

Volume 9 Number 4

The Skeptic



Therapist Power

The social psychology of healing and therapy

Also in this issue

Quackery old and new

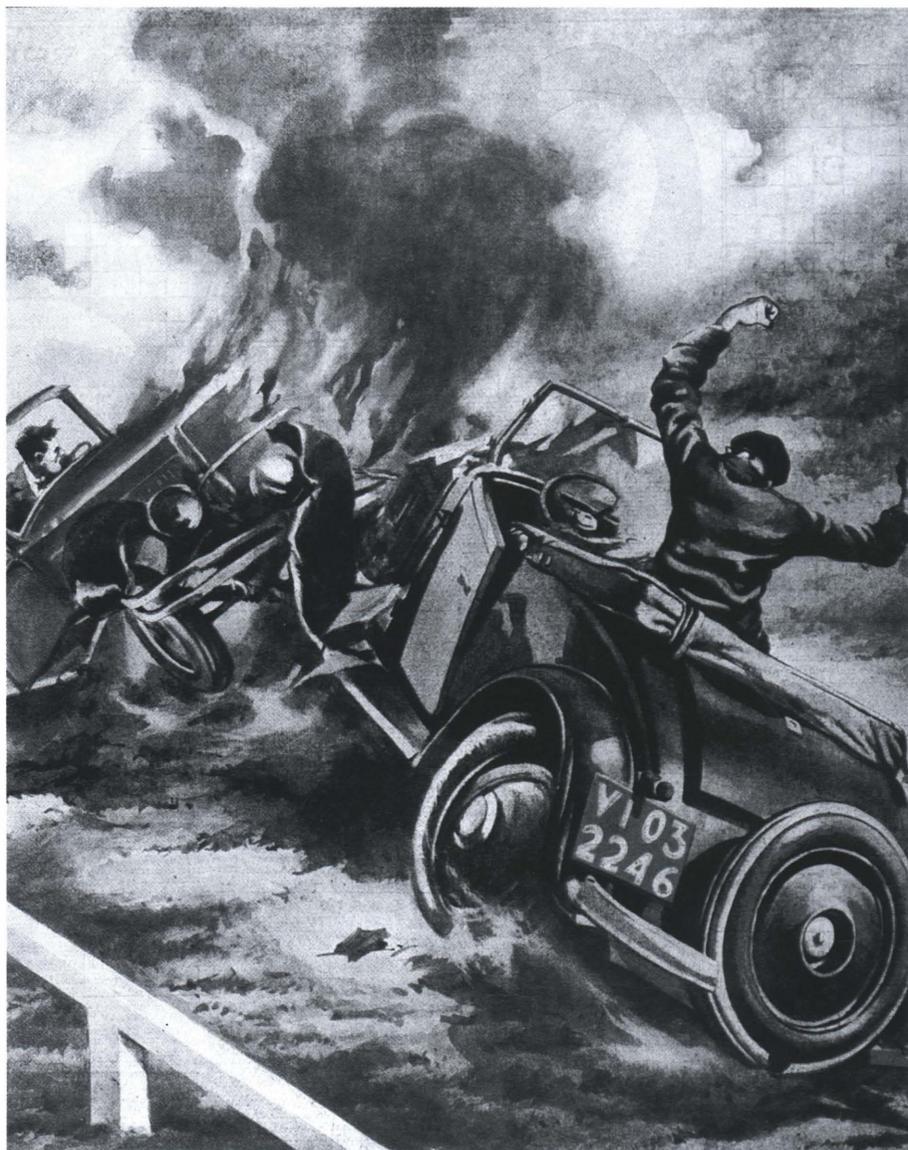
Lies, damn lies and . . . statistics

Arthur Conan Doyle: the unlikely Spiritualist

News, reviews and comment

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Hilary Evans' *Paranormal Picture Gallery*



ONE DAY, Barry Reisneren of Chicago, a doctor, met a fellow citizen named Armstrong, a pharmacist. The two men realised they were close look-alikes, even to the way they cut their hair and their beards. What's more, they found they had both been born on the same day, and that both were sons of farm managers. Each was married with two children, a boy and a girl.

Unfortunately they shared one other thing: both men liked to drive fast. So when one day in 1935 their two cars met at a crossroads, they collided with such impact that both were killed—giving them one more thing in common: their deathday.

