sceptic'. This law is better known by its common title of 'The Psychic's Cop-Out', which explains a lot of things other than the failure of pyramids to perform.

To conclude this section on pyramid power, we should refer to the influence of American author and respected sceptic, Martin Gardner, on the level of belief in this unlikely form of energy.

In a satirical article in the June 1974 edition of *Scientific American*, Gardner made a number of outrageous claims for the powers of pyramids, which were being promoted by his character Dr Matrix. Gardner was astonished at the amount of mail generated by his article, from people who were seeking more details of how pyramids could help them.

Some of Gardner's tongue-in-cheek claims still form part of the lore of pyramid power, so do not be surprised if cube or sphere power become New Age phenomena in the future.

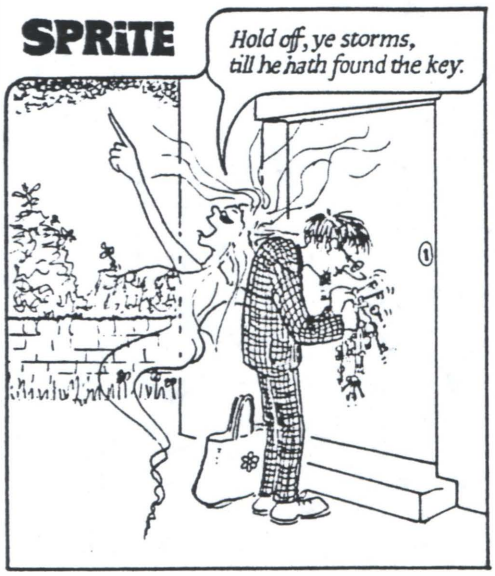
Although there is nothing particularly mysterious about pyramids, they certainly have exerted an influence upon the imagination of many people for millennia.

Merely reading about how people from early civilisations set about the tasks of construction and how modern people have wrested the secrets from the stones appeals to our romantic instincts. It makes us realise the remarkable mental and physical accomplishments of which the human species is capable and has been capable since the beginning of recorded history. It also makes us realise just how limited must be the imagination of those who cannot take pride in the accomplishments of our species and who must invent super beings to take credit for what humans have done.

As skeptics, we should not resent such people as Erich von Dāniken, Charles Piazzi Smyth and the many others. We should pity them for the narrowness of their vision and the meanness of their spirit.

Barry Williams is President of the Australian Skeptics and has a long-standing interest in Egyptology.

This piece first appeared in The Skeptic, *the journal of the Australian Skeptics.*



Down the tunnel

Sue Blackmore

Is there a scientific explanation for the near-death 'tunnel' experience?

Near-death experiences (NDEs) have been widely popularised and a core element of them is the tunnel experience (e.g., Moody 1975). The person seems to rush through a long dark tunnel with a bright light at the end and entering into this light can be a particularly vivid and life-changing experience. I think the tunnel provides a special challenge because it is repeatedly described in similar forms but under varied conditions. It is often claimed as a pathway to another world but a physiological explanation for its consistent form might be possible. I have tried to find such an explanation.

First what is the tunnel like? As early as 1905 Dunbar collected cases of tunnels experienced under anaesthetics and with other drugs. The tunnel is also one of the form constants noted by Heinrich Kluver in the 1930s. He claimed that almost all hallucinations, regardless of their cause, took on similar basic forms; the grating, tunnel, spiral and cobweb. These hallucinations can occur in widely different conditions such as hypnagogic imagery, the auras of epilepsy, migraine, insulin hypoglycaemia and with hallucinogenic drugs such as LSD or mescaline.

More recently Drab (1981) studied 71 tunnel experiences obtained from 1112 reports of unusual experiences. He didn't include voids and black spaces but defined the tunnel as a 'realistic enclosed area of space much longer than its diameter'. He found examples in cardiopulmonary arrest, severe stress, minor injuries and pain, fatigue, fear and migraines, as well as in relaxation, sleep, meditation and hypnosis. Some were associated with out-of-body experiences (OBEs). Tunnels were frequent in serious medical conditions such as heart attacks or mechanical accidents but there were no cases with cancer or stroke. Drab concluded they may be triggered by a sudden change in physiological state. The tunnels were usually dark or dimly lit and nearly half the respondents reported a light at the end. Most described themselves as moving towards it and said it was extremely bright though it did not hurt their eyes.

Although drug induced tunnels are often described as visions or hallucinations the tunnels near death seem quite real and experients are often convinced that they went down an actual tunnel into another world.

Explaining the Tunnel Experience

What kind of explanation are we looking for? My own priorities are that firstly the theory should account well for the phenomenology. This means explaining why there is a tunnel and not something else, why it is like it is, why there is a light at the end and so on—and above all why it seems so real. Second the theory should not multiply other worlds or bodies or vibrations ad hoc. Third it should provide testable predictions and the means for changing and improving the theory by experiment.

This means that untestable occult theories which can 'explain' everything but can never be refuted are not helpful. But this does not mean we should dismiss apparently occult theories without a further thought. Theories are not worthless because they are weird. They are only worthless if they are vacuous and untestable and this is a big difference. Apparently skeptical explanations can also be vacuous and sometimes dismiss the experiences altogether. A successful theory must do neither of these and yet must account for the phenomena as reported. Few manage this.

1. The 'real' tunnel.

Some occult systems describe an actual tunnel which leads from one world to the next but there are many obvious problems. If the other worlds are part of this world then we should be able to measure them or in some way detect their presence but all such attempts have failed (see Blackmore 1982a). On the other hand if the higher worlds are in some 'other dimension' or different 'plane' then all the problems of any brain-mind dualism are raised. How can anything be said to pass from one world (or plane) to another? Inventing a tunnel between them is no solution. Explanations of this sort give only ad hoc accounts of the details of the tunnel and shift as new evidence comes along. Thus, they don't make any predictions possible.

2. Representing transition.

A popular alternative is to treat the tunnel as symbolic of a shift in state of consciousness. Crookall (1964) says there are at least three 'deaths' as the physical body, soul and spiritual body are shed to unveil the 'Eternal Self' and the tunnel is a blacking out of consciousness as it passes from one state to another.

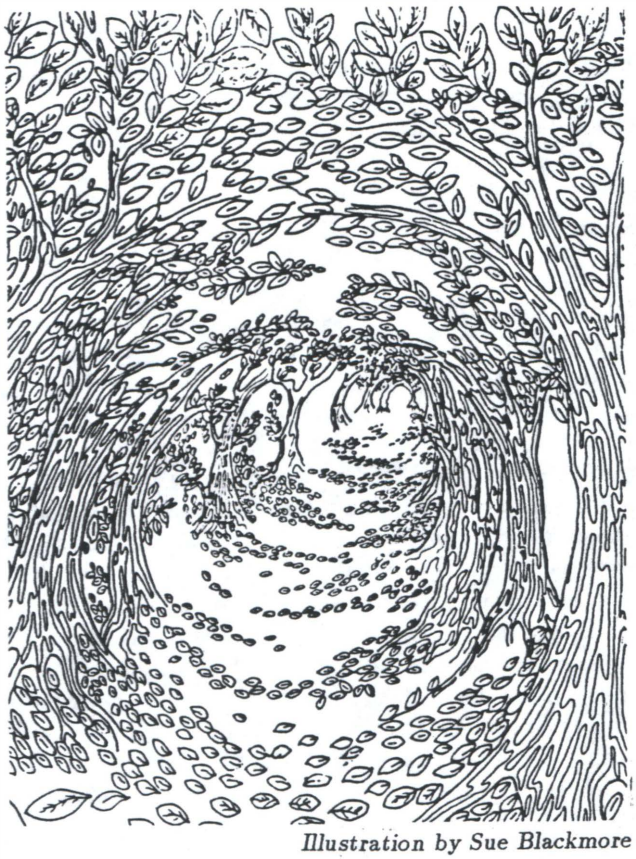


Illustration by Sue Blackmore

Green (1968) talks of a representation of a long journey and Ring (1980) a mind shift to a holographic or four-dimensional consciousness of 'pure frequencies'.

This idea escapes the obvious problems of 'real' tunnels but I think in the process it loses all explanatory power. It simply begs the question 'Why the tunnel?' Why shouldn't something else be used a symbol of transition such as doorways, arches, gates, or even the great river Styx. In fact these other forms do occur later on in NDEs but it is the tunnel which is the core feature of the NDE. It doesn't help at all to say that the tunnel is actually symbolic of something else.

3. Birth and the Tunnel.

Perhaps the NDE is reliving one's birth and the tunnel is 'really' the birth canal. This theory, popularised by the astronomer Carl Sagan, faces numerous problems. Infants can't perceive the world in a way an adult could recall it. The birth canal is nothing like a tunnel with a light at the end and in any case the foetus is pushed along it with the top of its head usually emerging first, not its eyes. It takes a vast leap of the imagination to make the two comparable and yet this theory has produced numerous 'New Age' ideas and techniques.

