

Volume 15 Number 3  
Autumn 2002

# The **Skeptic**



# Spooooooky!

## **The Psychological Reality of Haunts and Poltergeists: Part 1**

*Also in this issue:*

**In Search of Monsters?  
Secrets of Area 51  
Carbon Dating**

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

## *Hilary Evans' Paranormal Picture Gallery*

Illustration by William Sewell to Petrovich's 'Hero Tales of the Serbians'



### THE DISAPPEARANCE OF DEMONS

The decline of religious belief requires us to confront several controversial questions — finding a use for all those churches, switching from AD/BC to CE/BCE, and so forth. But few are as awkward as the disappearance of demons. So long as we could believe in The Evil One and his malevolent minions, we had someone we could blame for our shortcomings. Diabolical possession took care of countless psychological crises, and the plea — “The devil made me do it !” — was held to be sufficient explanation for a diversity of misconduct. And of course resisting, and even vanquishing the devil was a sure sign of grace, a standard feature of the Lives of the Saints and hero-legends.

The hero of this Serbian folktale — named only The Younger Son — is clearly having to put up with more than his share of harassment by the Powers of Evil. Fortunately, he has the good sense to invoke divine aid, and we can be sure that he will not only defy the demons, but also defeat his earthly foes, regain his rightful inheritance, slay the dragon, marry the princess and live happily ever after, so far as that is possible in Serbia.

A certain footballer named Beckham made headlines recently, saying he needed to conquer his inner demons. Well, maybe they're better than nothing, and they are what we must all of us make do with. But frankly, they don't compare with the real thing.

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



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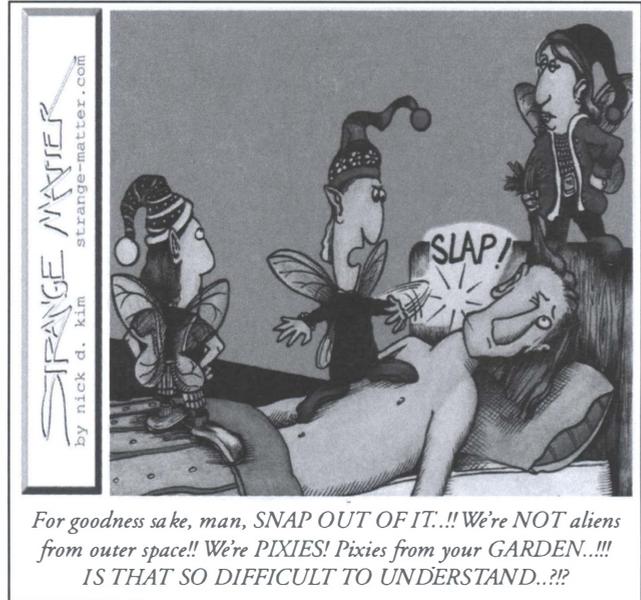
# Editorial

Kate Holden and Chris French



HELLO AND WELCOME to the Autumn 2002 issue of *The Skeptic*. In this issue we are running the first of a two-part article on the psychological reality of haunts and poltergeists by Rense Lange and James Houran. In this first part the authors summarise their work so far, and present a model which they believe can go some way to explain some people's interpretations of ambiguous events or stimuli as paranormal. Also in this issue we have a monster of an article by Charles Paxton which explores the often misunderstood world of cryptozoology. Finally, David Hambling invites us to re-visit "Area 51" and investigates how secret balloon projects may have contributed to the flying saucer myth. Add to this contributions from our regular columnists, plus the letters and reviews sections, and we hope that you will find this issue an interesting read.

Best wishes until next time, Kate and Chris



## Carbon Dating

**Interested in research yet sceptical about a love match? Why not try.....**

**QUIET** simple countrywoman, 65, into wildlife, flowers, gardening, home cooking and devil worship. WLTM similar male. No car, so within walking distance of Norwich. PO Box 2, *The Skeptic*.

**SINGLE** male, 18 years old, looking for experienced female mentalist to bend my spoon. PO Box 3, *The Skeptic*.

**KEEN** female pagan, 27, into travelling, nature and ritualistic sacrifice, would love to meet young male virgin. Goat farmers also considered. PO Box 6, *The Skeptic*.

**LONELY** male crop-circler, bald, overweight, optimistic, looking for Julia Roberts look-alike for late night larking about in cereal fields. PO Box 7, *The Skeptic*.

**ATTRACTIVE** male, 32, reads the stars, runes and ancient texts, would like to engage in physical pleasure with similar female before Armageddon on December 12th 2002. All letters answered if received before November. PO Box 9, *The Skeptic*.

**YETI-HUNTER** seeks female. Must be slim, brown-eyed brunette, capable of pulling a loaded sledge across a difficult

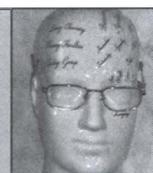
terrain. Own tent an advantage. PO Box 10, *The Skeptic*.

**NICE** girl, 25, with evil sister, seeks man with large crucifix who smells of garlic. All other criteria of no consequence. Please hurry. PO Box 11, *The Skeptic*.

**PESSIMISTIC** negative-thinking procrastinator, 45, seeks girlfriend. PO Box 13, *The Skeptic*. Actually, it'll never work so don't bother.

**ALIEN**, large round eyes but good night-vision, attractive fins. WLTM earthling of the female variety. Social life limited but keen on fancy dress parties. PO Box 14, *The Skeptic*.

## Hits and Misses



### The curse of...

There's a well-known effect called "The Curse of Hello!", in which you know your marriage/child/house/pet lizard is doomed when it appears on the cover of *Hello!* and in a glossy photo spread inside. So, as if to prove that you can get a story out of anything, *Observer* journalist Larence Donegan explored to see if the principle could be extended to the top American magazine *Sports Illustrated*. Among the "failures" featured on its cover: Michael Jordan (wife filed for divorce), the Steelers (planned a team boycott) and Anna Kournikova (famously, never won a singles title in her entire tennis career). *Sports Illustrated* liked the sound of itself as a jinx enough to run a story in its own pages on the possibility. The raw statistics: of the 2,456 covers since the magazine's inauguration in August 1954, 913 of the individuals featured on the cover had "verifiable misfortunes" in the "immediate aftermath", for a rate of 37.2 percent. Golfers had the worst luck: 70 percent. Followed by tennis players: 50 percent.

Now, let's think about this. That means, first of all, that slightly under two-thirds of the featured athletes or teams went on to do just fine. Steffi Graf, Andre Agassi, Pete Sampras. It also means that *anything* that went wrong — early loss, plane crash, injury — counted. In addition, the pool of athletes *SI* will consider featuring on its cover is relatively small. As winning a player as Martina Hingis was in 1997 (three Grand Slams and the final of the fourth), she's never been on the cover. The magazine heavily favours Americans and hot, new young stars (the very ones whose careers are most unpredictable). We're talking about celebrity athletes: highly visible, in an exceptionally

risky profession, doing a lot of travelling. It would be miraculous if a high percentage *didn't* have something go wrong. This is sports we're talking about. In any given week, there are probably 200 tennis professionals playing in four or five tournaments around the world, of whom all but four or five will lose. If *SI* couldn't produce figures suggesting it's a jinx, we'd have to investigate whether the picture editors were psychic.

### Delayed payment

Lawrence Wollersheim, the disaffected Scientologist who decades ago won a \$2.5 million legal judgment against the Church of Scientology when he took the organisation to court for mental abuse, finally collected the money on May 9, 2002. The case began in 1980, after Wollersheim had left the Church having spent some \$150,000 on Scientology practices. In 1986, according to the *Washington Post*, a jury awarded him \$5 million in compensatory damages and \$25 million in punitive damages. On appeal, the amount was reduced to \$2.5 million. The judgment was upheld by the Supreme Court in 1994. On May 9, the Church of Scientology of California suddenly pre-empted a scheduled hearing in Los Angeles by depositing a cheque with the court clerk for the amount of the judgment plus the accrued interest (at a statutory rate of 10 percent). The full amount came to \$8,674,843, much of which Wollersheim says is owed to the firms of attorneys who have represented him and other supporters.

Wollersheim, 53, now lives in Nevada and runs the anti-cult FactNet web site.

### Seeing ghosts

The historian Lord Dacre told the *Daily Telegraph* in April that he now understands how people see ghosts: he spent several years suffering through Charles Bonnet Syndrome (named for the Swiss philosopher who identified the condition, in 1760) before having a cataract operation that restored his normal sight. During the period in which he was going blind, he saw increasingly complex hallucinations created by his brain which, frustrated by the lack of visual input, created its own visual reality. One of his hallucinations was a classic ghost tale: he woke up at 3 am to find a statuesque woman standing at the side of his bed. She remained silent when spoken to, and then gradually dissolved.

"It's perfectly obvious to me," he told reporter Candida Crewe, "that [ghosts are] created out of the rubbish of the brain, in the same way as are the halluci-



nations of CBS. Ghosts are a sub-Charles Bonnet Syndrome.”

An estimated 13 percent of patients with vision changes brought on by macular degeneration experience CBS.

### The search for signs of intelligent life in the UK

The country seems to be going through some sort of intelligence crisis. There have been the usual stories about the lowering of educational standards, the inflation of test results, and the general moan about how kids these days don't learn like they used to. But years of these things have taken their toll, and now things are so bad that the BBC ran a nationwide IQ test in April. This follows a story in the definitely not-what-it-used-to-be *Sunday Times* claiming that research from UMIST shows that inspecting the lines on your palm can predict your intellectual ability. Of course, so can talking to you.

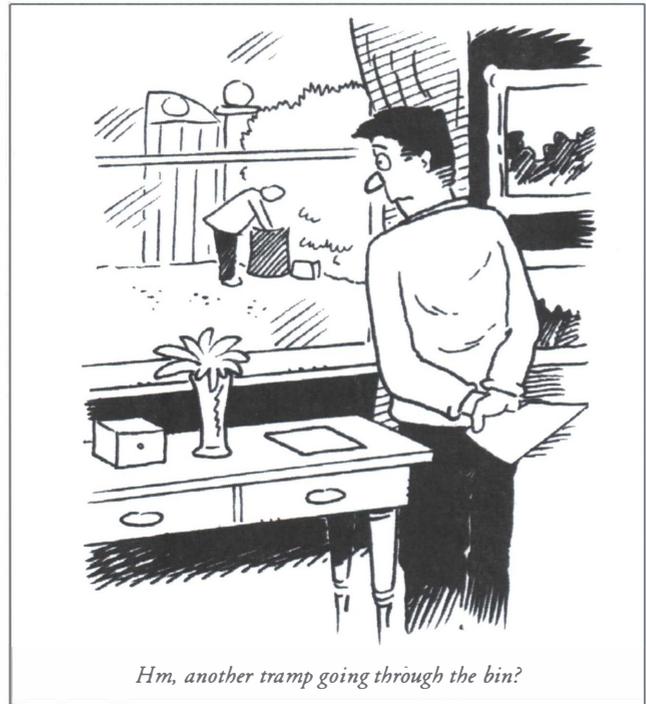
The BBC's "Test the Nation" managed to attract 9.1 million viewers, whose results were tallied into some nicely divisive statistics. West Bromwich Albion football club fans were brighter than Burnley fans. England is two points brighter than Scotland (think, pilgrims, is that a can of worms you really wanted to open?). People with grey hair are smarter than blondes and red heads. And so on.

Ultimately, it apparently transpires that the most intelligent people live in Leicester. At least, that's the BBC's conclusion. We all know the truth: the most intelligent people weren't watching.

### New forms of identity theft

Privacy advocates have long argued that identity theft — using "borrowed" national insurance numbers, addresses, credit card details, and the like — is likely to become the most significant crime of the next decade, particularly as much business moves online. The UK government's advisors on genetics are thinking ahead: they want to ban DNA theft. According to *New Scientist*, concerns about genetic privacy were ignited when private detectives raided the garbage belonging to multimillionaire film producer Stephen Bing (better known as the presumptive father of actress Liz Hurley's baby). DNA extracted from discarded dental floss was used to prove his paternity of the four-year-old daughter of California billionaire Kirk Kerkorian. In a peculiar twist, this child is the one who became famous when her mother, the former tennis player Lisa Bonder, aka the ex-Mrs. Kerkorian, demanded a record \$320,000 a month in child support. Bonder later admitted Kerkorian is not the child's biological father.