(Source: *Illustrazione del Popolo*, 1935)

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

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PRICE INCREASE

We regret to announce our first price increase since 1991. Although we are a non-profit magazine, we face increased production and distribution costs beyond our control. Existing subscribers will see no increase until their sub renewal, when a year's subscription will now be £14 (UK only, see back page for overseas rates). We hope you'll understand, and will still be able to support us. Thanks.

Hits and Misses

Steve Donnelly

Murphy was right

Perhaps flying in the very face of the Murphy's Law itself, a recent set of experiments to determine the truth or otherwise of Murphy's Law have recently not gone wrong at Aston University. Robert Matthews (who is also Science Correspondent of the *Sunday Telegraph*) conducted a series of measurements in which he determined that toast, knocked off the breakfast table, really does fall butter-side down. Matthews' paper, published in the *European Journal of Physics* and entitled 'Tumbling Toast, Murphy's Law and the Fundamental Constants' concluded that this contrariness of nature is, in fact, built into the very fabric of the universe. According to the *Sunday Telegraph* on 25 June, an experiment conducted for a BBC *QED* programme in 1991, in which buttered toast was thrown into the air 300 times, demonstrated that the outcome of toast-tossing was as random as that for coin-tossing and that, therefore, Murphy's Law was demonstrably not operating in this case. However, the new research clearly shows that tossing toast in the air is an inappropriate test of the law. In general, our experiences with breakfast-time cleaning of sticky patches of butter and marmalade from carpets indicate that the appropriate experiment is one where the toast is simply pushed off the breakfast table. Matthews carried out this experiment using a piece of 'idealised toast' consisting of a piece of wood marked on one side with a 'B' for butter (as

British scientific funding doesn't run to toasters and carpet cleaning) and also carried out extensive theoretical calculations. Essentially, the properties of the toast together with the height of a typical table and the strength of gravity are such that the toast (initially butter-side up on the plate) will only manage a half somersault as it falls to the ground and will thus exhibit a 'distinct bias towards a butter-side down landing'. The height of the table is determined by the height of the creatures using it, and previous research has shown that the theoretical maximum height of bipeds is determined by the height at which a simple fall will generally crack a skull—which Matthews calculates to be about 3 metres. But even a table designed for 3-metre-high creatures would still be sufficiently low for Murphy's Law to operate. The physical constants that govern skull cracking, toast aerodynamics and the like were all determined a few seconds after the Big Bang and thus Murphy's Law, as it applies to toast, is 'frozen into the sub-atomic design of the universe'. (This is known as the Buttered Anthropic Principle).

Perhaps following on from this paradigm-breaching piece of research, someone will soon elucidate the physics behind the well-known experimental observation that often accompanies Murphy's Toast: the fact that 1/3 of a pint of liquid in a cup or glass inevitably turns into somewhere in excess of 2 gallons when your child spills it onto the floor.

The anaesthetic barrier

Many people who have near death experiences (NDEs) report that they leave their bodies and watch the events happening to their material selves from a vantage point somewhere near the ceiling. In numerous cases, patients undergoing life-saving surgery report the experience of watching events taking place around their comatose bodies from on-high, and claim knowledge of specific details that occurred whilst they were unconscious. To skeptics (or at least to this skeptic) a possible explanation has always been that sounds and conversations taking place in the vicinity of the patient could somehow leak across the barrier of anaesthesia and be incorporated into dreams as visual images. Unfortunately, a discussion a year or so ago with a leading brain physiologist pointed to a lack of any evidence for the idea that external stimuli could be perceived by patients under general anaesthetic—rather weakening an otherwise plausible explanation. However, recent disturbing findings reported in *New Scientist* in June and in the *Sunday Telegraph* on 2 July have revealed that some patients under general anaesthesia report having a degree of awareness, with a small percentage claiming to be fully conscious but totally paralysed during surgery. In some cases significant damages have been awarded to victims understandably traumatised by the experience. In the light



of these findings it seems once again entirely likely that some degree of awareness of surroundings whilst anaesthetised might provide an explanation of this particular component of NDEs.

Clairinterviewance

Are you fed up with the long tedious process of CVs, references and interviews that your firm has to engage in when it wishes to engage new employees? Don't worry, help is at hand. Psychometric testing, where staff are chosen by means of a character analysis based on their responses to a standard, multiple-choice questionnaire is increasingly being used in the UK. But this too may be a complex process since the tests, if they are to have any value at all, must be administered by trained personnel. No, the modern solution is altogether simpler: just engage the services of corporate psychics such as Advisor Associates of New Jersey, and let the soothsayers telepathically reach out and gather up 'transcendental messages' from your prospective employee and determine whether he or she is 'suited for the job both emotionally and intellectually'. According to *The Times* on 15 April, Advisor Associates report that psychic recruitment techniques are rapidly catching on among executives in the United States—and where the Americans go, we will surely follow. The cost of an evaluation is a snip at somewhere between \$1500 and \$10000.