Its only possible advantage is that it is, at least in some forms, testable. If you are reliving your birth then your actual birth should make a difference. For example, people born by Caesarian section have never been along the birth canal and so, presumably, should not be able to relive it. I carried out a survey of 254 people of whom 36 had been born by Caesarian section. These 36 did not report more or less tunnel experiences than the others; 36% in each group (Blackmore 1982b). A common response to this evidence is to say that the tunnel is not actually reliving your own birth but is a symbolic representation of birth; a move which only takes this theory back to the previous kind.

4. Just Imagination.

To my mind the very worst kind of theories are those which say that the tunnel, the OBE and many other experiences are 'just imagination'. This simply is no explanation at all. It does not explain the specific details (why a dark tunnel with a light at the end and not a bright red window?). It is not really testable, cannot be improved on by progressive tests and is contentless. At the very least I want a theory to explain why people imagine tunnels rather than anything else. This kind of theory is a sort of false 'skepticism'.

5. Physiological explanations.

Jack Cowan (1982) has suggested that the four form constants, including tunnels, are generated in the cortex. He argued that because we know the appearance of the hallucinations and also the way images on the retina are mapped onto the cortex we should be able to calculate the cortical form which corresponds to any hallucination. Using this mapping he showed that concentric rings on the retina (or in the visual world) correspond to straight lines parallel to one axis in visual cortex. Straight lines at right angles to those map into radiating lines; straight lines at other angles into spirals. If the lines move the spirals or rings would expand and contract and expanding concentric rings will produce the impression of moving through a tunnel.

But why should there be moving stripes across the visual cortex? He argues from an analogy with fluid being heated, that when the uniform state of the brain is disrupted by disinhibition (as is known to occur with drugs such as LSD and in anoxia) then stripes of activity will pass across the cortex.

This theory seems to me to have some problems. First it does not account for the fact that NDEs include tunnels but not cobwebs and lattices. It does not explain why people seem to move forwards through tunnels but rarely backwards. Nor does it explain just what those stripes are and why and how they move as they do.

I therefore suggested a far simpler theory which needs no stripes. When the brain is starved of oxygen, inhibition is first suppressed which creates a state of hyperactivity. The cells in visual cortex will be firing randomly, or noisily. Using the same retino-cortical mapping we can see that there will be far more cells firing which represent the centre of the visual field and far fewer at the edges. The effect will appear like a flickering speckled world which gets brighter and brighter towards the centre. It is known

that the visual system is biased towards movements in an outward direction and visually perceived movement, especially in the absence of any reference, is easily interpreted as self movement (the classic example of this is the feeling that your train is moving backwards when another train pulls out of the station). In other words this scintillating speckled world of electrical noise could appear to expand outwards from a brighter centre. Could this be the tunnel?

As a final alternative, Troscianko suggested that if you started with very little noise and it gradually increased, the effect would be of a light at the centre getting bigger and bigger and hence closer and closer. The tunnel would occur as the noise levels increased and would stop either when they decreased again or when the whole cortex was so noisy that the light enveloped it all. In other words one would have entered the light. It could go no brighter.

To test this theory he wrote a computer program to mimic what gradually increasing cortical noise would actually look like. This simply took the known distribution of visual cells and gradually increased the proportion of them firing (i.e. increasing the brightness). The effect is very much like rushing through a tunnel into an expanding bright light.

These physiological theories all provide other testable predictions. For example they imply that an intact visual cortex is required and if this were damaged (as in some kinds of blindness or stroke) then the tunnel could not be produced. More specifically someone blind by cortical damage could not have the tunnel but retinal damage would not affect it.

Cowan's theory requires that there be stripes of activity passing across the cortex. This might be related to cortical spreading depression which might predict the speed of the tunnels. My own theory suggests that the more noise, the greater the speed and that faster movement be associated with a larger central light. And the final theory predicts that if the movement is created by the expansion of the central white area then speed is not restricted but the overall change in the tunnel is. In other words, you can only move from a tiny white light to a completely enveloping one. So the faster you move, the quicker the experience will end. None of these have been tested but they could be. Another prediction is that the drugs which produce tunnels should all be those which reduce inhibition, like the major hallucinogens, while drugs which increase inhibition (like Valium for example) should not produce tunnels. So if someone approached death by an overdose of such drugs they should not have the traditional dear-death tunnel. Again this prediction has not been tested. All these theories explain why there is a tunnel rather than any other symbol of passage to another world. They explain how the light can be extremely bright but does not hurt the eyes—because the eyes are not involved at all. It can be seen that these physiological approaches to the tunnel experience already account for many of the previous findings and they provide numerous ways of testing them for the future. In this respect they are quite different from all the previous theories I have considered.

Why is the tunnel so real?

This is my favourite question and, like out-of-body experiences, the tunnel cannot be fully understood without considering it. When tunnels appear in drug induced states they are usually considered to be hallucinatory or illusory (Siegel 1977) but near death, and in some other OBEs they seem to be as real as anything in normal perception. Why? To answer this we have to step back to the question of why anything ever seems real. It seems implausible to suppose that the perceptual system can easily discriminate input from recalled information when the two are mixed almost from the very periphery. Therefore the system must, at some level, make a decision about which of its representations, or mental models, are 'real' and which 'imaginary'. I suggest that it does this, all the time, by comparing representations of the world and choosing the most stable as the outside world or 'reality' (Blackmore 1984, 1988). Normally of course the model based mostly on input is chosen. but the conditions which give rise to tunnel experiences (as well as OBEs) are precisely those in which input is disrupted—either because of damage to the nervous system or because of deep relaxation, meditation, or sensory isolation. In these conditions the input model is no longer the most stable and therefore, according to my hypothesis, whichever model is most stable will take over as 'reality'. If there is noise in the visual cortex producing a tunnel form, and if the input-driven model is also unstable, then the tunnel form will be the most stable model in the system and hence will be chosen as 'real'. This is why tunnels near death, but not in the milder drug induced experiences, seem real. Indeed they are 'real' in just the same sense as anything ever is real: because they are the most stable model the system has got. I would take one further step from this, although it is not necessary to understanding the tunnel experience. That is to say that these mental models are not something 'we construct'. Rather 'we' are the mental models constructed by the brain. I have argued (Blackmore 1989) that consciousness is simply what it is like being a mental model and the sense of a separate self arises from the construction of a model of a separate self. In other words, the whole system produces a mass of models and we are just one of them. The normal state of consciousness is dominated by a stable model of self in the world. In the tunnel experience, the tunnel replaces the model of the outside world. It does not necessarily obliterate the model of self. However when the tunnel occurs as part of the NDE it may also involve the dissolution of the self model.

The dissolution of self is a profound experience with long lasting consequences. I think we can only understand the importance of near-death experiences and the tunnels which they often include if we are prepared to look at these life-changing qualities as well as the physiological basis of the tunnel form. The best kind of skepticism is critical of explanations which are untestable and waffly, vacuous and all-encompassing. But they should not simultaneously deny the impact or importance of people's experiences. I think that it will eventually be possible to have an account of the tunnel which understands its physiological basis but also the significance of the changing mental models to people's perceptions of self. I think it is no exaggeration to say that these experiences can be of a spiritual nature and lead to greater insight into the nature of self and the world. A skeptical approach which rules this out is not being true to the nature of the experiences as people report them. If this approach is right it implies that there is no real tunnel to another world, nor any evidence from the tunnel for survival after death, but the tunnel can be part of a profound and life-changing experience.

References

Blackmore, S.J. 1982(a), *Beyond the Body*, London, Heinemann.

Blackmore, S.J. 1982(b), Birth and the OBE: An unhelpful analogy, *Journal of the American Society for Psychical Research*, **77**, pp. 229–238.

Blackmore, S.J. 1984, A psychological theory of the out-of-body experience, *Journal of Parapsychology*, **48**, pp. 201–218.

Blackmore, S.J. 1988, Out of the body? In *Not Necessarily the New Age: Critical Essays*, Buffalo, New York, Prometheus, pp. 165–184.

Blackmore, S.J. 1989, Consciousness, *New Scientist*, 1 April, 1989, pp. 38–41.

Cowan, J.D. 1982, Spontaneous symmetry breaking in large scale nervous activity, *International Journal of Quantum Chemistry*, **22**, pp. 1059–1082.

Cookall, R. 1964, *The Techniques of Astral Projection: Denouement after fifty years*, Nothamptonshire, England, Aquarian Press.