There are, of course, much worse possibilities than celebrity squabbles. Supposing the person raiding your



garbage is the insurance company you've just applied to? We're not convinced that making DNA theft illegal will help much, or that exempting police from the theft laws (proposed), or preventing the embarrassment of rich, powerful men who aren't interested in their own children, is a good reason for making laws. The 1997 movie *Gattaca* showed just such a world, in which genetic makeup determined all of a person's options in life. The committee should all go see it. It would be far better to focus on requiring the insurance industry to assess risks fairly and employers not to discriminate.

### Stephen Jay Gould, RIP

It was a shame to hear of the death at only 60 of Stephen Jay Gould, who managed that rare combination of science and popular appeal. Gould's demise means the only remaining famous paleontologist is the fictional and somewhat dim-witted Ross Geller of *Friends*. Our favourite of Gould's books is *The Mismeasure of Man*, which examined the history of intelligence testing. Fortunately for all of us, Gould survived his cancer long enough to complete *The Structure of Evolutionary Theory*. Published last March, the 1,433-page book took him some 20 years to write and is the summation of his contributions to evolutionary biology. Reports from those who heard him speak in the mid-1980s, by which time he had already been diagnosed with cancer, say that he worried he wouldn't live to finish that book or see the turn of the millennium. Happily, he managed both, even though in his 1999 book, *Questioning the Millennium*, he notes that our count to the year 2000 was a totally artificial construct.

## Skeptic at large . . .

Wendy M. Grossman



### The tea towel conspiracy

LEAD TIMES on *The Skeptic* are such that by the time you're reading this it's probably Christmas. But I'm writing it on June 5, while crowds of tourists and happy peasants are thronging London to celebrate the fact that through an accident of birth a 75-year-old woman has had a job for 50 years.

I don't mean to sound negative about this. It's just that in the last two days I've had requests from a number of Americans to buy and send them things like memorial tea towels ("two or three sets, please"), a "cup and saucer set for the Queen's 50th", and so on. I find it depressing. Because these are friends, and friends of friends, instead of shouting, "We fought a revolution over this, you know!" I have come up with the slightly less impolite, "I'm sorry, but it's against my religion to buy royal memorabilia." Still, it could be worse. They could be asking for football jerseys.

Speaking as a relative outsider, it seems to me that despite the pages of commentary in the press, there's really no debate about the continuance of the monarchy. No one's going to boot the 75-year-old QEII and family out of Buck House, at least, not during her lifetime, unless she does some awful thing we can't currently imagine. It would be a fascinating spectacle if, after a lifetime of uncontroversial duty she suddenly went off the rails and took up bungee-jumping, nude drinking in loud bars, and hanging out with louche playboys on yachts of questionable origin. But even then it seems likely that all that would happen is that pressure would be imposed to pass the crown on to someone less demented, if they could find him.

So I found the whole business rather depressing. It is, after all, profoundly anti-scientific for a country to retain as its head of state a member of a family who is there by accident of birth. If few can seriously believe they are genetically superior to the great unwashed masses, or that they are culturally or intellectually superior, the pageantry and protocols persist as if the belief that they have *some* kind of superiority were widely held. And maybe it is: perhaps there are also no republicans in a foxhole.

Otherwise, we could have a reality TV show or something to choose a replacement family. Along these lines, I do have an alternative to offer: my relatives. The family into which I was born sports a surprising number of people, mostly women, who know absolutely

everything about everything and are always right. I feel sure they could bring a more professional and dynamic level of argument to the corridors of power. In addition, my brother, who is really handy at electrical wiring, would help avoid future fires in the palaces. What, you think my family isn't good enough?

I have no doubt that the Queen is as diligent at reading briefing papers as they say she is, nor any doubt that the continuity of her doing so enables her to give sensible advice to her various temporary prime ministers. But people behave as though Prince Charles's support for homeopathy means something about its efficacy.

To be fair, the US equivalent, which is gradually supplanting the old reverence for aristocracy here, is the mad belief that anyone who is successful in one field must perforce be an expert on lots of others. And so we get movie stars pronouncing on pesticides, and business stars being accepted as credible political candidates. (That wouldn't happen here. Not because British people are less gullible than Americans — please! — but because they simply couldn't afford the pay cut. American politics pays better.)

It seems to me the enduring appeal of the royal family is not just a national affection for continuity and the familiar (and a certain pride in being able to put on a really good royal show), but an apparently inborn human desire for authority.

Traditional authorities have been much diminished since the 1960s. The number of adherents to the traditional religions is falling — but some of those are moving on to New Age beliefs, not agnosticism. Belief in astrology, graphology, "alternative" therapies, and even, Darwin help us, creationism — are all on the rise in Britain. Supporting those beliefs is the slow but steady loss of the understanding of science in the general population, exacerbated as the education system allows kids to drop subjects they don't like earlier and earlier. Today's scientifically illiterate 14-year-olds are tomorrow's scientifically illiterate politicians, newspaper editors, and civil servants.

Scientists themselves generally aren't reassuring souls. Ask a scientist whether the sky is blue, and he'll say, "Well ... are we talking daytime or night-time? Is it cloudy or sunny? Is there dust in the atmosphere at sunset?" And so on. People want simple answers; scientists reply with more complicated questions. The Queen's Jubilee can fit on a tea towel. We can't.

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

# The Psychological Reality of Haunts and Poltergeists Part I: An Initial Model

In the first of a two-part article (the second part of which will appear in issue 15.4), **Rense Lange** and **James Houran** summarise their work concerning hauntings and poltergeists and argue that ghostly outbreaks can tell us more about the living than the dead.

## Introduction

MANY PEOPLE WORLDWIDE report inexplicable experiences of apparitions, sounds, smells, sensed presences, bodily sensations, and physical manifestations that suggest paranormal origins (Haraldsson, 1985; Ross & Joshi, 1992). These phenomena are usually referred to as “haunts” when they seem tied to a particular location and as “poltergeists” when there is an outbreak of such phenomena in the presence of a specific person or persons (called a focal person or agent). All too often, the public is presented information on ghosts and poltergeists by self-styled “ghost hunters” or spiritualist teachers. In short, hauntings and poltergeists are a fertile breeding ground for quackery, deception, self-deception, frauds, and hoaxes.

We produced our edited book, *Hauntings and Poltergeists: Multidisciplinary Perspectives* (Houran & Lange, 2001; reviewed in this issue of *The Skeptic*) to provide a reliable anthology that discusses what is really known about these phenomena. The book has contributions by a variety of authors, each of whom has their own version of what constitutes hauntings and poltergeists — some take a believer’s perspective, some are sceptics. Regardless of one’s persuasion, we believe that it is instructive to see the case that can be made for each perspective. In our own chapter we conclude that ghostly outbreaks tell us more about the living than the dead. That is, these experiences offer a unique opportunity to study how magical thinking, hallucination, suggestion, and responses to subtle environmental stimuli operate in unusual, but naturalistic, settings. As we have repeatedly argued (Lange & Houran, 1998, 1999, 2001a; Houran, Kumar, Thalbourne, & Lavertue, submitted), we believe that the study of hauntings and poltergeists shares many features with other controversial phenomena such as contagious (mass) psychogenic illness, sick building syndrome, and other forms of alleged “envi-

ronmental illness” (Lundberg, 1998).

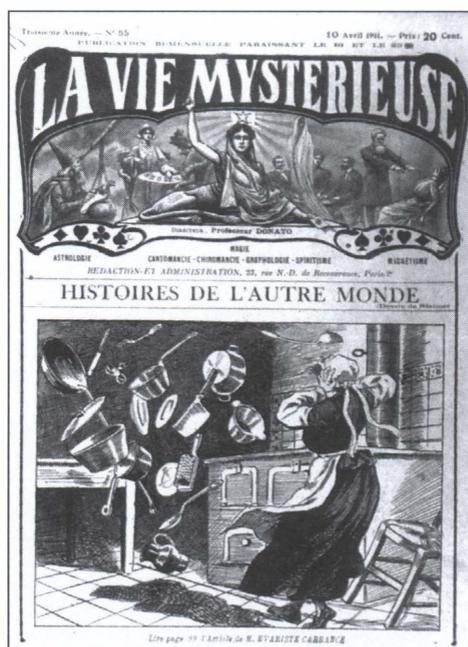
The preceding does not make hauntings and poltergeists any less mysterious or intriguing. Instead, it signifies hope that we can eventually understand and control these experiences, which often elicit deep, negative, and long-lasting effects on people’s lives. In short, we ignore all “for” and “against” debates, and rather try to determine what hauntings and poltergeists may teach us about people. The following summarizes our work thus far.

## Hauntings and Poltergeists as Social Facts

Poltergeist-like episodes may be characterized as clustered perceptions of ambiguous psychological experiences and physical manifestations that often focus around adolescents, and particularly females, during periods of psychophysical stress. Similar sensory experiences and physical phenomena that persist over long periods of time at a particular location are called hauntings (Roll, 1977; Gauld & Cornell, 1979). Hauntings and poltergeists have been reported in nearly all cultures throughout history, and their interpretation and the way people cope with them seem to be related to psychological, social, and cultural conditions (Roll, 1977; Hess, 1988). For instance, Carrington and Fodor (1951) collected incidents of “stone-throwing” poltergeists from as early as A.D. 530 up

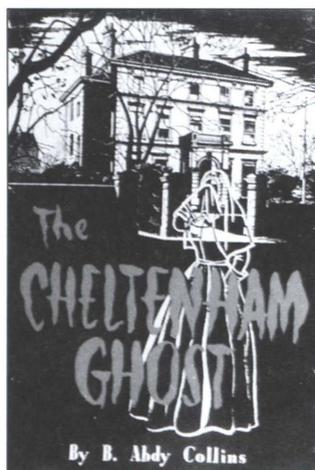
through the medieval period. Pliny the Younger (1751) wrote a report of a haunted house that came to his attention, and A. R. G. Owen (1964) published summaries of poltergeist-like episodes from the 19th and early 20th centuries.

Perhaps the first scientist to take these experiences seriously was the British physicist and chemist Robert Boyle. He encouraged a Protestant minister named Francis Perrault to publish a treatise on “the devil in Mascon,” which chronicled inexplicable noises and movements of objects that suddenly began in Perrault’s home in 1612 (Thurston, 1954). Modern cases have



appeared in mainstream journals (e.g., Leon, 1975; Persinger, Koren, & O'Connor, 2001), but most are published in the parapsychological literature. For example, McHarg (1973, pp. 17-18) reported a relatively recent case in which a 13-year-old girl in the Midlands, England, began having hallucinations of people:

*At first she saw an old man, who was taken to be her long-deceased grandfather. Then, in 1971, she repeatedly saw a young girl who claimed to have been strangled in 1808 and who wished to be buried in consecrated ground. . . Involvement of the rest of the family and of friends began when they witnessed ostensible poltergeist phenomena such as doors and curtains opening and shutting, objects moving. . . Apparitions. . . then began to be seen by others, both singly and collectively. These were not only of dead persons, but also of persons known to be alive. Dogs, bears, birds and devilish "horny things" were also seen – a coldness was usually experienced in the part of the body nearest to the apparition. Shared apparitions sometimes appeared, to different observers, to be differently dressed.*



exists concerning the aetiology of hauntings and poltergeists. The most popular explanation for hauntings and poltergeists is that of discarnate agency (Stevenson, 1972), i.e., the notion that an organism can survive bodily death. Since the evidence offered in support of these survival points of view is generally ambiguous and subjective (Gauld, 1977), Stevenson (1972) argued that discarnate agency is evidenced only by phenomena reflecting intelligence and purpose – i.e., as opposed to manifestations such as explosive sounds or random movements of objects. Even if this reasoning is accepted, however, it appears that cases involving apparitions (and therefore presumably discarnate agents) were not significantly more likely to involve “intelligent or purposeful” manifestations (Alvarado & Zingrone, 1995).