Angelic Association

And while we are on the subject of tedious processes, you can now stop worrying about car breakdowns yet save yourself the expense of joining the AA or the RAC, as help may be at hand in the form of your personal guardian angel. According to an article in the *Daily Mail* on 13 February, a recent poll shows that 69% of Americans believe in the existence of angels, nearly 50% believe that they are in the care of a personal guardian angel, and one in three says that he/she has experienced the presence of an angel. Angels come in all forms and sizes and do whatever is required. This may be saving your life or helping you pass an examination but may be something as mundane as getting your car started. In case readers feel that I have some kind of personal obsession with angels (this is the third mention in Hits & Misses in recent times) I should perhaps explain that I am simply astonished to see the rise in popularity of these good creatures who were well known to me as a child growing up with Roman Catholic mythology in Ireland in the 1960s.

Nowt taken out

Sticking with Catholic beliefs for a moment, it seems that miracles are all very well, but cannot be relied upon to keep us from harm. This appears to be the verdict at Lourdes where doctors have decided that the water may be miraculous, but it is also unhealthy and must henceforth be disinfected to prevent the spread of disease. According to the *Sunday Telegraph* on 7 May, this move has upset many Roman Catholics who believe that immersion in icy water that has already been used by thousands of others hoping

for a miraculous cure is an essential part of their act of faith. However, from now on, the Blessed Virgin's miracles will be backed up by a process in which used water is chlorinated, pumped through sand filters and illuminated with ultraviolet lamps before being returned to the spring. Hopefully none of this processing will interfere with any miracle-producing ingredients in the water.

Long in the tooth

Weirdos, students of folklore and academic historians gathered from far and wide for the first World Dracula Congress in Romania recently. According to the *Guardian* on 26 May, Romanians themselves would like to debunk the vampire myth that has grown up around the fictional Count Dracula, created by Bram Stoker. But the caped Count was based on a genuine national hero, Vlad Tepes Dracula—better known as Vlad the impaler—who drove Turkish armies out of Romania often at the point of (or impaled on) a spike. Historians at the conference drew parallels between the endearing Vlad and Romania's late dictator Nicolae Ceaucescu. However, myths and history notwithstanding, the tourist industry welcomed the convention with open fangs: cans of pink 'Dracullina' liqueur and 'Dracula's Spirit', a blood-coloured vodka, were selling well at £4 and £17 respectively.



Tim Pearce

Needle in a haystack

Finally, for anyone who always wanted to dowse for minerals but for whom the hazel twigs won't twitch, the answer may lie in the purchase of a 'long-range molecular frequency discriminator'. The cheapest model of this device advertised in the March/April issue of the American publication *Gold and Treasure Hunter* will detect a wedding ring at a distance of 4.5 miles—could be useful for determining the number of married people per square mile, I suppose.

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Sherlock and the Spiritualists