Drab, K.J. 1981, The tunnel experience: reality or hallucination? *Anabiosis* **1**, pp. 126–152.

Dunbar, E. 1905, The light thrown on psychological processes by the action of drugs. *Proceedings of the Society for Psychical Research*, **19**, pp. 62–77.

Green, C.E. 1968, *Out-of-the-body Experiences*, London, Hamish Hamilton.

Moody, R.A. 1975, *Life After Life*, Covinda, Georgia, McCann & Geoghegan.

Siegal, R.K. 1977, Hallucinations, *Scientific American*, **237**, pp. 132–140.

Dr Sue Blackmore is a psychologist working in the Department of Psychology at University of Bristol.

Twitching Sticks

Anthony Garrett

Water divining, or dowsing, is the locating of underground water by individuals who walk over the search area, usually holding a forked stick in a particular way. In areas of low rainfall, water diviners can make a good living by telling people where to dig. There is no question that digging in these spots often produces a viable well.

To ask whether water divining *works* is an oversimplified question. What is at issue is the mechanism. Diviners often talk of underground aquifers and water courses. Except in limestone areas, this is nonsense. Rock below a certain level, called the water table, is saturated. Above it the rock is not saturated. If you dig to below the water table, anywhere, you will have a well. Depending on the porosity of the rock, the well fills quickly or slowly.

With practice, it is possible to learn where to sink a well for best results. In low-lying ground between extensive higher areas, called an artesian basin, the water table is nearer the surface. These areas can be found from contour maps alone. There are other more subtle pointers, such as vegetation patterns, which might be learned, consciously or unconsciously.

Diviners' sticks move dramatically in the hand at the places they advocate digging. Pragmatic diviners admit not to know why, and are satisfied with empirical success. This category also includes ancestral peoples who were able to survive in arid regions. Theirs is a tenable position, if unenquiring. Others claim psychic powers, or 'magnetic influences' of the water—nonsense, as any physicist will confirm. The stick is held tightly, in a 'sub-critical' position in which a small movement of the hand can cause a sudden large movement of the twig. The effect is dramatic, but it is perfectly reasonable that diviners, without being aware of it, tweak the stick at the best location according to the lie of the land.

This explanation was indirectly confirmed by experiments performed by conjuror James Randi in 1979–80, which rule out the psychic explanation. A network of pipes was hidden under a test area, and water passed through different pipes at different times. The diviners asserted in advance that they could locate the path of the flowing water. They performed at chance level.

In summary, experience, no matter how it is dressed up, is the best guide to finding water; and there is nothing psychic about the process.

This is the first in an occasional series of short articles in which physicist Anthony Garrett of the University of Glasgow discusses aspects of pseudoscience in non-technical terms.

Heaven and Earth

Michael Hutchinson

It may be a little late, but perhaps an explanation of the title I chose for this regular page may be in order. It comes of course from Shakespeare's 'There are more things in Heaven and Earth Horatio than are dreamt of in your philosophy'; a phrase which, along with 'Don't throw the baby out with the bathwater' is often used by believers of the paranormal. Indeed, it was used by Brian Inglis on LBC in March. I hope to prove that there are more things in this regular column than are dreamt of in the philosophy of Mr. Inglis and other supporters of paranormal claims.

Although not exactly a football fan, I do have the occasional look at results and league tables, and even watch some of the more important matches on television. One of the football teams whose fortune has especially interested me since about 1983 or 1984 is Birmingham City. It was about that time, with the club at the bottom of the First Division, that the manager discovered that it had been cursed by a gipsy. He therefore employed the services of astrologers and mediums in a mass of publicity to lift the curse and save the club from relegation. Although I cannot remember the exact sequence of events since then, I seem to recall that the club wasn't relegated that season. The lifting of the curse had worked. Or had it?

It must have been the following season when Birmingham City was indeed relegated to the Second Division, since when their fortunes have only got worse; they have now been relegated to the Third Division. Things might have been even more dire if the curse hadn't been 'lifted' though. They could now be in the Fourth Division.

Although not an avid football watcher, I must admit to being keen on motor racing. At a recent meeting at Brands Hatch I saw a saloon car which appears to have been sponsored by the Church of Scientology. On the front door in large letters was the word DIANETICS with 'The Book' in smaller letters underneath. When I saw this card lined up on the grid I immediately thought 'I hope it crashes'. This was completely out of character. Really! In fact, earlier in the day I had told my companion that along with the majority of motor racing enthusiasts I don't like to see cars crashing. That day proved me wrong, for on about the third lap the 'Dianetics' driver lost control at one of the bends and the car crashed into a barrier. I couldn't help laughing at the situation, which I am pleased to report only damaged the car, and not the driver. I suppose he has subsequently been invited by the Church of Scientology to attend an E-Meter session to purge him of any indiscretions of his previous incarnations.

Staying on a sports theme, I have noticed that snooker commentators regularly demonstrate an inability to evaluate evidence in much the same way as people do when recalling 'psychic' experiences. For example, in the World Professional Snooker Championship at the end of April, one of the matches was drawing to a close; the score was 12-11, with thirteen frames needed. When one of the players missed a shot in the twenty-fourth frame, a commentator said 'If x loses this match, we all know which shot lost it for him'.

This is obviously disregarding all the previous occasions in the match when the player missed pots which subsequently lost the frame for him. Many people can remember the final four or five years ago, when Dennis Taylor 'beat' Steve Davis on the black ball. But who remembers the other misses which Davis made which enabled Taylor to draw level after being some frames behind? Isn't this just the way that people remember the 'psychic' hits, while forgetting the misses?

In other situations too people can find it difficult to evaluate odds and perhaps end up making unneccesary psychic connections. Another example from snooker demonstrates my point. How often during the making of a high break have you heard a commentator make a statement about the quality of play or the total score possible, only for the player to immediately make a mistake. The commentator will sometimes take the 'blame', admitting that players often make errors following such remarks. Whether they are suggesting a connection, I don't know. But the situation is an interesting one, because it is precisely after a long run of successful shots that the commentator is likely to make such a remark. Likewise, the player at this stage is under increasing pressure, and liable to be increasingly tense, and is perhaps more likely to make an error than in the early stages of the break.

This is a good example of how a particular prediction describes what is in any case a reasonably likely event. People probably have precognitions of old people dying more often than of young people dying; or of air crashes when someone they know is about to fly. People are open to all kinds of illusions, but the only ones which we are commonly aware of are optical. I would be interested to hear from readers of the *British & Irish Skeptic* who have good examples to demonstrate ways in which people can be fooled by illusions of the other senses or by the brain.

Michael Hutchinson is secretary of the British Committee, and UK distributor for Prometheus Books.

Skeptic at large...

Wendy M. Grossman

Hear our prayers

Skeptics are frequently asked where they/we stand on religion. Generally, we say that we don't argue with people's personal beliefs, but if something—a claimed miracle, say—can be tested, we will test it.

A few months ago, B&IS reader Cyril James wrote to me asking if I could track down a reference he had seen in *New Scientist* to a Northern Irish study of the efficacy of prayer. I suggested he write to ask the author of the original piece. Recently, Mr James wrote again to say that the author—Martin Schatzman—had written back promptly and obligingly with details. Schatzman enclosed a couple of pages from P.B. Medawar's *Induction and Intuition in Scientific Thought*, published by Methuen, 1969 (and the American Philosophical Society, 1960). These refer to a study by Francis Galton in 1872. Galton's purpose in writing his *Statistical Inquiries into the Efficacy of Prayer* (published by the *Fortnightly Review*, 1 August, 1872) was, Medawar says, to show that a scientific study could be done.

Galton chose three different lines of enquiry. First, he examined the effect of prayers upon the longevity of the Queen and other members of the royal family (they are, one must presume, prayed for a great deal). Then he compared the rates of stillbirths between the devout and the professional classes generally. And third, he considered the fact that insurance companies make no inquiry into the devoutness of applicants for policies.

Galton found that, excluding accidental and violent deaths, in fact the Royal Family live a shorter time than the other classifications he examined. (In all fairness, I have to point out that the clergy live longest of all the groups listed in his table!) He compared stillbirths reported in the clerical newspaper *The Record* and in *The Times*, and found the rates the same. And Galton pointed out, 'How is it possible to explain why Quakers, who are most devout and most shrewd men of business, have ignored [the considerations of whether the insured-to-be is devout and prays daily], except on the grounds that they do not really believe in what they and others freely assert about the efficacy of prayer?'