Although these types of experiences are depicted comically in movies like *Ghostbusters* and *Beetlejuice*, they often invoke fear and anxiety in real life (Rogo, 1974; Hufford, 1982). In fact, the development of the “Religious or Spiritual Problem” diagnostic code in the DSM-IV (see Turner, Lukoff, Barnhouse, & Lu, 1995), coupled with publications discussing how to address anomalous experiences in psychotherapy (e.g., Hoyt, 1980; Hastings, 1983; Kauffman, 1993; Peteet, 1994), reflects that “paranormal” experiences are increasingly recognized as legitimate issues in clinical psychology and psychiatry.

### Why Do People Experience Haunting and Poltergeist Outbreaks?

Some argue that this question is not a topic for serious inquiry and readily dismiss accounts as fraud or symptoms of mental illness. Indeed, deliberate deceit (see e.g., Owen, 1964) and self-deception (see e.g., Eastham, 1988) can explain some cases, and experiences typical of haunting and poltergeist outbreaks are also commonly encountered in schizophrenia and affective disorder. However, Cox (1961) noted that some fraudulent cases also contain manifestations that do not seem manufactured. Moreover, psychopathology is implausible as a general explanation since up to 10% of the people in the general population worldwide have experienced a ghost or poltergeist (Haraldsson, 1985; Ross & Joshi, 1992).

It should not be surprising that no general consensus

Psychokinesis (PK), i.e., the idea that anomalies result from interactions between shifts in the consciousness of living human beings and the physical environment (Roll, 1977; Radin & Rebman, 1996), can be seen as a contemporary version of the above. Although some experimental evidence for PK is suggestive (e.g., Radin, 1997; Jahn, Dunne, Nelson, Dobyns, & Bradish, 1997), the putative effect sizes are far too small to account for the large-scale phenomena often reported during haunts and poltergeist-like episodes (flying objects, moving furniture, etc.). It has been argued therefore that PK effects can be magnified under certain conditions (yet to be described), thereby producing dramatic physical phenomena. However, explanations invoking large-scale PK (also called macro-PK or recurrent spontaneous psychokinesis, RSPK) are moot until definitive evidence is presented.

Other researchers adhere to more conventional explanations. A nice summary is provided by Tandy and Lawrence (1998, p. 360) who listed “... water hammer in pipes and radiators (noises), electrical faults (fires, phone calls, video problems), structural faults (draughts, cold spots, damp spots, noises), seismic activity (object movement/destruction, noises), electromagnetic anomalies (hallucinations), and exotic organic phenomena (rats scratching, beetles ticking).” Interestingly, they also reported that standing air waves can elicit sensory experiences suggestive of ghosts, a natural cause which had not been documented previously.

As we have argued in several places (Lange & Houran, 1998, 1999, 2001a), there is a multitude of ambiguous psychological and physical phenomena which, given the proper context, can be interpreted as paranormal (for

extensive discussions of ambiguous stimuli, see e.g., Houran & Lange, 1996c; Houran, 1997a; Houran & Lange, 1998). Like other authors (e.g., Cone, 1995; Maher, 1988), we argue that a more fruitful approach to establishing a general theory of haunts and poltergeists is to study the affective and cognitive dynamics of people's interpretation of ambiguous stimuli. According to this view, ambiguous phenomena such as listed by Tandy and Lawrence become paranormal only after being interpreted as such against the backdrop of a shared human reality. In this sense, hauntings and poltergeist-like episodes are delusions. The remainder of this article outlines the body of empirical research that has led us to this conclusion. For additional information and more detailed discussions the reader is referred to Lange and Houran (2001a).

### Modelling Poltergeist-like Episodes as Delusions

While performing content analyses of accounts of haunts and poltergeist-like experiences (Lange, Houran, Harte & Havens, 1996), we were struck by the fact that many percipients seemed eager to draw very definite and far-reaching conclusions from very limited and ambiguous information. Although percipients may insist that their experiences reflect consensual reality, it became increasingly clear that the contents and modalities of a wide variety of paranormal experiences are consistently and predictably shaped by "contextual variables" in the environment. This was true not only for haunts and poltergeists; similar conclusions were reached in analyses of angelic encounters (Lange & Houran, 1996), deathbed visions (Houran & Lange, 1997a), and anomalous photographic effects (Lange & Houran, 1997a). For a meta-analysis of these studies, see Houran (2000).

Subsequent research (Houran & Lange, 1996a, 1997b; Houran, 1997c) indicated that percipients' experiences and beliefs concerning poltergeist-like phenomena also vary with their tolerance of ambiguity. Tolerance of ambiguity is an emotional and perceptual personality variable first described by Frenkel-Brunswick (1949). She described intolerance of ambiguity as the tendency to resort to black and white solutions characterized by premature closure, often at the neglect of reality. In essence, intolerance of ambiguity results in rapid and overconfident judgment of ambiguous stimuli or events. Budner (1962) considered tolerance of ambiguity as a motivating factor for individuals in social situations as well. In particular, he defined intolerance of ambiguity as the tendency to perceive ambiguous situations as threatening, whereas tolerance of ambiguity denoted the tendency to perceive ambiguous situations as desirable.

The question arose therefore how contextual vari-

ables and tolerance of ambiguity interact to guide percipients' perceptions of the paranormal. Integration is obtained by approaching the perception of poltergeists and kindred phenomena within an attribution theory framework – i.e., such phenomena are seen as delusions involving an interaction among paranormal beliefs, paranormal experiences, and fear of the paranormal. We extended earlier views on this topic (Kihlstrom & Hoyt, 1988; Maher, 1988; Reed, 1988) by incorporating contextual variables, and factors like percipients' age, gender, and tolerance of ambiguity into a single process model. This model was first proposed in Lange and Houran (1998; cf. Lange & Houran, 1999), and it is summarized by the path diagram in Figure 1. This diagram shows the nature and direction of the relations among these variables, as indicated by the directional arrows. For simplicity, only the signs (as indicated by the + and - labels), but not the magnitudes, of the various regression weights are shown. For instance, links of the form  $A \xrightarrow{+} B$  indicate that variable A produces an increase in variable B, whereas links like  $A \xrightarrow{-} B$  indicate that variable A inhibits variable B.

*Note: Summary of the findings in Lange and Houran (1998, cf. 1999). All links have statistically significant regression weights ( $p < 0.05$ , 1-tailed), as determined via structural modelling techniques. The links involving contextual variables are hypothetical and inferred since contextual variables were not measured simultaneously with the other variables.*

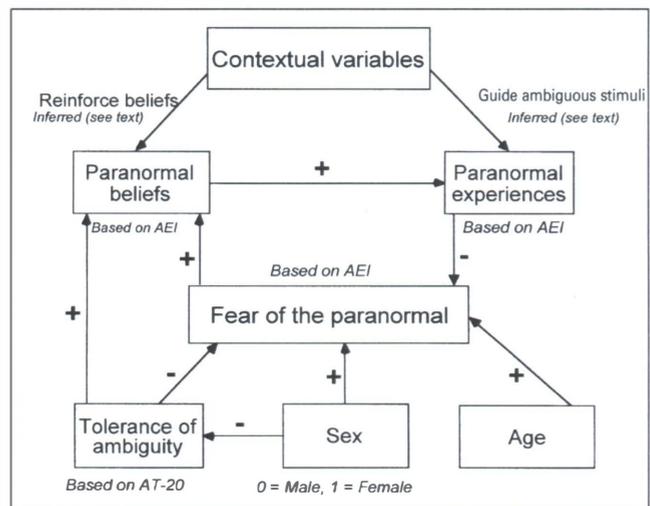


Figure 1: A Process Model of Poltergeist Delusions

The model in Figure 1 has been replicated in two separate studies reported in Lange and Houran (1998) and it is based on the responses of people who claimed to have had at least one haunting or poltergeist experience as originally defined in Lange et al. (1996, p. 757). Paranormal belief, experience, and fear were measured by the Anomalous Experiences Inventory (Kumar, Pekala & Gallagher, 1994), whereas tolerance of ambiguity was

assessed by MacDonald's (1970, p. 793) AT-20 scale. Although contextual variables are shown in Figure 1, they were not directly measured in the path analysis studies. Instead, their effects are inferred from the results of other studies (Lange *et al.*, 1996; Lange & Houran, 1996; Houran & Lange, 1997a). To facilitate the presentation of the model, three types of variables are distinguished:

### 1. Contextual Variables

Just as the same ambiguous round shape can be perceived as an orange or a cup of water depending upon whether the person is hungry or thirsty (Horowitz, 1975), so can an apparition be perceived as a demon, an angel, or a deceased loved one, based on environmental influences such as embedded cues, demand characteristics, symbolic-metaphorical references, as well as an individual's psychophysical state or prior beliefs (for a review, see Lange *et al.*, 1996, pp. 755-758). We found that the more specific aspects of paranormal experiences are congruent with contextual variables as well. For instance, a person in an empty ballroom might hear the sound of waltz music and see people dancing, whereas a person in a room with a prominent lavender hue might report the smell of lilacs. Moreover, the number of experiential modalities increased with the number of contextual variables. That is, when one contextual variable is present percipients might only *see* an apparition, whereas the introduction of additional contextual variables might induce them to *hear* or *smell* something as well.

Most of our work on contextual variables involved content analyses of percipients' personal accounts. However, it is not difficult to demonstrate context effects experimentally. For instance, in one study (Lange & Houran, 1997b) individual participants were taken on a tour of a performance theatre under renovation, and afterwards they completed an experiential questionnaire by Green, Parks, Green, Guyer, Fahrion and Coyne (1992, pp. 74-78). In the control condition the theatre was said to be undergoing remodelling, whereas in the "informed" condition the participant had been told that the theatre was haunted and to be aware of any unusual experiences. As expected, this manipulation elicited a considerably greater number of physical, extrapersonal, and transpersonal experiences relative to the control group. Since contextual variables guide the interpretation of ambiguous stimuli, Figure 1

shows a link from contextual variables to paranormal experiences. The link to paranormal beliefs was included because such beliefs are an integral part of the context. Our theatre experiment further showed that those in the "informed" condition experienced significantly more intense emotional responses, a finding that is consistent with the process described next.

### 2. Process Variables

Attribution theory explains delusions as a byproduct of a percipient's failure to find a standard explanation for ambiguous stimuli. In particular, such theories assume that certain intense ambiguous experiences may be interpreted as personally significant to the perceiver, and that a lack of a consensual explanation for these experiences leads to the arousal of fear. Often, such fears can be reduced through essentially "normal" reasoning. However, if no standard explanation can be found then contextual variables may suggest a paranormal explanation. Once fear of the anomalous is reduced in this way, the resulting explanation persists as a defence mechanism, thereby becoming virtually immune to persuasion and counter-argument.

The above account is consistent with the finding of the negative-feedback loop shown in the top part of Figure 1. According to this figure, any increases (decreases) in belief and experience are accompanied by a corresponding decrease (increase) in fear, thereby neutralizing the initial changes. However, variations in the environment provide a continuous source of ambiguous stimuli in need of an interpretation, and thus a person's beliefs and fears are unlikely to remain stable. Also, there is evidence that experiences, beliefs, and fears may be affected by self-reinforcing attentional biases at the social (Colligan, Pennebaker & Murphy, 1982; Wessely, 1987) as well as at the individual level.

For instance, in one study (Houran & Lange, 1996b) we asked a married couple to chronicle the frequency of strange or unusual events in their *unhaunted* residence for a period of thirty days. The observed events included complex and repeated movements of a particular object (a souvenir voodoo mask), erratic functioning of a telephone in the same general area of the house, and a mysterious voice. Although few anomalous events were observed over days 1 through 5, the frequency increased dramatically over days 6 through 15, only to die out thereafter. Since the distribution of events conformed to



the logistic growth curve typical of infectious processes, we dubbed the effect "perceptual contagion". Interestingly, research on real poltergeists also showed such clustering effects (Roll, 1968, 1969, 1970), thus suggesting that perceptual contagion may play a role in these cases as well (see Jones & Jones, 1994, p. 38).