Chris Willis



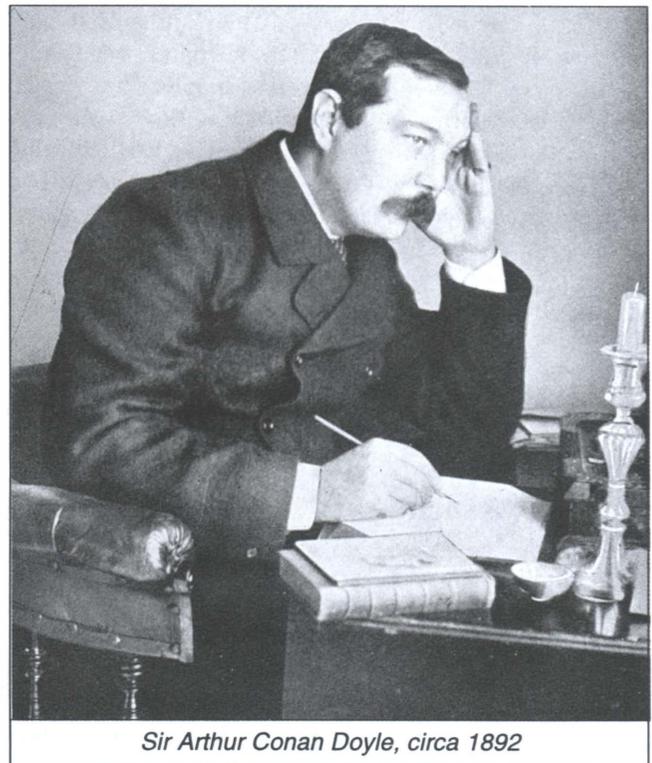
The psychic questing of Conan Doyle

WHEN ARTHUR CONAN DOYLE ‘killed off’ Sherlock Holmes, there was widespread protest from his readers. Holmes had been one of the most popular characters of Victorian fiction, but Doyle had developed other, more pressing interests. Holmes ‘died’ when his creator joined the Society for Psychical Research (SPR), but was later ‘resurrected’ to fund Doyle’s Spiritualist activities. These later Holmes stories are often considered inferior. As a Spiritualist, Doyle may have found it increasingly difficult to put his heart into the adventures of his logical, skeptical hero. As a young man Doyle had regarded Spiritualism as ‘the greatest nonsense upon earth’ [1] yet in later years he became one of its staunchest advocates. What brought about this change?

Despite his Catholic upbringing, Doyle rejected established religion as his interest in science developed. Some biographers suggest that he found this rejection of religion painful and depressing [2]. His short stories of the 1880s reveal an interest in the supernatural which seems at odds with scientific objectivity. However, it is dangerous to read too much into this: Doyle was probably just writing stories he knew would sell.

After qualifying as a doctor and setting up in practice in 1882 he ‘had the usual contempt which the young educated man feels towards the whole subject which has been covered by the clumsy name of Spiritualism . . . [and] deplored the simplicity and credulity which could deceive good, earnest people into believing [in] such bogus happenings’ [3]. However, in the mid-1880s he began to attend ‘table-turning’ sessions with friends. Some sessions produced bizarre results: in one a spirit named Dorothy Postlethwaite told him that there was life on Mars [4]. Doyle was initially ‘very critical as to the whole proceedings’ [5] but, feeling that Spiritualism presented ‘a problem to be solved’ [6] he began to investigate further.

In 1887 he declared his (supposedly scientific) interest in Spiritualism in a letter to the Spiritualist journal *Light*, saying that, ‘After weighing the evidence, I could no more doubt the existence of the phenomenon than I could doubt the existence of lions in Africa’ [7]. The incident which convinced him was oddly trivial: at his first sitting with an established medium, the ‘spirits’ recommended him not to purchase a book which he had been thinking of buying. From 1887 Doyle corresponded regularly with leading Spiritualist Oliver Lodge and ‘psychic investigator’ F W H Myers. In his autobiography, he said that ‘From that time



Sir Arthur Conan Doyle, circa 1892

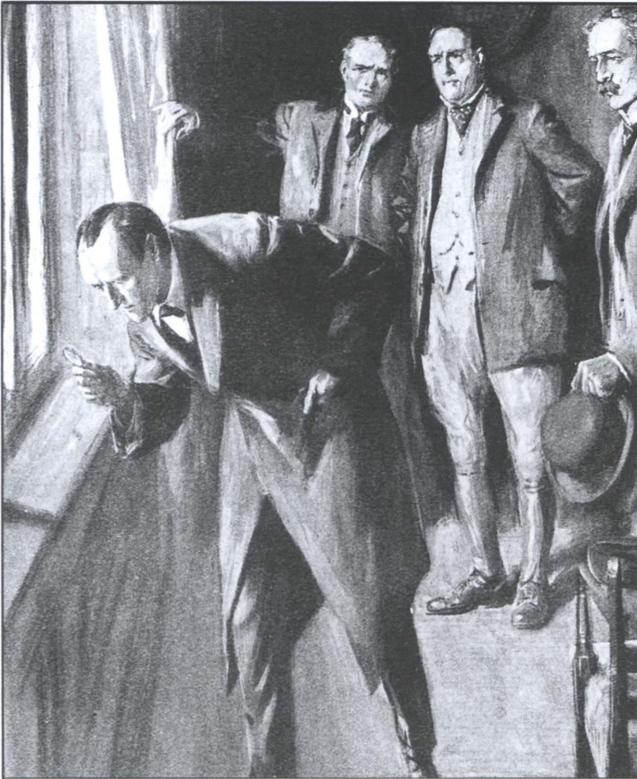
Mary Evans

onwards I read and thought a great deal [on Spiritualism], though it was not until the later phase of my life that I realized whither all this was tending’ [8].