Mr James adds that his wife worked for thirteen years as a night nurse in a cancer hospital, and noticed over time that prayers said by and for those under her care made no difference to their survival rate. A hospital chaplain Mr James heard on BBC Radio 4 had noticed a similar effect, and was disturbed to find, when he took careful notes, that he had confirmed it. Mr James finished up by commenting on the appearance of one of the British Archbishops on television, when said clergyman commented about prayer that, one, Yes you can pray, but don't expect anything to happen' and two, 'Just because you believe something doesn't make it true.' I have myself been told that 'you can't bargain with God,' and 'you can't just ask for birthday presents.' I remember a devout person I knew explaining: 'God won't always give you what you ask for—it might not be good for you.' (Do we know unequivocally that death is a bad thing? Remember the Afterlife.) In which case, since God knows what I need, why pray at all, except to say generally, 'Thy will be done.' Which, if God's up there, it will be anyway. One must presume, therefore, that the efficacy of prayer lies in the person's feeling of contact with Someone Up There who knows what's going on. In very hard times and frightening circumstances, that sense of reassurance may be a cause for atheists to envy the faithful.

Thanks to Cyril James for sending on the information.

Update on Marie Simone: Just as I predicted, Rachel Winston has had another letter from Marie Simone, the astrologer at Zodiac Lodge in Sutton, Surrey. Marie Simone is offering Rachel a '7-Element Futurescope, a '15,000 word, 365 daily Predictional and Directional FUTUREscope, with Tibetan TALLI Charm on necklace, RISING-Sign, MID-HEAVEN and Birth MOON-POSITION, 'STAR-CAST' LUCKY NUMBERS and JUPITER LOG-BOOK.' All this, for only £10! Marie Simone guarantees my money back if I am not satisfied with her 'prediction for every day of the year ahead.' She points out that she has reduced the price from £15 and she says, 'I know this to be quite unique.' Quite—she tells me if I'm really in a hurry I can 'save a trip to the Post Office by enclosing £10 in cash'. Or I can put my credit card number, address, and signature on the back of my cheque ('to avoid delays'). 'You are on my urgent file (please reply soon).' Do you know, she can tell my birth-sign from my birth-date in one second?

Wendy Grossman is the founder of the *British & Irish Skeptic*, and a writer and folksinger.

Skeptics in Bavaria

John Lord

A report of CSICOP's 1989 European conference

For the first weekend in May, over a hundred and fifty skeptics gathered in the spa resort of Bad Toelz, about thirty miles south of Munich, for three days of debate, discussion, and the exchange of ideas. The weather was splendid, and apart from one brief stormy downpour, the sun shone throughout. The town of Bad Toelz has a fairy-tale prettiness, with a long, curving high street that arches up a low hill towards the railway station. From the bridge over the Isar, the snow-covered Alps are seen glinting in the fresh morning light. This was the good news. The bad news was that the town's fortune (and it must be considerable) has been built not on tourism, but on some rather dubious health cures. To put it bluntly, the place is a den of homoeopaths, hydrotherapists and quacks, and every hotel comes equipped with its own massage parlour (in, I hasten to say, the nicest possible sense!) It was, then, with a delightful sense of irony that we gathered in the Kurhaus (the equivalent, I suppose, of the pump-room) on the Friday afternoon for our deliberations. We had come from four continents, and no less than ten European countries were represented. The first day was given over to chance meetings, informal discussion, arguing, and trading bibliographical references ('Yes, but did you see that article last June, where he claimed that ... ?'). The press conference was held in the early evening, and James Randi, the Guest of Honour, obliged the cameras by Gellerizing a watch.

On the Saturday morning, the Conference proper began, with opening speeches by Mark Plummer of CSICOP, and Professor Imgard Oepen, who chairs the Gesellschaft zur Wissenschaftlichen Untersuchung von Parawissenschaften (the GWUP), which had handled the organization of the Conference. Professor Oepen made the serious point that not all pseudosciences were a harmless bit of fun—people's career prospects could be blighted by inadequate personality tests (such as graphology), and some claimed health cures could literally make the difference between life and death.

To illustrate this point, the rest of the morning was given over to questions concerning fringe medicine. Professor Paul Knipschild, of the Royal University of Limburg spoke about the credibility of alternative medicine. He outlined the use of subjective probability to rate a method's credibility before actual clinical trials were carried out, and illustrated the technique by reference to iridiagnosis and acupuncture treatment. Dr Aulus, of the Centre Hospitalier de St Etienne, was unfortunately not able to be present, and his paper was read by Dr Claude Benski. He considered the work that had been done to replicate homoeopathic cures. Many of these studies were indeed suspect. To have any credibility, trials must be double-blind.

Dr Andreas Gertler, a forensic pathologists from East Germany, described the status of fringe medicine in the Democratic Republic. There, psychosomatic disorders were on the increase, and there was a growing disenchantment with conventional medicine. But although some fringe treatments, such as acupuncture were used, other techniques, such as iridology and radiaesthesia were virtually unknown. Professor B. Velimirovic (Graz University) anatomized New Age attitudes towards health and disease. He rightly identified Jung as the source of much irrational thinking, and pointed out the narcissism that lies behind much 'new thought'. Running simultaneously with these two papers was a German language session, in which Professor Martin Lambeck (Technical University, Berlin) spoke on Capra's New Age physics, demonstrating that Capra's view rests on a misinterpretation of the Einstein-Podolsky-Rosen paradox, and Professor Hans Schaefer, of Heidelberg, outlined the roots of emotional thinking and the longing for a mystical interpretation of the world.

The afternoon was also split into two parallel sessions: a German one, continuing the theme of fringe medicine (Dr Helga Velimirovic on psychic surgery, and Dr A. Ehlers on legal matters connected with unorthodox medicine), and an English one, which concentrated on creationism. Michael Howgate (University College, London) outlined the finding of specimens of *Archaeopteryx*, and took issue with Fred Hoyle's extravagant claim (published, for some reason, in the *British Journal of Photography*) that the British Museum's specimen was a fraud. Ulrich Thimm (a journalist from Giessen) sketched the extent of the creationist movement in West Germany. There are some very vocal evangelical groups at work: a creationist college had been founded, and there was a creationist museum. Finally, Dr R. Molnar (Queensland Museum) spoke on the Australian creationist scene.

The late afternoon was given over to dowsing and

to Earth Rays, which have recently caused a stir in Bavaria. Professor Rolf Manne spoke on the use of dowsers to locate survivors of avalanches in the Norwegian mountains. The method had scant success, but because it had been endorsed by the Red Cross and the Army, there were political issues, as well as purely scientific ones, to be confronted.

James Randi proposed a standard methodology for testing dowsers. It was important to ask the subjects what their expectation of success was (most, it seems, claim 100% confidence in their abilities), and to ensure that they were satisfied with the conditions of the experiment. And you should ask them 'What will you do and say if you fail the test?' The last paper in this session was given by Amardeo Sarma, the Secretary of the GWUP. He described the Munich Earth Rays Project, which was still in progress. It is alleged that there are water veins running underground, which occasionally intersect. They emit Earth Rays (or E-Rays), and dowsers can detect them. E-Rays, it is said, are a potential cause of sickness in humans. The Munich project had been given DM400,000 to investigate the rays (£125,000), and the GWUP was concerned that this money could be wasted on inadequately designed tests.

On Sunday morning, there was a discussion on how CSICOP could become more active in Europe, and Mark Plummer read a paper on graphology. Now that the use of the polygraph was discredited, employers were turning to graphology for screening potential employees. But different practitioners followed different systems, and there was no agreement on common standards.

The remaining sessions focused on philosophy and pseudoscience. Dr John Lord (Surrey University) spoke on 'Parapsychology: the suicidal pseudoscience', arguing that the very assumptions that parapsychology makes in its experiments effectively disbar it from arriving at well-grounded conclusions. Dr Curt Roslund explained how Swedish universities had a legal duty to combat the spread of pseudoscience. He and his colleagues offer a course (not only to undergraduates, but to the general public) on astrology, in which students are taught how to prepare and interpret astrological charts, and to test their interpretations critically.

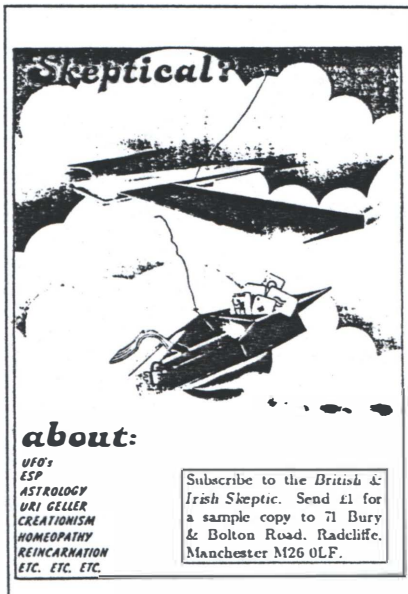
After lunch, there were two parallel sessions; in one Dr Claude Benski, Secretary of the Comite Francais pour l'Etude des Phenomenes Paranormaux, considered the two classic mistakes that can be made in interpreting statistical data (to accept a hypothesis, when it is wrong, and to reject one, when it is right). He added a third kind of error—to give the right answer to the wrong question. If a subject was cheating, then checking the statistics for psi was irrelevant. Dr Benski was followed by Dr Jean Paul van Bendegem (University of Ghent) who discussed the writings of a number of recent philosophers of science, and their attitudes towards pseudoscience. As well as considering Popper, Lakatos, Kuhn, and Feyerabend, he looked at the work of Larry Laudan, which could be used as the basis for drawing a new distinction between science and pseudoscience.