Note that the negative-feedback loop in Figure 1 implies that beliefs directly induce experiences (and *not vice-versa*), and similar conclusions were reached in our research on death anxiety (Lange & Houran, 1997c). At first sight, these findings contradict Irwin's (1993) review of the literature indicating that a direct link between experience and belief cannot be excluded. However, this contradiction may be more apparent than real. *First*, although experiences lead to a decrease in fear through belief, beliefs are also fuelled by ambiguity intolerance. Thus, the net effect of an increase in paranormal experiences on paranormal beliefs may be negligible. *Second*, the presence of contextual variables affects paranormal beliefs and experiences simultaneously and in a similar fashion. It is not surprising, therefore, that belief and experience scales should show a positive correlation. *Third*, we believe that it is difficult, if not impossible, to induce paranormal beliefs without simultaneously introducing paranormal experiences, and *vice-versa*. Hence, the question whether beliefs or experiences are primary cannot really be answered. Instead, we prefer to interpret the circular relation between paranormal beliefs and experiences as characteristic of the delusional process.

### 3. Exogenous Variables

The bottom part of Figure 1 shows that paranormal experiences and beliefs are related to more stable characteristics of the percipients such as age, gender, and tolerance of ambiguity. That is, fear of the paranormal is greater for women, older people, and those with a low tolerance of ambiguity. Remember that anecdotal reports suggest that poltergeist-like experiences focus around young women (Owen, 1964; Roll, 1977; Gauld & Cornell, 1979). This notion is consistent with our



finding that being female is associated with a greater fear of the paranormal as well as a lower tolerance of ambiguity. Unfortunately, our samples contained very few adolescents and no measures of psychological stress were obtained, and it was not possible to verify the focusing effect in its entirety. However, Keinan (1994) has already shown that intolerance of ambiguity is associated with enhanced magical thinking, especially during times of stress. By contrast, those with a greater tolerance of ambiguity solve problems through logical analysis and are more successful in coping with stress (Kuypers, 1972; Parkes, 1984).

Figure 1 further shows that belief in the paranormal is both positively and negatively affected by tolerance of ambiguity, suggesting the existence of two different underlying processes. For instance, those with a high tolerance of ambiguity might consider poltergeists (and other paranormal phenomena) to be no more than an interesting or amusing curiosity. Thus, rather than inducing fear, paranormal experiences might inspire feelings of admiration, awe, or wonder in those with a high tolerance of ambiguity, perhaps not unlike the experiences of some artists (Zausner, 1998). By contrast, it would appear that a fear of the paranormal presupposes the perception of a clear boundary between what is "normal" and what is not. Hence, the attribution explanation summarized earlier should apply mainly to individuals with a low tolerance of ambiguity. Such individuals face the choice between two conflicting alternatives: they can maintain their preferred "normal" view of the world while incurring an increase in fear, or they can avoid this fear at the cost of having to accept an undesirable paranormal explanation. Paranormal explanations might be undesirable for a variety of reasons. Not only could such explanations threaten one's peace of mind, they might also lead to negative social consequences when expressed publicly.

*Part II of this article, to appear in the next issue, will present a more advanced model of the psychological processes involved in haunts and poltergeist cases (with a full list of References for both Parts I and II).*

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## Skeptical Stats

- Number of ships launched by the Queen Mother in her lifetime: **11**
- Cost of a five-pound bag of shredded US currency, from the US Treasury: **\$45**
- Guaranteed minimum value of original notes: **\$10,000**
- Number of beverage occasions, per day, identified by Coca-Cola as selling opportunities: **32**
- Number of people an April 2002 report on Internet fraud found had lost money in the Nigerian email scam: **16**
- Amount of money they lost, collectively: **\$354,000**
- Number of faxes sent to MPs as of 25 April 2002, via the online Fax Your MP services: **25,122**
- Percentage of malfunctions in new high-tech German cars that are due to electrical/electronic systems: **32.1**
- Amount of money former Scientologist Lawrence Wollersheim was awarded against the Church of Scientology in 1980: **\$2.5 million**
- Number of years it took him to collect it: **22**
- Number of taxicabs in New York City: **about 12,000**
- Number of taxicabs in New York City in 1930: **about 22,000**
- Difference in interest paid by companies on bonds bearing an Aa rating instead of Aaa: **about \$400 million a year**
- Length of time it takes a family of three to finish a 10 x 6.5 ft Tabriz carpet with 50 knots/square inch: **about 4 months**
- Number of carrier bags British shoppers use, per year: **8 billion**
- Number that represents, per capita: **134**
- Cost of the butter spreader on the gift registry for Liza Minnelli and new husband David Gest: **\$65**
- Number they asked for: **16**
- Percentage of the nuclear matter in today's universe that is *not* hydrogen or helium: **less than 2**
- Amount awarded by a jury to members of a Utah apocalyptic church when they didn't meet Jesus, as promised: **\$300,000**
- Amount covering the war in Afghanistan is expected to add to US network news budgets, per year: **\$50 million**
- Number of British children per year who contracted measles, pre-mass vaccination: **160,000 to 800,000**
- Number who died of it in an epidemic year: **more than 100**
- Number who consequently developed subacute sclerosing panencephalitis, causing brain damage and early death: **1 in 8000**
- Of five hours and eight hours, the amount of sleep per night that scientists at UC San Diego say is healthier: **5 hours**
- Amount charged by New York animal psychic, Joanna Seere, for a one-hour telephone consultation with a pet: **\$90**
- Average price paid by mobile phone companies for 3g licences outside the UK, Germany, and Italy, per capita: **\$65**
- Average price paid in the UK, Germany, and Italy, per capita: **\$441**

**Sources:** 1 Royal Web site; 2,3 <http://www.bep.treas.gov/store/section.cfm/73/435>; 4 *Independent on Sunday*; 5,8 *Business Week* (German Automobile Association ADAC); 6,7,9,10 *Washington Post* (<http://www.washingtonpost.com/wp-dyn/articles/A63143-2002May9.html>); 11,12 *The New Yorker*; 13 *Business Week*; 14 *Sunday Telegraph*; 15,16 *The Independent*; 17,18 *alt.showbiz.gossip*; 19. Hyperphysics, Georgia State University; 20 *Deseret News*; 21 *The New Yorker*; 22,23,24 *Guardian*; 25 *Independent*; 26 *Independent*; 27,28 *Business Week*

*Thanks for clippings to Rachel Carthy and Barry Karr.*

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# In Search of Monsters?

Charles Paxton writes in defence of cryptozoology.

LOCH NESS MONSTER — bunkum; yeti — a Himalayan bear; Bigfoot — a man in a monkey suit. In *Why People Believe Weird Things*, Michael Shermer [1] compiled a little list of “popular ideas” without scientific support and included amongst other things “Bermuda Triangles, Astrology, ghosts ... UFOs, monsters ... cryptozoology ... Bigfoot”. Well, Shermer may well be right about many of the things on that list but as there are people who call themselves cryptozoologists, it would seem that the empirical existence of cryptozoology (no self-styled cryptozoologist uses a hyphen) cannot be in doubt. Of course Shermer meant that some of the *claims* of cryptozoology can be called into question but even that does not necessarily mean the *methods* of cryptozoology are unscientific or invalid. But what actually is cryptozoology?

This is a bit of problem, as different people seem to have conflicting views. Cryptozoology does have an “official” definition. Unfortunately it is not very useful. The term was first coined by the “father of cryptozoology” Bernard Heuvelmans (author of such exhaustively researched massive tomes as *In the Wake of the Sea-Serpents* and *On the Track of Unknown Animals*) and he translated it loosely from the Greek to mean “the science of hidden animals”. However, by hidden he didn’t mean either too small to see or that the animals buried themselves; no, Heuvelmans meant the animals were unknown to science. This, as any cryptozoologist would point out, is very different from unknown *per se*. In 1988 [2] Heuvelmans elaborated on the point; cryptozoology is “the scientific study of hidden animals, i.e. of still unknown animal forms about which only testimonial and circumstantial evidence is available, or material evidence considered insufficient by some.”

Obviously the latter statement of Heuvelmans implies that cryptozoologists are always going to disagree with someone, *by definition!* This disagreement might not only be about the physical existence of an animal. Heuvelmans also suggested that “hidden” could mean that the species might be recognised but its range both in space and time might not be fully known to science.

So cryptozoologists are interested in the indirect evidence for the existence of unknown animals. Of course, this is not an end in itself. The ultimate goal of any cryptozoologist is to obtain unequivocal evidence (mostly, but not always, a corpse), to allow formal scientific description and recognition. Once a corpse has been formally described then the animal should cease to be of cryptozoological interest, although strangely, as we shall see, this is not always the case.

The cryptozoologist’s interest and use of indirect evidence can be similar to that of those who believe in visiting alien spacecraft and non-corporeal supernatural entities. Cryptozoologists rely primarily on eyewitness testimony. Furthermore, just as general disproof of

ghosts and aliens is impossible, it is difficult to disprove the existence of Nessie or Bigfoot (although in the former case you can get damn close to undermining its existence on ecological grounds). Cryptozoology often, like many pseudosciences, appeals to myth and folklore as evidence. It also has advocates that tend to ignore evidence against the existence of a particular mystery animal or *cryptid*, to use the jargon. There is however an important distinction between cryptozoology and, for example, ufology. The basic assumption underlying cryptozoology is neither irrational nor improbable; the list of the world’s fauna is not complete. Discoveries of new animals are still being made — and these new animals are not just microbes or insects; they can be ever so slightly larger things like whales (described in 1991 and 1995), giant stingrays (1990) and sharks (1981) [3]. Therefore the probability of the imminent discovery of further large animals, especially in the marine environment, is not minuscule; given a number of (potentially dubious) caveats and extrapolations about human knowledge it may even be calculable [4].

Unknown species are being seen by zoologically qualified observers. For example, scientists on whale surveys in the eastern Pacific have observed a beaked whale (*Mesoplodon* species B) which differs from the existing known species and may represent an unknown species of whale; or it could be a living specimen of the little-known beaked whale *Mesoplodon bahamondi* which was only described in 1995 [5]. So cryptozoology does have an empirical footing firmer than most other fringe topics based upon eyewitness testimony. Unlike the potential existence of homeopathic remedies, ghosts or astrological influences on mankind, the existence of unknown animals does not undermine or even tweak the fundamentals of physics, chemistry or biology.

In my experience, most cryptozoologists do not believe and never have believed that cryptids are supernatural in origin. They are open to the idea of observer error and misidentification, although they probably have a higher view of observer accuracy than the average reader of *The Skeptic*. There is a fringe which believes in supernatural origins of Bigfoot, Nessie and the Great Sea Serpent but these individuals are avoided by mainstream cryptozoologists and increasingly they give their own subject its own title, the delightful neologism “para-cryptozoology” [6].

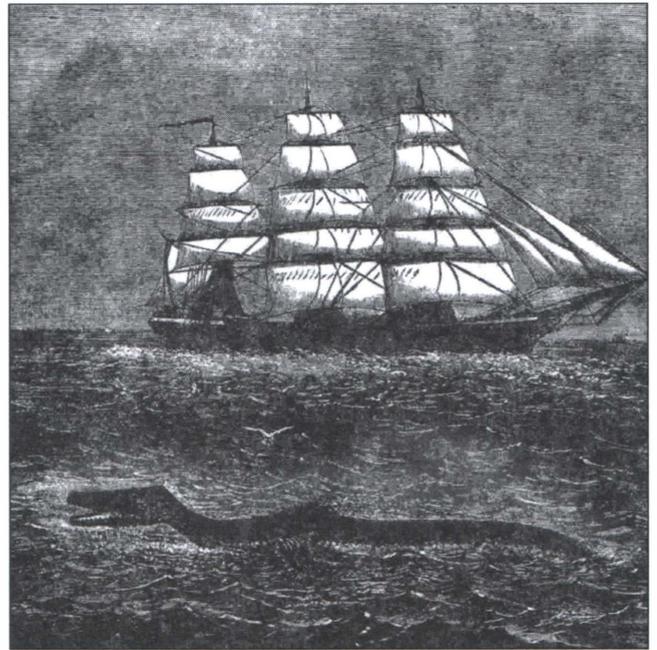
Cryptozoology may use eyewitness testimony but this is not by any means its sole source of data. Several cryptozoologists have argued that any deductive technique that could be used to predict the existence of animals would be cryptozoological. The French cryptozoologist Michel Raynal [7] presents the prediction and subsequent discovery of the Madagascan subspecies of the moth *Xanthopan morgani* as a triumph of the cryptozoological method. In 1862, Charles Darwin pre-

dicted in *On the Various Contrivances by which British and Foreign Orchids are Fertilised by Insects* the existence of a long-tongued moth in Madagascar. Something had to be availing itself of the nectaries of the orchid *Angraecum sesquipedale* because otherwise there would have been no fertilisation and the plant would have become extinct. The nectaries were 28.6 cm long, with only the lower 3.6 cm filled with nectar. Later authors speculated that the mystery moth would have affinities with the mainland African *X. morgani* as this group of moths was characterised by long tongues. In 1903, forty-one years after the original prediction, the subspecies *praedicta* was found in Madagascar. If such a prediction is cryptozoological, then this would cover all cases where the existence of a new zoological species may have been inferred prior to the discovery of actual physical remains.