In the other meeting, Andreas Dill, a journalist from East Germany, traced the connexion between fascism and pseudoscience, drawing on the Nazis' use of pseudoscientific ideas to bolster their ideology. This did not mean, however, that those who accepted pseudoscientific ideas were proto-fascists. But both groups misused argument and reasoning. Dr David Fisher spoke last, giving an overview of the work currently being conducted in the United Kingdom which could be described as pseudoscientific. There was a surprising amount, but on investigation, not all of it could properly be said to be pathological. Some of it could, however...

This was a very lively and intellectually stimulating conference, largely because there were representatives from so many different backgrounds and disciplines. The organizers from both GWUP and CSICOP deserve the congratulations and thanks of the delegates, and special praise is due to the Secretary of GWUP, Amardeo Sarma, for his tireless efforts at simultaneous translation, ensuring that everything ran smoothly, and maintaining a sense of humour throughout.

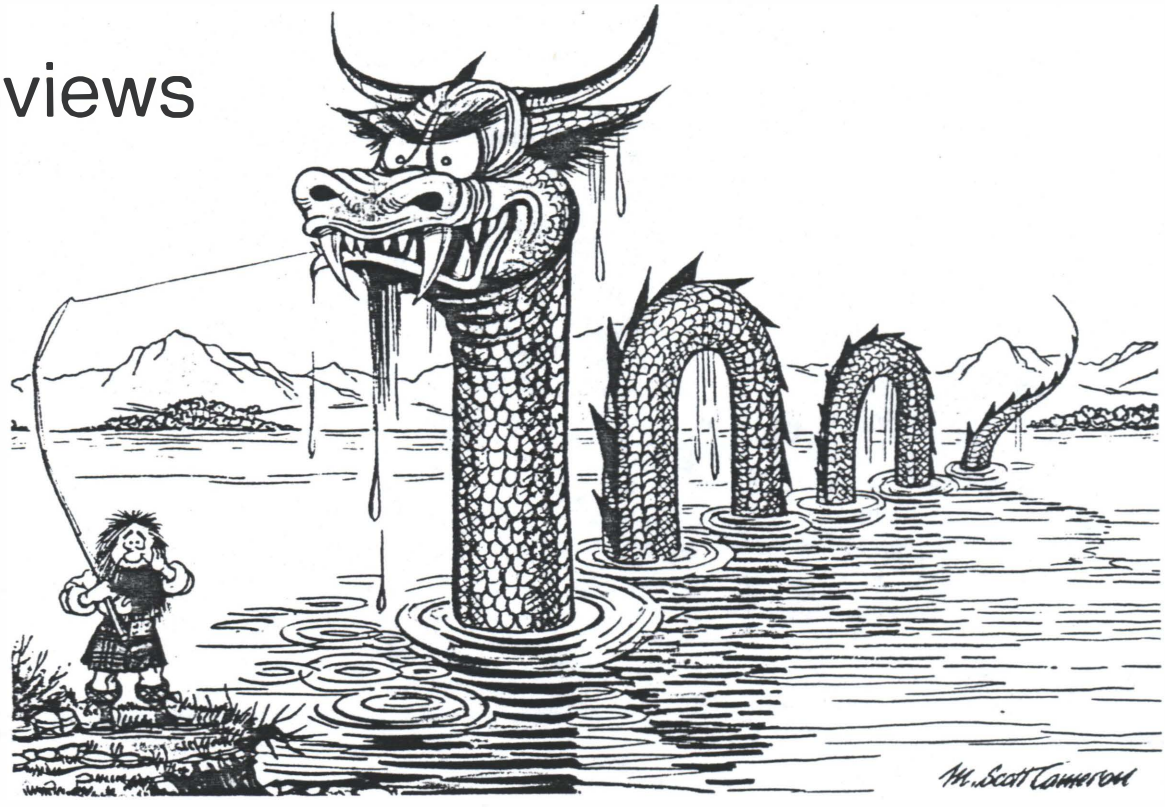
The hope is that a CSICOP European Conference will in future be held every two years, arranged in collaboration with each one of the national committees in turn. Those who were lucky enough to be in Bad Toelz will be looking forward to 1991.

John Lord is Senior Assistant Librarian at the University of Surrey. He was recently awarded his Ph.D. for a (skeptical) thesis on parapsychology.



Dr David Fisher has kindly provided us with some attractive A4-sized colour posters to help us advertise the *British & Irish Skeptic*. We would be pleased to supply posters free of charge to any readers who could place them in locations such as bookshops, libraries, students' unions etc. Please write to the editors for details.

Reviews



The Newsreader's Tale

Nicholas Witchell, *The Loch Ness Story*, Corgi revised edition 1989, £4.99, xviii and 238 pp.

This is a revised (large format) edition of the first Corgi edition published in 1982; it started off as a hardback by Terence Dalton in 1974. It is now thirty pages longer and includes an appendix (23 pp) by Dr Denys W. Tucker, once a Principal Scientific Officer at the British Museum (Natural History). The first and last chapters have been rewritten. It is difficult for a reviewer to be objective about an author who describes him in one short paragraph as a person he once met who was 'making notes for a book he was hoping to write ...'! No mention that the book was published; it is not even in the bibliography! I am also accused of ignoring eyewitness reports, a form of evidence that greatly impresses Witchell.

Sceptics are accused of ignoring inconvenient or difficult-to-explain evidence. Yet Witchell often ignores contrary evidence, or even contrary books (apart from mine, he ignores Binns's sceptical book). While he recognises that the photographs taken by O'Connor, Searle and Stuart were faked (the last has only recently been explained), he ignored (or is unaware of) recent claims that the Gray picture shows a dog swimming with a stick in its mouth and that the Smith film shows a post manipulated by two schoolboys. Also ignored is my analysis of the Wilson picture, showing the object in it to be smaller than previously thought. Nor does Witchell think that his readers deserve to hear my criticism of JARIC's report on Tim Dinsdale's famous film (which he misrepresents and wrongly claims was published by HMSO). He also omits the reservations later expressed by the team from the University of Birmingham regarding their 1968 sonar results.

However Witchell could not ignore the recent revelation that the underwater photograph taken by the Academy of Applied Science (AAS) in 1975, and which was alleged to show Nessie's head, probably shows a sunken tree stump! Clearly this is an embarrassment to him. In the 1982 edition of the book he ridiculed the idea that it showed a tree trunk and argued against that possibility. Now he has to admit that a mistake was made (but not by him) and that the Director of the British Museum (Natural History) aimed 'an uncommonly accurate blow' in claiming that it was 'a piece of tree'. Witchell has also revised his account of the AAS's 1972 pictures, especially the 'flipper' pictures. He has corrected several errors but made no concessions to those who claim that there is evidence of fraud.

Despite these revisions Witchell has boundless faith in Nessie and is certain that one day the monster-hunters will be 'proved right'. His misunderstanding of the nature and value of evidence and the distinction between such evidence and hypothesis permeate the book. With a legal training he is obsessed with witness testimony, and out of his depth with technical arguments. One would expect this from a newsreader; stories are what make news and the evidence is irrelevant! Consequently he accepts all sorts of stories without question. He has the maximum depth of Loch Ness wrong and repeats the old myth

that its level was raised six feet when the canal was constructed. He also makes the mistake of assuming that Loch Ness was once open to the sea and believes that the bones of dead monsters must lie on the bottom of the lake. He misunderstands the purpose of the Foyers power station and thinks that it is below water level. He misplaces the Mackay sighting and thinks that the Mackays owned the Drumnadrochit Hotel. He believes that Colonel Wilson (who took the famous 'Surgeon's Photography' in 1934) served in the Royal Artillery.

He misspells Adomnan (St Columba's biographer, whose story about a monster in L Ness he also accepts) and *Scot II* (the name of the British Waterways' tug turned cruiser). If these errors are a measure of his accuracy then we should pay less attention to the BBC's *Six O'Clock News*! The additions to this edition include ten pages describing the activities of Adrian Shine and his colleagues in the Loch Ness (and Morar) Project, although he does not mention this latter name. Also added is a brief account of the Edinburgh symposium (25 July 1987), one of the few Nessie events which Witchell did not attend.

Tucker's appendix ('The Zoologist's Tale') is mainly concerned with the circumstances in which he was dismissed from his post in June 1960 because of his undue interest in Nessie. It also concerns his vain attempts to recover his job.

Tucker's thoughts on Nessie exhibit a naive faith in evidence of doubtful value and demonstrate the foolishness of some scientists. Here a zoologist attempts to explain reports of the Loch Ness monster by assuming that there really is a monster, or a colony of them in the lake! The result is the view that Loch Ness harbours a breeding herd of *Cryptocleidus*, a plesiosaur which lived during the Jurassic Period 140 million years ago! Contrast this with the caution of five of his erstwhile colleagues who, of the photographs taken by the AAS, stated that they (the photographs) 'do not constitute acceptable evidence of the existence of a large living animal'. No wonder Tucker was dismissed.

Of the two forewords only that by Sir Peter Scott has been rewritten (to remove reference to the AAS evidence). Nevertheless the cover carries Scott's fanciful painting of two floating monsters! Neither Scott nor Gerald Durrell (the author of the other foreword) seems able to approach the subject in a truly scientific manner; neither can believe that there is no monster in Loch Ness.

Presumably an attempt to show how blind to evidence scientists can be, Witchell reproduces John Godgrey Saxe's poem 'The Blind Men and the Elephant' (in which each blind man deduces that the elephant resembles—in turn—a wall, a spear, a snake, a tree, a fan and a rope, depending on what part of the animal they touched). This suggests another story in which the blind men were allowed to touch a wall, a spear, a snake, a tree, a fan and a rope and are told that they are all part of an animal called an elephant (which is not there at all)! Evidence is merely data that are interpreted in a certain way. Witchell has not yet learned that there is more than one way to interpret data and that the interpretation depends on the prejudice of the interpreter. He has in fact yet to recognise his own prejudice for the existence of the monster. This is Witchell's story of Loch Ness; others tell a different tale!

—Steuart Campbell

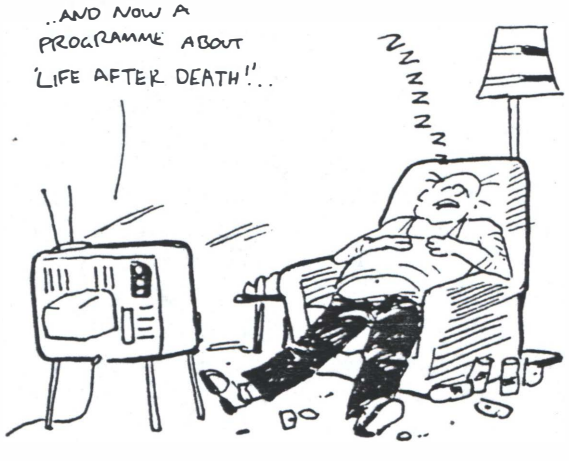
The Psychic Tea Room

The Psychic Tea Room, 9.40 p.m., 24 June 1989, BBC1.

Did anyone see this programme—from start to finish? I did of course. For two reasons. Because of the title (I can't resist the word 'Psychic'—it does something to me. Which proves the power I suppose) and because I thought it to be the duty of Hocus Pocus. Well ...

Apart from the beauteous plastic blonde with the big eyes, the people I must single out are the Stallion's mother; the chap who thought he was a dolphin; the ingenuous lady who was the 'channel' for Muko or Kumo and who was (presumably) induced to do his stuff by the lady shaking herself like a big dog just emerging from it's bath; and the soulful female who advised a ditto that she shouldn't marry her present lover because he was after her money, but that true fulfillment would materialise in a year's time, when she would be safe to marry.

The *p b* with the *b e*'s. She came on first and I think her role was to soften up the customers. She was so *sincere*—she spoke very fast and recited (some of) her successes. Very odd though and rather disappointing, that all her examples were dead, so there was no possibility of proving her wrong. She was at



a party, and when a man friend approached her she felt hot (!) and told him he would lose his life in a fire very soon, which he did that very night when his house burned down. So, how do we know that her awareness of heat really meant what she said—or that she told the guy—I suppose we just have to believe her. It's difficult not to believe a lady with *b b* eyes as big as hers. (The second *b* is for blue.) She also told someone they'd be shot and they were. Another strike we can't investigate. But she really did sound *sincere*.

Dolphins. The film (which by the way, was an execrable production) showed this rather poorly garbed and under-nourished looking—apologies Donald Rooum—unattractive male apparently asleep in a chair twitching from time to time and making vague swimming motions. Then the frame was full of dolphins leaping and cavorting in the ocean for the benefit of the camera and were the most convincing shots of the whole entertainment. Back to the man in the chair, who started to snort and gasp and wriggle about—like an impersonation of someone suffering from violent convulsions, rather sad really. He then spoke to what appeared to be a roomful of his followers about the freedom of the seas and the feeling of well being and satisfaction that permeates everyone who identifies with the spirit of dolphinry. Very illuminating. A number of people agreed that they felt some improvement from having been influenced by identification with a dolphin. Personally I think one would likely feel even better after some fish and chips.

Then came on the screen Sylvester Stallone's mum. Why she was in the film at all I can't imagine, but she undoubtedly was. She looked like a cross between those two late lamented ladies Margaret Rutherford in one of her fey roles, and Edith Sitwell. She was trying to contact her famous son on the phone and towards the end of the 50 minutes she did speak to him to tell him he shouldn't ride a motor bike in the Los Angeles traffic. But the reason for her being in the epic completely escaped me.

After that the chancellor for Muko or Puko or Kumo, anyway, a lady with a large audience, willed herself into a trance state and when peacefully at rest, without warning started to roar and grunt and gurgle and jump about in a quite frightening fashion. What she was supposed to be doing or talking about in a peculiar rough accent, I don't know. I tried hard—I just couldn't get the message. Perhaps I needed a channeller. But whatever it was it seemed to please her paying public as she went around making pleasant little noises and gazing into people's eyes and stopping and kissing the odd hand and fondling a head now and again. Astonishing.

Lastly, the soulful female of, to me, somewhat forbidding aspect. She simply played the fortune teller and told her client what she wanted to hear. They looked somewhat similar to each other.

And there were some frames of a glittering party attended by stars and starlets including Zsa Zsa Gabor whose fortune should, I would have thought, have been known to one and all a long time ago. And there were some exterior shots of Los Angeles and environs and flash backs and Stally's mum frantically trying to contact him at the phone.

What did it all prove? In fact—come to think of it—what *was* the object of the production apart from the money to be made from its distribution? I think it was puerile non-entertainment. But more than that, it demonstrated the true belief in fortune telling and magic of various kinds held by a large percentage of the population, which surely must be undesirable and not something to be publicised and pushed.

Have any of our readers views on this subject with which they'd care to acquaint us?

—Hocus Pocus

Channelling

Jon Klimo, *Channeling: Investigations on receiving information from paranormal sources,* The Aquarian Press, paperback, 384 pp, £7.99.

Channeling is supposedly a phenomenon in which otherwise ordinary people let themselves be taken over by, or receive messages from, another 'personality'—of course usually from a different dimension of reality. Although channels seem to be concentrated around Los Angeles, they obtain information from sources as varied as Lazarus, Archangel Michael, Ramtha, and the Space Brothers. And to convince us that the phenomena are real and powerful, we are warned that unless we have sufficiently well developed egos we should beware of channeling—madness might ensue. In the first of a number of accidentally entertaining 'one-liners,' Jon Klimo observes that 'exactly what is going on remains open to question.'

Klimo describes his viewpoint in a batch of particularly purple prose. He was stunned by the vastness of the world within, as if outer and inner were one and the same. He hungered for knowledge. His hunger took him on a voyage, through creative arts, philosophy, metaphysics, and the branches of science. He is a firmly entrenched interdisciplinarian.

There is a tiny, buried intellectual disclaimer—under 'criteria for language selection' we are given an excuse: 'I do not wish to burden you with qualifying phrases that could be included to ensure a tone of critical objectivity.' There is an alternative approach—if the subject requires so many qualifying phrases, perhaps it is not worth writing about? But, that would not bring the dollars in, would it?