If cryptozoology was based solely on studies such as these it would have a high claim as a scientific sub-discipline of zoology, or at the very least, if not strictly scientific in the experimental sense, to be at least scientific in the sense of the rigorous systematic collection of data. The problem with this argument is that the people who actually discovered the moth published their work as zoology and might, if anything like most present-day zoologists I know, have run a mile rather than describe themselves as cryptozoologists. This case of course occurred before Heuvelmans had coined the term "cryptozoology". A more pertinent example would be the recent observations of another unknown species of beaked whale from the eastern Pacific. This species had been seen at least as far back as 1983 [5, see also 8] and referred to in the marine mammal scientific literature as *Mesoplodon* species A [9]. Separately there was physical evidence of a new species of whale in the form of various body parts that had appeared in the Peru region since 1976. Finally in 1991, Julio Reyes and his colleagues described a new species of toothed whale *Mesoplodon peruvianus* [10]. Only recently has *M. peruvianus* become well enough known for Robert Pitman and his co-workers [8] to argue convincingly that *M. peruvianus* actually is *Mesoplodon* species A. However, none of those involved in this story have, as far as I am aware, described themselves as cryptozoologists.

Furthermore, by Heuvelmans' extended definition of cryptozoology outlined above, any extension of the geographical range of any recognised animal could be considered cryptozoological. Thus even more conventional zoologists would find themselves described as cryptozoologists. There would be no distinction between the predictive zoology of discovery and cryptozoology.

The trouble is the formal definition of cryptozoology (and its extension above) doesn't accurately describe what most self-styled cryptozoologists actually study. The few journals and magazines of cryptozoology are not crammed full of discoveries of just any old new species of beetle or even (my own personal favourites) fish. Only news of new species of slightly odd or large animals seems to make it. *Giant* geckos get in, new species of small lizard do not. An out-of-place mammal might get a men-



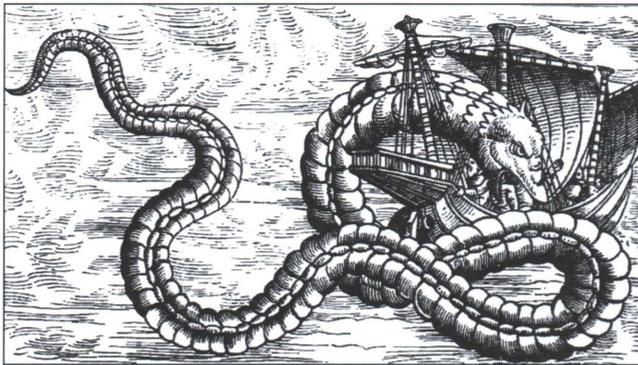
tion, kangaroos in Scotland for example, and any news of certain known animals (e.g. the giant squid *Architeuthis* sp.) will almost certainly be reported on, although not others, cattle or dogs for example.

Of course much of cryptozoology concerns evaluation of evidence prior to the discovery stage. Some cryptozoologists go out and actively hunt for Bigfoots, Nessies and the Mokele-Mbembes (allegedly, a large reptilian inhabitant of the swamps of central Africa). The more bookish sort peruse ancient tomes, artefacts, or even buildings for evidence of unknown animals known to the ancients. Some analyse travellers' tales and the traditions of indigenous peoples. Most commonly of all, there are those who seek to collate, interpret and analyse testimonial evidence from observers who have claimed to have seen, and sometimes filmed, monstrous creatures as yet unknown to science.

So does any definition link those that claim the all-inclusive scientific basis of cryptozoology and the sometimes more unsystematic collectors of information? In my view there is one definition of cryptozoology that does take in this wide church and does reflect the interests of the cryptozoologists. It relies on looking at not only what cryptozoologists do but also what attracts their attention.

The animals have to be weird (like the coelacanth *Latimeria* sp.), perhaps on a once prolific but now pruned branch of the tree of life, or they have to be odd for their type (giant squid etc.). So perhaps cryptozoology is the study of weird (misshapen, ugly?) little-known but potentially exciting (and often big for their type) animals. This isn't a great definition, but it is accurate. Of course there is a shorthand for this: cryptozoology is the study of *monsters*.

Just as some skeptics would take delight in my definition, some cryptozoologists would be horrified. Both groups would feel that such a subject of study is perhaps improper and intellectually dubious. I disagree; I don't use the word "monster" pejoratively at



all. The validity of cryptozoology rests on its methods, not on the subject of enquiry. How rigorous is cryptozoology? This varies.

Clearly cryptozoologists collect a lot of data from a variety of different sources, but it is often not systematic nor is it normally collected in the light of an hypothesis and hence it may not constitute “scientific study”. This is not necessarily a problem. Data unsystematically collected can still be amenable to scientific scrutiny by other workers, and the journals of cryptozoology do contain a little quantitative analysis of photographic and testimonial evidence. For example the 1987 edition of *Cryptozoology*, the irregularly-appearing but peer-reviewed journal of the International Society of Cryptozoology, contained a quantitative analysis of the famous Wilson Nessie photograph [11] (although admittedly the analysis was subsequently criticised by British skeptic Stuart Campbell [12] and the photo itself has been subsequently revealed as a hoax [13]).

Of course sometimes cryptozoologists collect data sloppily, or more commonly interpret their data without any critical evaluation or any consideration of Occam’s razor. What this normally means is that the unassignable, be it sightings or sounds or even I suppose smells, can be taken as evidence for unknown species rather than simply incomplete information.

However, what the very best cryptozoologists do very well is dig up and evaluate very obscure information from very obscure sources. This could include newspaper reports from the far corners of the world or obscure references in ancient travel books. In this way cryptozoology has more in common with history than zoology. The Canadian (crypto)zoologist Ben Roesch [14] has compared it to Natural History. It also has similarity to an historical science like palaeontology. Odd specimens/accounts/artefacts turn up that have to be interpreted in context and are often subject to re-evaluation. Cryptozoology, as actually done by the most methodically rigorous cryptozoologists, is an intellectually valid and exciting area of study. But often there is little quantification and data are not always interpreted in the most parsimonious manner. A cryptozoologist will pay lip service to the idea that alternative simpler hypotheses should be considered when evaluating eyewitness claims of encounters with unknown animals, but will not always accept them. For example, in his epic book on sea serpents mentioned above Heuvelmans gave the following quotation concerning a

strange animal washed up on the Norwegian coast:

*Anno 1744 one Dogfind Korsbeck caught (sic), in the parish of Sundelvems on Sundmoer, a monstrous fish, which many people saw at his house. Its head was almost like that of a cat; it had four paws, and about the body was a hard shell like a lobster’s: it purred like a cat, and when they put a stick at it, it would snap at it. The peasants looked upon it as a Trolld, or ominous fish, and were afraid to keep it; and consequently, a few hours later, they threw it into the sea again. [15]*

Heuvelmans seemed puzzled by this account and speculated that it may have been a (presumably juvenile) giant marine otter but it seems to me, rather obviously, to have been a turtle.

Another problem that cryptozoology has is that many of the assumptions of its data acquisition have not been put to rigorous test. Is there any reason to believe the ancients would have known about still living species that are unknown to us today? Are secondary sources for eyewitness testimony reliable? In primary accounts, are observers accurately recollecting an anomalous (*to them*) animal? How good are people at recognising whether an animal is unknown to science? Are cryptids only seen under certain conditions? Is it possible to predict when and where unknown animals may be seen? It is on these sorts of questions on which the validity of cryptozoology as a method rests.

Cryptozoology isn’t a science but that doesn’t make it an invalid form of study. History is not science but it is still a rigorous form of intellectual endeavour. Nor does the fact that cryptozoology is not currently a science mean it won’t be in the future. Cryptozoology is slowly becoming self-critical. *Cryptozoology* was full of criticisms of published studies. Other recent articles have even criticised the conclusions of the “Father of Cryptozoology” himself [16]. A new generation of (crypto)zoologists is suggesting that more attention be paid to pertinent psychological [17] and palaeontological [18] literature. People lie. Hoaxes happen. Eyewitness testimony is often flawed. Large unknown predators don’t generally exist where there is no food to support them. Sixty-five million year old fossil species really are unlikely to be alive today.

Skeptical criticism can only be a good thing for any discipline, including cryptozoology. With a few notable exceptions there has not been a sustained look at monster accounts by sceptics; easier targets seem to be preferred. The plausible (but not necessarily probable) nature of many of the claims of cryptozoology means that a dismissive, dry sceptical approach simply will not work. More than any other fringe subject, there really is the chance of some startling discoveries and some of these may well be anticipated by cryptozoologists. In the future there will be monsters...

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▶ **Charles Paxton** ([charles.paxton@virgin.net](mailto:charles.paxton@virgin.net)) is a fishery scientist at the University of St. Andrews who despite writing a book on sea monsters in his spare time, isn't actually sure if that makes him a cryptozoologist or not. Web page: [www.sea-monster.org](http://www.sea-monster.org)



## SKEPTICS IN THE PUB

Speakers: TBA

*Skeptics in the Pub* is an evening held once a month (in a pub, strangely enough) for anybody who has an interest in, or is skeptical about, the paranormal. Each month an invited speaker gives a talk on their chosen specialisation. The talk is followed by an informal discussion in a relaxed and friendly pub atmosphere. The event is held at the **Florence Nightingale Pub, Westminster Bridge Road, London**. Entry fee is £2. For further information, such as details of forthcoming meetings and travel directions, please contact **Nick Pullar 07740 450 950, [nickp@coleridge.co.uk](mailto:nickp@coleridge.co.uk)** or log in to <http://www.skeptic.org.uk/pub>.



## Rhyme and Reason

Steve Donnelly

### Science and Society

THERE ARE a number of reasons for my belief that a sane and liberal society needs to have a scientifically and technologically literate population. The first one is that, together with the woolly tree-huggers, I believe that man needs to be in harmony with his environment. But the environment that we inhabit in the 21st century (at least in the first world) is a highly technological one. Rather than interactions with the natural environment, for many of us the daily round is made up of encounters with the internet, mobile phones, computers, automobiles, television sets and other constructs of metal and plastic with which our ecosphere is increasingly populated. And, rather than concerns about the predatory habits of the sabre-toothed tiger or the scarcity of edible roots and berries, ours tend to focus on issues such as the advantages and dangers of nuclear power and GM foods or the potential hazards of microwave radiation from mobile phones. I would argue, therefore, that just as Neanderthal man needed to be clued up on the way in which his environment functioned in order to live in harmony with it, so 21st century man needs a similar level of understanding of his high-tech, largely urban environment.

My second reason is perhaps a more fundamental one: it is possible to adopt many possible belief systems in an attempt to arrive at an understanding of the way in which the universe functions in all its magnificent complexity. But almost all such systems, from that of the Aetherius Society to Zoroastrianism, are dead ends. They have led to little or nothing in the way of beneficial developments for society nor do they have any genuine predictive powers which might enable us to gain insights into new phenomena. In my view, the only belief system that has led to clear, beneficial developments is scientific rationalism. OK, there have been non-beneficial developments also — perhaps the world could have done without the atom bomb (although historians might argue its pros and cons) — but, at fifty years old, there is a high probability that I for one would not now even be here if it weren't for developments in medical science arising out of this system. The scientific world-view has also given us an immense and detailed insight into the workings of the universe — from the bizarre quantum mechanical behaviour of tiny particles to the formation of the galaxies.

Following on from the second reason, my third reason is that a scientifically literate society is less likely to be afflicted by zany philosophies based on the outpourings

of charismatic individuals, ancient sacred scriptures containing revealed truths or the word of God as directly received by one guru or another. A grounding in the scientific method should enable an individual to develop and follow a rational argument and to avoid the non-sequiturs, illogicalities and acceptance of God's infinite mysteries that pepper many other philosophies. Good quality scientific education may be one of our main defence systems against the continual attempted encroachment of what James Randi has described as "magical ways of thinking."

It is in this context (as well as that of my own professional concerns) that I note the difficulties that university departments of science and engineering are having all over the UK. A series of three articles by Will Woodward in the *Guardian* [1] reported that both the difficulties recruiting students to science and engineering disciplines and the woefully inadequate government funding for research, following the latest national research assessment exercise, have resulted in severe financial shortfalls for science and engineering departments in 17 universities, including my own. The consequences of this will be significant job losses amongst academic staff in many institutions leading, in some cases, to the closure of departments. Even worse, the 17 institutions listed in the *Guardian* may only be the tip of the iceberg. And, whilst it takes only a few months to close down a chemistry or mechanical engineering department, it may require a generation to start up the activity again in a society that has ceased (even temporarily) to value these activities.

To add insult to injury, a number of the institutions which may soon no longer be offering BSc degrees in physics, chemistry, biology or BEng degrees in the traditional engineering disciplines are beginning to offer BSc (yes, Bachelor of *Science*) degrees in areas such as alternative and complementary medicine. A brief perusal of the web pages of some of these institutions reveals that, instead of courses in traditional sciences these future scientists (and surely with a BSc degree one has the right to use this descriptor) will study homoeopathy, chiropractic, Indian head massage and reflexology. Which will be the first university to increase their undergraduate recruitment by starting a BSc in Astrology, I wonder?

*Note:* [1] See articles by Will Woodward, *The Guardian*, May 20, 21 and 22, 2002.

## Philosopher's Corner

Julian Baggini



THERE ARE MANY THINGS a private education will give you in Britain. For instance, it is widely believed to foster a life-long interest in cruel or perverse sexual practices, and it certainly does provide a fast-track to many powerful networks. Whether or not these are good things is a matter of dispute. But one undoubted benefit private schooling does seem to bring is confidence.

When the British state schoolgirl Laura Spence was turned down for a place at Oxford, one reason the admissions tutor cited was that, typically for someone of her background, she lacked confidence. Clearly not interested in boosting it any further, he told her to go elsewhere.

Perhaps Laura should be thankful for being taught an important life-lesson early, for it is certainly the case that the difference between success and failure is very often down to confidence. Call it what you like, but people with front, cheek, 'presentation skills' or nerve do get ahead while their more modest or unconfident peers fall away.

Take a friend of mine who got his first break in journalism by simply walking into a newspaper office and hanging around as though he already had a job there. He went on to write a book with a decent advance attached on a subject he only had an unimpressive first degree in. This is a man who, on being told that someone he had just met was going to a dinner function the next week doesn't just ask if he can come along – he asks if he can bring a friend. It's not that Mr X is cock-sure, nor that his success has nothing to do with his abilities. It's just that he carries around with him a presumption that every door he passes is open, whereas for many others there is an equal and opposite presumption. The greatest single predictor of which presumption a person has is, I suggest, their educational background.

I'm a convert to the benefits of confidence, while still retaining a sharp distaste for the arrogance that is born of its excess. Getting the right balance is not just important for increasing one's life chances, it is also important for thinking well. The reason for this is that there are very few areas where we are experts. However, we cannot always suspend judgement on topics outside our expertise. Parents, for instance, have to decide to give their children a combined measles, mumps and rubella vaccination. Most are not medical experts, but they have to have an opinion nonetheless. They are forced to take a stand on something they know rela-

tively little about.

Even when action is not required, our desire to understand the world around us often creates a cognitive need to make a decision that involves us reaching beyond our core competencies. There is little or nothing any of us can do about the Middle East, for example, but we still find ourselves needing to reach some kind of judgement, however provisional, about the rights and wrongs of the Israeli and Palestinian actions. We can't – and probably shouldn't – just suspend judgement and leave it to the experts in international relations.

There is a continuum with, at one end, those subjects about which we know a great deal and are fully qualified to make informed judgements about, and, at the other, subjects of which we know nothing and about which we should shut up. In the middle lies a vast grey area.

It takes a certain amount of intellectual confidence to go into this grey area and make your own mind up, but this confidence is, I think, desirable. We value being the guardians of our own opinions and retaining some autonomy over what we believe and we can only have this if we are willing to make up our own minds about a range of issues we are less than experts about. However, overstep the mark and you get arrogance – a blind belief that we know best despite not being experts. The dividing line between confidence and arrogance here is very blurred.

The really interesting question for me is how much arrogance, rather than confidence, is sloshing around, especially in the professions and where important decisions are made. Consider this anecdote. At one conference a colleague of mine got into a discussion with a philosophy lecturer about Richard Dawkins. This lecturer was full of criticism for Dawkins. It eventually turned out, however, that he had never read any Dawkins in his life and his opinions were all based on — apparently specious — hearsay. Is this lecturer a rare aberration or is his misguided confidence in his ability to form opinions about subjects he knows little about all too typical of his profession? My fear is that he is not atypical enough. He, however, with an excess of confidence, is at least getting ahead in his profession. Laura Spence, with her deficit, very nearly fell at the first hurdle. The intellectual risks of over-confidence are great, but the social costs of under-confidence are perhaps greater.

Julian Baggini edits and publishes the quarterly *The Philosopher's Magazine* (<http://www.philosophers.co.uk>). and is co-author of *New British Philosophy: The Interviews* (Routledge).

# Secrets of Area 51

David Hambling explores how secret balloon projects may have contributed to the flying saucer myth.

DEEP IN THE NEVADA DESERT is a military base so secret that it does not officially exist. This is the fabled Area 51, a place where the US Air Force allegedly keeps its flying saucers, which have been built using technology from crashed alien spacecraft. It has been featured in the *X-Files* and the film *Independence Day* and is a standard fixture in UFO mythology and in conspiracy theories of the *New World Order* variety.

The Area 51 itself is real enough. It is a test centre for secret aircraft and hosted the U-2 and SR-71 spy planes as well as the F-117 stealth fighter, and has recently attracted attention because of a strike by civilian security guards. When we look closely at the myth we can tell that although strange things may be afoot — and in the air — they do not necessarily involve aliens or weird science.

The latest twist on the Area 51 story comes from Nick Cook's book *Zero Point* (reviewed in *The Skeptic* 14.3). Cook is an experienced aerospace journalist with the prestigious *Jane's*, which lends the story some weight. According to his version, the secret technology comes from Nazis rather than aliens, but otherwise the story is the same, including the assertion that the US government is suppressing technology which could provide unlimited free energy for the world.

One of Cook's key pieces of evidence is a secret 1947 memorandum by Lt General Twining, listing six traits for the flying discs sighted in UFO encounters:

1. metallic or light reflecting
2. no trail
3. circular or elliptical
4. formation flying
5. no associated sound
6. level speed above 300 knots.

Twining states that "it is within the present US knowledge ... to construct a piloted aircraft which has the general description of the object above which would be capable of an approximate range of 7,000 miles at subsonic speeds." At this point Cook was so astonished that he spilled his coffee, convinced that he had found proof that the military was hiding something big. And so it was.

## Project Skyhook

In 1947 the US Navy started Skyhook, a secret project which involved lifting scientific instrument packages to the edge of space using giant balloons. Traditional materials were unsuitable, so the balloon envelopes were made from a new plastic called "high-density polyethylene" — as in the ubiquitous polythene bag. The balloons were over a hundred feet across and the height of a twenty-storey building. These were zero-pressure balloons which changed shape with altitude. At maximum height the balloon adopted a teardrop shape; at lower levels it could look like a saucer or a giant jellyfish.



Under some lighting conditions they were highly visible when the plastic caught the sun and shone like metal. This led to a string of UFO sightings; on occasion missing Skyhook balloons were tracked by following flying saucer reports in local media. The official cover was

that they were weather balloons, but since these are usually about 20 feet in diameter it was an unconvincing lie.

On January 7th 1948, Godman Air Force Base in Kentucky received reports of a UFO. A Sgt Blackwell spotted it himself from the control tower, describing it as "an ice cream cone topped with red". Four F-51D Mustangs *en route* from another base were directed to investigate. One did not have sufficient fuel and broke off. The Mustang is not pressurised, so the pilot needs bottled oxygen; two of the others also broke off when they ran low while climbing to approach the object.

The fourth pilot, Capt. Mantell, believed he had enough oxygen and continued the pursuit.

"It's above me and I'm gaining on it. I'm going to 20,000 feet." These were his last recorded words. Shortly afterwards contact was lost and his plane went into a dive and crashed.

"F-51 and Capt. Mantell Destroyed Chasing Flying Saucer" was the *Louisville Courier* headline.

An official report on the crash stated that Mantell "... lost consciousness due to oxygen starvation ... the aircraft then began a turn to the left due to torque and as the

wing drooped so did the nose until the aircraft was in a tight diving spiral. The uncontrolled descent resulted in excessive speed causing the aircraft to disintegrate.”

It was suggested that Mantell had been chasing Venus or another astronomical object, in spite of the fact that the two other pilots thought the target looked like a balloon. Some two months after the crash the first public announcement was made of the existence of Skyhook, but it was only years afterwards that flight records were released that showed that a Skyhook balloon had indeed been in the area on January 7th. Needless to say, some still maintain that this was a cover-up of an alien craft shooting down a US fighter.

Even after Skyhook went public, other projects remained top secret. These included the balloon spying program, which was given a priority rating equivalent to that of the atomic weapons projects.

### Project Genetrix

While Russian agents could roam America freely, the USSR remained an enigma to US intelligence. Before spy satellites there was no way of finding out what lurked in the Russian wastes. How many missile silos were being built, how many airfields, submarine bases, nuclear processing plants? Everything was concealed behind the impenetrable Iron Curtain.

A few reconnaissance overflights were made in stripped-down RB-47 bombers, but these could not venture too far across the border during these “accidental” incursions.

Balloons offered an alternative. In 1947, the RAND think-tank suggested that jetstreams, narrow ribbons of air moving at high speed in the upper atmosphere, could carry a balloon clear across the USSR — and it could take pictures as it went. (There was a precedent for long-distance balloons in the Fugo, incendiary balloons launched against the US by the Japanese during WWII). The idea seemed feasible and the Genetrix balloon spying programme was born. Technical problems meant it did not become operational until 1956.

The Genetrix gondola was the size of a refrigerator and weighed almost 200 kg, so it required a balloon almost the size of Skyhook. Most of the weight was taken up with a set of cameras which photographed a broad swathe of countryside on either side of the balloon. A photocell ensured that the device started taking pictures at dawn and continued until sunset.

The Genetrix balloons should have been nearly invisible to radar, and their cruising height of 55,000 feet should have kept them out of the reach of Russian fighters. Once clear of Russia and out over the Pacific, the balloon would be met by a modified transport aircraft. This would send a radio signal to release the gondola, which would parachute down from the bal-



loon and be caught in mid-air.

However, things did not quite go to plan. By sheer chance, the balloon rigging included a steel rod which was 91 cm long, a length which corresponded with the wavelength of a Russian early warning radar called Token. The steel rod resonated at this frequency, and, in radar terms, it lit up like a beacon. The Russians tracked the balloons easily. A zero-pressure balloon rises during the daytime as it is warmed by the sun, and sinks at night as it cools. At first light the Genetrix balloons were well below their maximum altitude, and MiG fighters were ready for them.

By observing the Russian response, US analysts located new Token radar sites, and gained some intelligence about the capabilities of the radar network. Also, some balloons did get through. Out of five hundred balloons released, forty yielded usable photographs and over 1.4 million square miles of Soviet territory was pictured. These became the baseline for future missions. Later satellite photographs could be compared with the 1956 Genetrix pictures and checked for evidence of new constructions.