The book oozes pseudoscience. The author claims to have included science among the stopping posts of his intellectual voyage to the channels. What a pity

then that he did not swallow more of the critical approach. He correctly points out that a possible validation of channeling could be based on scientific information of some worth being discovered in their outpourings. He proffers possible cases. 'Some of what is said is dense and complex' he writes. Sadly his science could not help him to add the missing adjective: empty. For example, James Hurtak channelled the following information from a couple of wiseguys called Enoch and Metatron:

> The valency of transfiguration takes place when the biogravitational energies which control the positive centropy [sic] of the DNA coding of intelligence are centred within a new spectrum of star energy controlling molecular-magneto-hydrodynamic fields. Every electron has a mathematical counterpart of Light threshold which survives the body. By measuring the wave form of this light threshold, the Higher Evolution can recode the consciousness of a human being ... by energising magnetogravitational fields around your body, your molecular structure can be changed and your body reconstituted on another wavelength of light.

In another presumably accidental sliver of comprehension, Klimo writes 'the ... Unarius Science books are filled with detailed descriptions ... of how to build devices that operate on vortical wave energy downstepped from higher dimensions than ours ... *no one seems interested in researching this rather intriguing material*'.

He offers more: 'Other investigators have found that some of the concepts and techniques in the channeled material can be understood only through the theories of the most recent "new science." ' What?

We read of the initiation of J.Z. Knight, who, having placed a pyramid on her head, experienced great things:

> When it fell down over my face, we started laughing until we cried. I lifted the pyramid up from over my eyes and looked toward the other end of the kitchen. Through my tears I saw what looked like a handful of gold and silver glitter sprinkled in a ray of sunshine. A very large entity was standing there ... He looked at me with a beautiful smile and said, 'I am Ramtha, the Enlightened One. I have come to help you over the ditch'.

What do you expect, if you use a device designed to mummify fruit as a hat?

The majority of the converts clearly have minds so open that their brains have fallen out. The entire edifice, the whole wordy enterprise, is impressive for only one thing—its mimicry of the language of science. It has much form but minimal content.

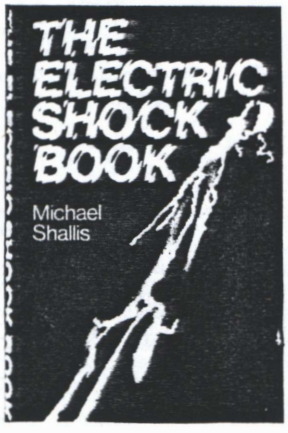
Philosopher Martin Heidegger referred to the problems of a society in which technical development had outstripped spiritual. We can find a tendency to spirituality in many secular folk. We all have within us the tendency to perceive the world with wonder at the emptiness and fury of our surroundings. Perhaps that is why they channel. But this not to add credence to the practice, or its significance.

There are so many examples, we read, that *surely* something important must be going on? There is another way of putting that argument—eat a cowpat, ten million flies can't be wrong. And for those with an interest in the tauro-scatological, there's plenty of it here.

—Dr Nick Beard

Shocking Stuff

Michael Shallis, *The Electric Shock Book*, Souvenir Press 1988, £12.95, 280 pp, hardback.



Anyone who has been unfortunate enough to connect himself between a 240 volt domestic supply and an electrical earth will testify (if he survived the experience) to the fact that electricity can be bad for your health. Less clear, however, are the effects on human beings of electric fields from high voltage cables or even domestic electrical equipment. In the United States, where it seems that increasingly the 'no hesitation, go to legislation' mentality prevails, a jury in a recent court case in Texas ordered that the Houston Power Authority pay damages of $25 million as compensation for ill health purportedly caused by power lines. This decision was subsequently reversed but the case is still in progress. In a similar case involving the New York Power Authority, land-owners are sueing the authority for more than $60 million for creating a 'cancer corridor' by erecting power lines over their lands. In the UK, the CEGB announced last year that they were to invest £500 000 in an investigation into the effects of their installations on health.

So what exactly is meant by 'electric field'? The

term simply describes a region of space in which an electric charge (such as can be created on a plastic comb by vigorous combing in dry air) will experience a force due to the presence of another electric charge. In practice, any voltage supply (e.g. a 9 volt battery) will have a (small) electric field which is strongest near the terminals in much the same way that a bar magnet has a magnetic field which is most intense near the poles (remember the iron filings experiment in school science class?) Most health concern, however, seems concerned with the *electromagnetic* fields which result from *alternating* voltages such as in our domestic electricity supply which changes from positive to negative and back 50 times per second. In this case the field can cause small oscillating electric currents to flow in nearby objects. This is, in fact, the basis of radio transmission, where (at much higher frequencies) electromagnetic waves are emitted by varying voltages (or more correctly oscillating charges) in the transmitting antenna. (At even higher frequencies, the electromagnetic waves are known as microwaves.)

In our modern technological society we are thus immersed in what has been referred to as an electromagnetic 'smog' consisting of radio waves and the fields which result from the electric wiring and domestic appliances in our homes as well as any nearby high voltage power cables. However, the amount of energy which is picked up by the human body from these sources in most domestic situations is very, very small and there is little or no reliable scientific evidence that demonstrates any health hazard at these low power levels.

There is however a considerable body of *anecdotal* evidence concerning the effects of electromagnetic fields on human health and well-being. This evidence is similar in nature to that for the efficacity of homeopathic remedies or the existence of UFOs. This is, of course, not to dismiss the possibility that low-strength electromagnetic fields may affect people but simply to emphasize that there is not yet much reliable scientific evidence for any effect.

A book which, in a rational and scientific way, examined the evidence for such effects would thus be a very welcome addition to the library of anyone concerned about environmental and avoidable causes of ill health.

The Electric Shock Book by Michael Shallis is quite unequivocally *not* such a book. The tenor of the book is set in the first paragraph of the preface: 'There were two ideas mulling around in my mind when I first met Norma. One concerned my own observation of what seemed like telepathic communication between people and computers and the other ... concerned the possibility of spiritual entities being created in electronic circuits.'

Norma is an unfortunate lady in whose presence light bulbs pop and who has difficulty breathing when electrical appliances are present. She is not alone in this book, however, as it is peopled by similarly suffering people including a man in Belgium who, when in a distressed mental state, is capable of telekinetically extinguishing street lamps as he passes on his bicycle. In some cases the unfortunate 'electrical sensitives' appeared to have genuine problems with undue charging up with static electricity but others appeared to have problems which were quite clearly of a psychological nature. For example one woman is described as being so sensitive to electricity that the very word 'electricity' made her extremely ill.

The book sets out to examine all facets of our interaction with things electric and is written in a credulous and uncritical manner typical of much New Age literature. The author unquestioningly assumes that anything from Kirlian photography, through William Reich's orgone therapy to pyramid power all work as claimed by their proponents. In this context he sets his concerns about the effects of electricity in all its forms on mankind. He describes, for instance, the work of a scientist, whom I know personally, into the 'energizing' of water molecules by electromagnetic fields of different frequencies so that the water gains homeopathic-like properties for neutralizing allergic reactions. The properties fade out after about two months. I find it almost impossible to believe Shallis' account of this research and can only hope, for the sake of British science, that his description is incorrect. This is not improbable as scientific accuracy is not a major feature of this book.

Having dealt with down to earth subjects such as crystal healing, the connection between 'Chi' and electricity and the silk threads which fall from the sky during displays of the *aurora borealis* Shallis turns his attention, in the final chapters, to more philosophical matters. He discusses his symbolic view of the world in which '... everything has meaning, everything is an expression of something of greater significance than the thing itself' and goes on to explain that 'The scientist and technologist is also a magician. In manipulating the physical world ... the psychic or spiritual worlds are also invoked'. What a load of baloney!

He also expresses his concern that computers are, in some way, evil manifestations of electricity which turn people into 'non persons' who become addicted to their machiavellian machines. He insists that typical computer games are concerned with violence and that this results from some intrinsically evil property of the computer: 'The medium is the message. The struggle of the will against the electronic machine lies in its electrical nature. It is a manifestation of the dark side of the force. It is as if there is an entity in the computer that is more than an anthropomorphised projection of the human mind.'

My advice with regard to this book? Don't waste your money buying it or your time reading it. Perhaps you should buy a computer game instead!

—**Steve Donnelly**

Letters

The British & Irish Skeptic welcomes letters from readers, and we reserve the right to edit submissions. Letters addressed to particular authors will be forwarded. Write to Letters, The British & Irish Skeptic, 71 Bury & Bolton Road, Radcliffe, Manchester M26 0LF.

Sago Trouble

Quis custodiet ipsos—ah—*incredulos?* On page 19 of the March/April issue David Fisher claims that 'Guam disease' is due to eating 'sago palm flour'. Oh dear ... As was made clear in a recent TV documentary, what does the damage is not palm sago but flour from cycads. *Chambers* and *Collins* both list them as a source of Sago flour, but cycads are not palms even though they look similar—they are ancient plants more closely related to the conifers.