However, the balloons caused a diplomatic furore. Captured gondolas were displayed to the world press in Moscow, and the story that they were weather balloons photographing cloud formations was ridiculed. President Eisenhower decided that the balloons were more trouble than they were worth. Ironically enough, he decided that the main effort should go toward perfecting the U2 spyplane. This was the aircraft which caused one of the most serious embarrassments of the Cold War when pilot Francis Gary Powers was shot down over Russia.

Whatever their impact on the Cold War, the balloons had a lasting effect on the UFO community. Many prototype balloons came down in the US during testing (under projects Gopher, Grandson and Moby Dick), some within a few miles of their launch site. This was due to a safety device which automatically sepa-

rated the gondola if it dropped below 15,000 feet to prevent it from becoming a hazard to air traffic. Military units would immediately seal off the area and a recovery crew would retrieve every last piece of debris, while insisting that the subject of all this attention was “just a weather balloon”.

The balloons match the description in the 1947 memo very closely. They were circular, appeared metallic, flew silently leaving no trail and flew in formation. Their level speed was not quite 300 knots, though in the jetstream they could shift at a respectable 250 mph.

However, the biggest clue is the fact that the man in charge of the balloon spying program was one General Nathan Twining — the same Twining who wrote the original memo.

### Project Mogul

One notable discrepancy is that the memorandum talks about a “manned craft”, whereas the balloon programmes we know about were unmanned. There may be a reason for this.

Project Mogul was a secret 1947 programme to detect Russian atomic tests using balloons. It was known that sound could travel for vast distances under the ocean in “sound channels” caused by undersea currents. Scientists theorised that a similar effect could occur in the jetstreams of the upper atmosphere, so that a colossal explosion — an atomic bomb — might literally echo around the world. Before Skyhook, there was no single balloon large enough to carry the instruments for this, so a cluster of smaller balloons was used.

By accident a Mogul balloon cluster came down near a town called Roswell. A rancher found the wreckage and called in the military, who announced that they had found the remains of a “flying disc”. (This was 11 days before the first use of the term “flying saucer”). They later switched to the weather balloon story, but the damage was done, and Roswell has been a sacred place for alien conspiracy theorists ever since.

In later versions of the Roswell story there are accounts of alien bodies being recovered from the wreckage. If a manned balloon lost pressure at high altitude, the unfortunate crew would rapidly die from the lack of oxygen. Their bodies would be freeze-dried by the effects of extreme cold and very low pressure. How these shrunken, frozen mummies would appear is anyone's

guess. Someone who believed they had come from a flying saucer might very well identify them as space aliens.

Any fatalities would probably have led to the termination of a secret manned balloon program. The US under Eisenhower was not Nazi Germany, and the death of test pilots is a serious matter. There is also the question of security: a downed balloon may be explained away, but dead bodies demand inquests, investigations and public reports. Any bodies recovered from Roswell or elsewhere, if there ever were any, were more likely to be unlucky victims of the Cold War than beings from another world.

### Conclusions

The projects described above are not the only secret balloon programmes undertaken, but they are among the ones that we know about. An examination of the numbering system used for defence projects shows that there are still numerous gaps in the record.

An article in *Popular Mechanics* describes a contender for one of the missing projects, the Lenticular Re-entry Vehicle. This

unusual device was a nuclear-armed rocket plane which was hoisted to high altitude by a balloon before being released for its attack run.

Of course, there is far more to UFOs than just balloons. But it is easy to see how the secret balloon projects contributed to the flying saucer myth. They combined the twin elements of seemingly inexplicable sightings with obvious government cover-ups, elements which are now inseparable from UFOlogy.

It seems that practically since the start, balloons have been identified as flying saucers. Once the identification is made, people are very reluctant to give it up; since the government has proved itself unreliable with the weather balloon story, its credibility is not enough to overturn other opinions.

The truth is that people would much rather see flying saucers than balloons. And as Nick Cook has shown, it is still an idea which can sell books.

### Further reading

- Peebles, C. (1991). *The Moby Dick Project: Reconnaissance Balloons Over Russia*. Prentice Hall & IBD.  
 Peebles, C. (2002). *Shadow Flights: America's Secret Air War Against the Soviet Union*. Presidio Press.



# Reviews

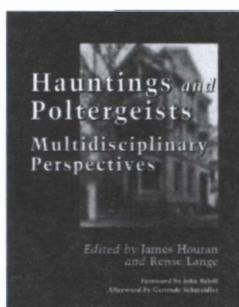


## EXPENSIVE BUT EXCELLENT

### Hauntings and Poltergeists: Multidisciplinary Perspectives

by James Houran and Rense Lange (Editors)  
McFarland & Company, £76.50, ISBN 0786409843

This is an excellent book for anyone with a serious interest in the topic (and a healthy bank balance). The authors are to be congratulated for getting contributions from many of the biggest names in the area. Not only is the book multidisciplinary in its approach, it also reflects the entire range of belief from absolute skeptic to true believer. For example, the editors themselves are firm skeptics with respect to this topic: “our research suggests that hauntings and poltergeists are delusional in nature” (p. 305). The foreword and afterword, however, are written by two veteran parapsychologists with strongly pro-paranormal views (John Beloff and Gertrude Schmeidler, respectively). The book is all the more interesting for that. You won’t find definitive answers here, but you will ask much more interesting questions.



The book is divided into three sections, dealing with sociocultural perspectives (Finucane, Hufford, Evans, McClenon, Edwards), physical and physiological perspectives (Roll & Persinger, Radin, Persinger & Koren, Brugger, Nickell), and psychological perspectives (Machado, Lawrence, Kumar & Pekala, Lange & Houran). It would be invidious for me to point out my personal favourite chapters. I can honestly say that I enjoyed and learned from every chapter – except one, which I admit I gave up on. Again, I will not say which one it is, but if other readers want to send in their guesses to me, I will let them know if they are right.

The book is far too expensive to recommend to anyone with only a mild interest in the topic. This presumably reflects the fact that the serious academic treatment on offer in this book is unlikely to make it into a best seller. From my personal point of view, that is not a problem. Not only did the book give me lots of food for thought, I got my copy free for reviewing it.

Christopher C French

## GOLDEN YEARS

### The Great Skeptic CD: 1981–2000

by The Australian Skeptics  
AU\$55 (order from [www.skeptics.com.au](http://www.skeptics.com.au)), ABN 90613095379

It is an immense achievement to keep a skeptical magazine functioning for 20 years. We here have six years to go, so we know. The Australian Skeptics (who share a magazine title with us) have managed it, and have produced this CD of the magazine’s output to prove it. Besides all the 79 back issues of *The Skeptic* (the Australian version), the CD includes two books: *Skeptical* and *Creationism: An Australian Perspective*, (edited by our old friend Martin Bridgstock).



The CD is organised rather simply as a collection of Adobe Acrobat files. For those who are unfamiliar with Acrobat, it’s a commonly-used format that displays the pages exactly as they appeared in print. You can – as the Australian Skeptics have here – put in a little window of bookmarks along the side that effectively allows you to page through an issue or turn directly to an article that interests you, or put hotlinks in an index so you can skip straight to the subject. You need to have an Acrobat reader for the specific computer you’re using; the CD provides versions for PCs and Macs, and software is readily available on the Internet for other types of machines.

The upshot of all this technology is that you can read through whole issues, browse by selected topics using the Quick Index provided, or search across the CD’s entire contents. You do need to fuss around a little bit to make the search function work, although full instructions are provided.

Is it worth it? Absolutely. Reading through 20 years of Australia’s *The Skeptic* is both entertaining and educational. For one thing, it’s intriguing to see that the issues they face are much the same as the ones we face here in the UK: questionable medical claims, public misunderstanding of science, and psychic claimants. For another, the group is immensely proactive about investigating these claims. All in all, both fun and interesting. A valuable addition to any skeptic’s library.

Wendy Grossman

**CLASSIC GARDNER**

**Did Adam and Eve Have Navels?  
Debunking Pseudoscience**

by Martin Gardner

Norton, \$14.95, ISBN 0393322386

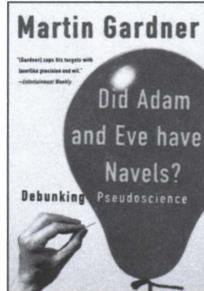
Did HG Wells predict the Internet? Does reflexology have a foot to stand on? Is cannibalism a myth? Read this book and find out.

The ever-prolific Martin Gardner has compiled another selection of his fascinating (and highly skeptical) magazine columns. Covering aspects of creationism, astronomy, physics, medicine, psychology, social science, UFOlogy and religion, this is an eminently browsable collection. Gardner has added further comments and updates at the end of each article, creating a vastly entertaining book which deflates the pomposities of pseudoscience with wit and humour.

The title essay gently mocks Christian Fundamentalist myths of the Creation. From the Renaissance onwards, theologians tied themselves into knots of argument over whether beings who were created rather than being born could have navels. It comes as rather a shock to know that one US Congressman seemed to accept these myths even as late as 1944.

At his best, Gardner is both scholarly and fascinating. His essay on the myth of the Wandering Jew traces the roots of this myth. He has even found a folk tale about a female Wandering Jew – Beffana, who was too busy doing her housework to stop and watch the Three Wise Men as they rode past. I always knew housework was a bad idea.

I particularly enjoyed Gardner’s debunking of the wilder extremes of Freudian dream theory. Is there no end to the number of things Freud could interpret as phallic symbols? Gardner’s essay is a timely reminder that sometimes a cigar is only a cigar.



Chris Willis

**OUT OF NOWHERE**

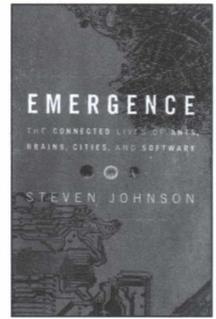
**Emergence: The connected lives of ants, brains, cities and software**

by Steven Johnson

Allen Lane, UKP 14.99, ISBN 0713994002

What exactly have ants got in common with cities, brains, and software? The answer according to this book is *emergence*. “the movement from low-level rules to

higher-level sophistication.” In other words, something that is more than just the sum of its parts. The important point about this is that there is the lack of top-down control guiding organization; rather self-organisation occurs bottom-up through the interactions of many individual units — whatever they may be (e.g. ants, slime mould cells).



This book gives a good non-technical introduction to emergent behaviour. The author is a “Media, technology and cultural critic,” and though the book isn’t technical it is well written and researched. An extensive bibliography is useful for those wanting to delve into the subject further. There is also an index which is handy with this kind of book.

The first part of the book gives an overview of how ants, cities, and software are related. It discusses how organised complexity and emergent behaviour can arise from the interactions of many individual units which behave according to simple rules. Subsequent parts go into more detail of cities, software, and brains; many interesting examples are used, and this coupled with an easygoing style makes the book a fairly easy read. The author draws on both culture and history as well as appropriate technical information to put the ideas across. Since the author is American some of the cultural elements he brings in to the discussion may be unfamiliar to British readers, but fortunately he provides enough background on them.

I’d recommend this book as a great starting point to find out about emergence/self-organisation. It’s likely to spur people on to find out more about this fascinating subject.

Dene Bebbington

**AN APOLOGY.** In issue 15.3 of *The Skeptic* a review of Patricia Fara’s book “An Entertainment for Angels: Electricity in the Enlightenment Age” was wrongly attributed to John Gillies. The true author of this review was in fact Mike Hutton. We apologise profusely for this error.

Reviews are edited by Toby Howard. To join our book reviews team, please email: [reviews@skeptic.org.uk](mailto:reviews@skeptic.org.uk) – stating your interests and any relevant experience.



# LETTERS

## Diana-Obsessed Ditherings?

One would expect Hilary Evans to show respect for whatever facts might be easily ascertainable even in the context of a Paranormal Picture Gallery.

However, Queen Astrid of Belgium – shown in Vol 14, no. 4, p. 2, as supposedly returning from the grave for a Copenhagen séance in 1938 – originally belonged to the Bernadotte family. In fact as Prince Carl's daughter, she was the granddaughter of Oscar II and the niece of Sweden's then reigning King Gustaf V. Her marriage to Belgium's Leopold was greeted with enthusiasm in both countries, her death in a car crash experienced as a stunning tragedy, also in both countries.