John Brunner
Somerset

Tales of a Librarian

David Fisher's article (B&IS III.1) brought together many aspects of questions I am asked almost daily. Any librarian would read the article with a shudder of recognition. There is, it seems, an unspoken assumption: if I can ask a question, there must be an answer. Unfortunately, sometimes there isn't, or if there is, it is not the answer the enquirer wants.

The 'Who-invented-the-wheel' syndrome: these questions normally come from people entering competitions and they have three choices. The question is: 'who invented the safety pin, wheelbarrow, jet-engine, hot water tap, guillotine?' And our answer usually starts, 'The earliest example I can find noted in 'X' is ...' and then name a date several hundred or thousand years before the earliest alternative on the entry form. This is not always appreciated. Note though that in such cases the answer is not specifically that the date given is the earliest but only the earliest so far recorded. And what about the answer the enquirer wants? In the main these are for variations on the original invention usually patented so a name and date can be specified. This is often in the U.S.A., where the patent laws are not so strict as in Britain. That is usually the case with the safety pin question. No one wants to know about the Bronze Age safety pins, second millenium B.C. Chinese wheelbarrows or the Halifax gibbet (a gravity-driven beheading machine pre-dating the Guillotine by about two hundred years—and probably not the first of its type) which earned the town its inclusion in the trinity of Hull, Hell and Halifax, but that's another story. Nobody knows who invented the wheel but that does not make a very good answer.

The 'yes-and-no' syndrome: there's a whole range of question types here but the uniting factor is that it is possible to find more than one authoritative opinion and not always in agreement. Was St Peter the first pope? The answer depends on how the author defines 'pope'. Is fluoride harmful? Expert opinion can be found to support either side even now. (This question is sometimes presented as, 'Is fluorine harmful?'—We can answer that one.) Does homeopathy work? The better question would be, 'If it works, *how* does it work?'

In uncertain matters all that can be done is to give the different opinions and quote the authority for the answer. From then on it is up to the enquirer to settle the matter to his own satisfaction. The last thing we need in libraries is to be told that if that's the best we can do it's not good enough.

The practice of killing the messenger who brings the bad news may yet be revived in libraries.

Ernest Jackson
Hull

Strange one!

I wonder if a skeptical psychologist or clockmaker can help me to explain a puzzling occurrence? Since the arrival of digital clocks and watches in my home about ten years ago I began to notice that quite frequently, when I looked at a clock or watch, the display would read 1:11 or 11:11. This was at first mildly amusing but after a few months became extremely puzzling with the result that I would try to avoid looking at my watch when I thought it was near to one, or eleven o'clock. On average, I estimate that my husband and I, between us, had approximately 10 or so such occurrences per week. We are not compulsive time watchers and I would estimate that, even allowing for an increased probability of clock or watch consultation near mealtimes and bedtime, that we might expect to encounter 'all the ones' less than once per week.

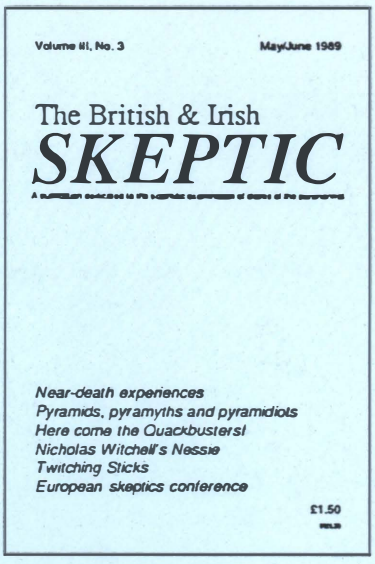
Anyone with a sensible explanation please let me know—otherwise I am going to avoid flying on a BAC 111 on 11 November 2011.

Jennifer Bradshaw
Manchester

Join us in investigating claims of the paranormal: UFO's, alien abductions, ghosts, faith-healing, astrology, moving statues, metal bending, crystals, mediums etc. All these and more are covered in the *British & Irish Skeptic* magazine, plus news, reviews, comment and much more!

The *British & Irish Skeptic* is published six times a year and is available from the **Manchester Skeptics, 71 Bury & Bolton Road, Radcliffe, Manchester, M26 0LF.** Annual subscriptions: UK £10; Europe £12; all other countries £14 (surface), £18 (airmail). Back and sample issues are also available—see below for a partial list of contents—at £1.50 per issue (surface mail).

Note: **Irish subscribers** can obtain the *British & Irish Skeptic* directly from **Irish Skeptics, P.O. Box 20, Blackrock, Co. Dublin, Ireland.** Annual subscription: IR£12; Single issues: IR£1.70.



Volume I (1987)

Nos. 1–4 Out of print.

No. 5 Abductions in perspective (Hilary Evans); Geller in Reading (Michael Hutchinson); Magicians, Mediums and Psychics–1 (David Alexander); Carl Sagan's Universe (William Steele); Science vs. Pseudoscience–1 (Peter O'Hara); I Saw a Dupe (Karl Sabbagh); *Reviews*: BUFORA Congress '87; Nessie in Conference; Geller and the *Sun*, The Vanishing Hitchhiker; State of the Art.

No. 6 Creationism in Australia (Martin Bridgstock); Noah's Ark Founders on the Facts (Stephen Moreton); Nessie Hunt (Steuart Campbell); Magicians, Mediums and Psychics–2 (David Alexander); Science vs. Pseudoscience–2 (Peter O'Hara); The Royal Nonesuch of Parapsychology (H.B. Gibson); Skeptics' predictions for 1988; *Reviews*: Is There Anybody There; Divine Creationism; Extrasensory Deception.

Volume II (1988)

No. 1 Geller's Sailboat (Frank Koval); Magicians, Mediums and Psychics–3 (David Alexander); Knock: Some new evidence (David Berman); Predictions 1988; Nelson's Emporium (Frank Chambers); Telepathy: a Mechanism? (Gordon Gray); The 'Alternative' in Alternative Medicine (Michael Heap); *Reviews*: Witchcraft, the BBC, and responsibility; Kilroy on UFO's; Soundings: the medium and the message; The Straight Dope.

No. 2 Doris Collins and the *Sun* (Wendy Grossman); Paul Kurtz Interview–1 (Wendy Grossman); State of the Art (Frank Chambers); S.G. Soal: Master of Deception (Chris Scott); *Reviews*: Psychic Festival; Near-Death Experiences; TV and Faith; Anti-Creationist Ammunition; Forty Years of UFO Reports.

No. 3 Findhorn (Steuart Campbell), Paul Kurtz Interview–2 (Wendy Grossman), The Case Against ESP (Anthony Garrett), Telepathy: a mechanism? No! (Steve Donnelly), Recognizing Pseudoscience (Sven Ove Hansson), *Reviews*: Assuming Randi's mantle; Mysteries of the Pennines; The Undoing of a Parapsychologist; The Speculative Inquirer.

No. 4 A Thorn in Geller's Side (Michael Hutchinson); Sprite; Skeptic at Large (Wendy Grossman); UFO days (Steve Donnelly); Comparative Astrology; Dreams and Visions of Survival (Antony Flew); *Reviews*: Things that go bump in the night; Mind over Matter; Mysteries of the Unknown; A Lack of Resonance; Missing Intruders.

No. 5 Is There Antibody There? (Richard Kay); Dowsing in the Country (Denys Parsons); The Saints and Martyrs of Parapsychology (H.B. Gibson); UFO Hunt (Marcel Hulspas); *Reviews*: Forbidden Knowledge, Reason to believe ... or not, The New Age, Life After Death, Seymour's Astrology, How to be a Contactee, Holistic Medicine at the BAAS.

No. 6 Bristol Psychic fair (Hocus Pocus); The Incredible Mr Newman (Frank Chambers); Skeptical Predictions for 1989 (Marjorie Mackintosh); Joe Nickell on the Shroud of Turin; Psychic Diary; *Reviews*: CSICOP '88; Bienveniste on 4.

Volume III (1989)

No. 1 Firewalking in Indonesia (Chris Wright); Randi in Manchester (Frank Koval); Complacently Irrational or Irrationally Complacent? (David Fisher); Alternative medicine and the question of evidence (Nick Beard); Psychic Diary; Skeptic at Large; Heaven and Earth; *Reviews*: Special report: the paranormal on radio.

No. 2 Perpetuum Mobile (Anthony Garrett); Joseph Newman followup (Frank Chambers); My Psychic Odyssey (Mike Rutter); Cosmic Crystal Crankery (Stephen Moreton); Some Rational and Irrational Feedback (David Fisher); Skeptic at Large; Heaven and Earth; *Reviews*: Hollywood Channelling; Skeptics Under Attack; Physics and Psychics; Two Casebooks; Ghost Train.

Printed by *Emjay Reprographics*
17 Langbank Avenue, Rise Park, Nottingham, NG5 5BU