In wilful ignorance of this, Hilary Evans concludes a brief discussion of the absurd séance photo with a swatch of vulgar fantasizing: "So far as I know [*sic!*], no conspiracy theories were bandied about in 1935. Yet Astrid was a Flemish commoner, whose marriage into the Belgium royal household caused much tut-tutting. Was her death less accidental than it seemed? Did someone tamper with the royal steering? Stranger things have been suggested ..."

As a fairly devoted reader of *The Skeptic*, with renewal time coming up, I should hope never again to be confronted with such Diana-obsessed dithering in your pages.

And if you can't print this letter as written, please don't print it at all – just remind me not to renew ...

Göran Bengtson, Stockholm, by post

## The Cause of the Confusion?

*Hilary Evans Paranormal Picture Gallery* (*The Skeptic*, 14.4) has a mistake. Queen Astrid of Belgium was a Swedish princess by birth. Someone is confusing her with Leopold III's second wife, Liliane Baels, who was a commoner, and whose marriage during the War was much resented.

A. E. Howarth, Wallasey, by post

## A Reply from Hilary Evans

I can only apologise for getting my facts wrong with regard to Queen Astrid. My information derived from the text accompanying the illustration, and I saw no reason to question what was said there: but your correspondent is quite right, I should have double checked. As for drawing a parallel with the fatal accident of Princess Diana, I do not see that this is indicative of "Diana-obsessed dithering". I should have thought the comparison was self-evident, also that it was intended in a light-hearted spirit. The "gallery" series is intended more as entertainment than as education, though I hope it is sometimes thought-provoking. I am sorry if I offended your reader, and I trust he will not cancel his subscription simply because of my mistake which was certainly not due to 'wilful ignorance', simply to carelessness.

Hilary Evans, London, by e-mail

## The Shape of Bags to Come

In *Hits and Misses* (vol. 14, no.4, p. 6), you stated that tea bags were invented in 1952. This is incorrect. The first tea bags were actually invented in 1904 by an American

called Mr. Thomas Sullivan. Unfortunately, when he tried to market them, they were a total failure, so the idea was discarded. Obviously its time finally arrived in 1952.

Laurie Eddie, South Australian Skeptics, by e-mail

## Water Works

I hope the answer to whether or not a society should put fluorine in water supplies (Steve Donnelly, vol.14.4) is "no!". Fluoride perhaps.

Steuart Campbell, Edinburgh, by e-mail

## A Response to Dr Chris French

I am encouraged that Chris French has responded at such length to the criticisms I voiced in Vol. 14.2, and I'm glad there are some matters on which we can agree. One is that we are all biased in viewing evidence which appears either to bolster or undermine our belief systems, i.e. prejudices. The second is that we are all selective in the evidence we look at and argue about. We both appear to accept that there is so much evidence, and so little time to study all of it, that we must be selective.

Chris is a parapsychologist, and prefers to confine himself to that more limited field. I'm a student of psychical research which embraces parapsychology but extends into such areas as the validity and source of mediumistic communications. I have long contended that irrefutable and objective evidence of psi had already appeared by 1900. Thus my challenges to Chris were drawn mainly from that wider field, and he duly ignored them. For his part, he has thrown down two challenges in

his field, presumably confident that I will dodge them too.

The first was that I had ignored Wiseman and Milton's conclusion that meta-analysis of more recent ganzfeld studies had found no significant difference from chance expectation, contrary to Dean Radin's well-publicised claims. But, as Professor Bob Morris, Wiseman's PhD mentor, pointed out in response to a *New Scientist* interview question, the Wiseman/Milton survey did not include recent strongly positive data but did include a number of negative results stemming from different experimental procedures designed to find conditions ideal for good ganzfeld results. He pointed out that all the studies lumped together nevertheless had significant positive results.

Then Chris invites me to offer a detailed reply to Wiseman and O'Keefe's criticism of the startling claims arising from experiments with five gifted mediums made by Gary Schwartz et al. No need: Schwartz has provided a detailed rebuttal of every point in the *Journal of the Society for Psychical Research*, and in its *Paranormal Review*. A useful summary of the criticisms and responses appears in the latest issue of the quarterly journal *Life and Soul*. Schwartz's second paper, published in a later edition of the *JSPR*, provides no less striking evidence of either super-psi, or discarnate communication. I await Chris's critical assessment of this, now that he has ventured into the territory I prefer to inhabit.

But as Sidney Smith once commented when observing two women exchanging mutual abuse from the windows of their opposite houses, these two will never agree because they're arguing from different premises. Chris's premise is that the only way psi can be demonstrated is via replicable tests yielding highly positive statistical results. Mine is that you can't refute the evidence of the paranor-

mal by showing that it fails to comply with the rules of the normal. Replicability is inherently impossible if what you are testing turns out to depend on factors which are usually uncontrolled and almost always vary: with the personalities involved in the tests, both the subject and the experimenter, and their states of mind.

That is why people like Chris, Richard Wiseman, Sue Blackmore, Paul Kurtz, etc., constantly get negative results in a field where negative expectations produce negative results — the well-known experimenter effect.

I can't think of any area of scientific inquiry where a scientist, confronted with a vast bulk of evidence which it is claimed undermines his current strongly-held theory, will decline to examine it on the grounds that he must "resist the temptation to be drawn into detailed discussion with every Tom, Dick or Monty".

We all have to limit ourselves or go bust. But if, from the hundreds of examples of psi evidence I could quote, Chris would simply agree to limit himself to one, I feel we would have made a real breakthrough. It's the Dorr-Lethe case cited in my earlier letter.

Montague Keen, London, by post

### A reply to Montague Keen

Once again, I find myself in agreement with much of what Monty writes — especially his implication that, in this life at least, we will probably never be in full agreement over the existence of paranormal forces. It follows therefore that this correspondence could run on until one of us finds out in the most direct way possible if there really is life after death (and, if Monty goes first, why should it stop there?). This would run the risk of boring our readers (perish the thought!) and distracting both Monty and me from more fruitful use of our time.

I would hate to abuse editorial power by insisting that I get the last word, so I intend to make a few points in response to Monty's latest letter and to then let him have the last word (if he so wishes) in a subsequent issue of *The Skeptic*.

First, just to clear up a misunderstanding — I am primarily a psychologist, not a parapsychologist. I am happy to engage in some mainstream parapsychological research as I happen to believe that it is only fair to put parapsychological claims to the test rather than dismissing them in advance. For example, one of my postgraduates, Louie Savva, has now carried out eight experiments following up allegedly robust paranormal effects described by that guru of the modern scene, Dean Radin. Unfortunately, none of these experiments has produced significant effects requiring a paranormal explanation. However, in the course of executing this research, Radin's tendency to oversimplify and even misreport findings has become all too apparent. We will be presenting these results at the Parapsychological Association Convention in Paris. I am sure they will be well received. But please bear in mind that I am a psychologist and so naturally enough I tend to put more of my research effort into psychology rather than parapsychology.

Now Monty will claim that the negative results of our parapsychological experiments are inevitable given my sceptical attitude towards the paranormal. It is worth noting therefore that Louie is the one who actually runs the experiments — and he certainly did not begin his postgraduate research as a sceptic! Not surprisingly, he is somewhat more sceptical now than when he started but is still prepared to put considerable time and effort into attempting to replicate Radin's allegedly robust paranormal effects. Furthermore, as Monty is well aware, most parapsychologists are unable to produce replicable para-

normal effects. Only a few apparently have the “golden touch”. Why is this? Is it the case that the others are sceptics at a subconscious level without themselves realising it? This ridiculous and non-falsifiable accusation was certainly levelled at Susan Blackmore when she declared her scepticism after several years of trying to produce positive results. It seems to be a case of “damned if you do and damned if you don’t”. If sceptics refuse to carry out empirical research testing paranormal claims, they are accused of deliberately ignoring the “overwhelming” evidence and being afraid to put their beliefs to the test. If they do spend time trying to assess the claims for themselves, they are told they are wasting their time because their very doubts will prevent them from getting positive results!

It seems to me that Monty wants to have his cake and eat it too. As we have seen, he is a great admirer of Dean Radin – a man who insists that paranormal effects are real and replicable and that it is only prejudice on the part of the wider scientific community that prevents this truth being accepted. But hang on a minute, what was that from Monty? “Replicability is inherently impossible if what you are testing turns out to depend upon factors which are usually uncontrolled and almost always vary.” I think Monty ought to let Dean know about this.

I am afraid I have neither the time nor the space (nor the inclination) to present a detailed rebuttal of all the points raised by Monty. With respect to Schwartz’s attempt to deal with Wiseman and O’Keefe’s critique, Schwartz seems to misunderstand the nature of the bias introduced by failing to use a double-blind procedure. The danger is not so much that sitters will forget

details of their lives or get confused about them, but that believers and disbelievers are likely to differ with respect to (a) the amount of effort they will put into finding a match between the medium’s utterances and some aspect of their lives and (b) the strictness of the criteria used to declare a “hit”. A properly designed double-blind study eliminates such rater bias.

The debate regarding meta-analyses of ganzfeld studies is also rumbling on, with a critique of Milton and Wiseman’s paper recently published in *Psychological Bulletin* by Lance Storm and Suitbert Ertel, along with a response by Milton and Wiseman. Storm and Ertel have responded to the latter in the March 2002 *Journal of Parapsychology*. Interested readers should once again check out the articles for themselves. The arguments are too technical to summarise here but I find Milton and Wiseman’s arguments more convincing than Storm and Ertel’s (I would, wouldn’t I?).

Finally, I did have a look at Monty’s summary of the Dorr-Lethe case in the *Paranormal Review*. It is a summary of an extensive report from the SPR *Proceedings* running to some 224 pages. To properly assess this case would require a detailed reading of the original report, plus in-depth knowledge of Ovid’s *Metamorphoses*, Virgil’s *Aeniad*, and the Latin and Greek languages. I cannot for the life of me figure out why Susan Blackmore declined Monty’s invitation to attempt a detailed critique! Seriously, Monty, having just emerged from beneath a huge mountain of exam scripts, with several papers and grant proposals all crying out for my attention, I would find it very hard to justify spending several months of inten-

sive study on the Dorr-Lethe case, so I am happy for you to put my name on the list alongside Sue’s. There are much more direct ways of demonstrating the reality of psi, such as properly conducted double-blind studies of mediums.

Chris French, Anomalistic  
Psychology Research Unit, by post

## Religion and Superstition

The notion expressed by Julian Baggini (*The Skeptic*, 15.1) that “religious belief makes no claim to be based on rationality and is therefore an inappropriate target for rational criticism” deserves further comment.

If religions confined themselves to the non-material there would be some basis for the notion, but they do not. Every religion that I know of justifies its beliefs by claims that its founders or supporters have been able to produce supernatural physical phenomena by application of their faith. Walking on water and turning water into wine are two Christian examples, which place religious claims in the same category as spoon bending and other magic tricks. The next natural question for the sceptic is: if these aspects of religious belief are false, what about the others?

The present popular drift away from religion is in my view partly a consequence of modern leaders’ attempts to come to terms with science by re-interpreting the less possible “miracles”.

Julian asks for two definitions that might separate religion and superstition. Surely he needs only one. Any ordinary definition of superstition (“Credulity regarding the supernatural” in the first dictionary I pick up) would include religion. They are inseparable.

Dr George Wood, OBE,  
Cheltenham, by post

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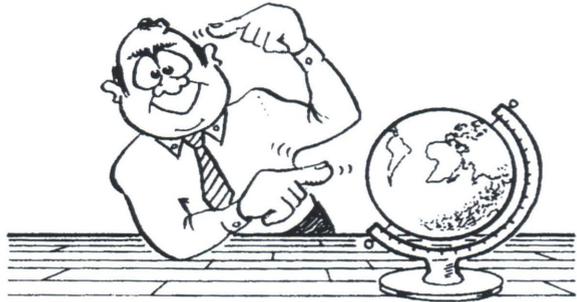
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