Tragedy struck Doyle’s family in 1893. His wife developed incurable tuberculosis (from which she died in 1906). In October 1893 Doyle’s father died. Biographers point out that personal loss was echoed in Doyle’s work: Sherlock Holmes ‘died’ two months after Doyle’s father [9]. Three weeks after his father’s death, Doyle joined the SPR [10].

Throughout the 1890s and 1900s, Doyle continued to study what he later described as ‘the wonderful literature of psychic science and experience’ [11], but his full conversion to Spiritualism came during the First World War. He had married Jean Leckie in 1907, and during the war the couple shared their house with Jean’s friend Lily Loder-Symonds, a keen Spiritualist. In 1916 Loder-Symonds claimed to have received spirit messages from her brothers who had died early in the war, and from Jean’s brother Malcolm, who had been killed at the battle of Mons. Doyle was convinced by the message, which recalled a conversation between him and Malcolm many years before.

By November 1916 Doyle was convinced that, ‘In spite



Sherlock Holmes, from The Valley of Fear, 1914

of occasional fraud and wild imaginings there remains a solid core in this whole spiritual movement which is infinitely nearer to positive proof than any other religious development with which I am acquainted' [12]. In the following months he visited several mediums, and reported on them to Oliver Lodge. Doyle was uneasy about the number of fraudulent mediums he found, but later concluded that fraud 'is far less common than is supposed . . . Conscious fraud usually arises from a temporary failure of real psychic power and a consequent attempt to replace it by an imitation' [13]. One of his biographers comments that, 'Conan Doyle could never understand the more basic and devious aspects of human nature and was always dismayed to see these aspects in practice' [14]. What a contrast to Sherlock Holmes!

Doyle was further convinced in 1917 when 'psychic photographer' William Hope produced a 'spirit photograph' of Doyle's dead nephew. Harry Price was later to condemn Hope as a fraud, a claim disputed by Doyle in *The Case for Spirit Photography* [15], a book lavishly illustrated with 'spirit photographs'. To the modern reader, these look like blurred double exposures, but popular knowledge of photography was limited in the 1920s, and many people were convinced.

From 1917 onwards, Doyle devoted much of his time to writing and lecturing on Spiritualism. He recounted his conversion in *The New Revelation* (1918), and in its sequel, *The Vital Message* (1919) he expressed his hopes for the world redemption through Spiritualism. By late 1919 he had addressed up to 50,000 people at meetings. His enthusiasm for Spiritualism was closely linked with personal tragedy. His son, brother and brother-in-law had been killed

in the war. Like many others bereaved in the First World War, he found that the Spiritualist revival of the 1920s seemed to offer a means of keeping in touch with people he loved, even after their death.

In 1922, he undertook a lecture tour of America. Despite his unwavering belief in mediumship, he exposed two fraudulent mediums, twins Eva and William R Thompson, at a séance in New York. Holmes' creator may have had his suspicions aroused by a strange coincidence: another participant at the séance bore the surname of Holmes' arch-enemy Moriarty [16].

During the lecture tour, Doyle arranged a séance for his friend Houdini, at which Jean, acting as medium, produced a 'fifteen page letter from [Houdini's dead] mother which made him very grave and thoughtful, though he was a difficult man to convince' [17]. Houdini recalled events differently: 'Mrs Houdini told me that on the night previous she had gone into detail with Lady Doyle about the great love I bear for my Mother. She related to her a number of instances'. Houdini's doubts were reinforced by the letter being in English, 'because, although my sainted mother had been in America for almost fifty years, she could not speak, read, nor write English'. Doyle explained this by telling him that, 'a Spirit becomes more educated the longer it is departed and that my blessed Mother had been able to master the English language in Heaven' [18]. Houdini generously commented, 'there is no doubt that Sir Arthur is sincere in his belief' [19].

For the rest of his life, Doyle was to be a passionate advocate of Spiritualism. He wrote several books on the subject, lectured worldwide, and set up a loss-making Psychic Bookshop and library. His work included a history of spiritualism, and several accounts of his own experiences, including *Phineas Speaks* (1927), a collection of séance transcripts. Phineas was supposedly the spirit of an Arab who had lived in Ur before Abraham's time. Doyle diligently noted down every word 'spoken' by Phineas, prompting the spirit to remark, 'I wonder if a Dictaphone would



Conan Doyle with Houdini, circa 1924

not be desirable to save you writing' [20].

In 1901, Doyle 'resurrected' Holmes, his most famous and lucrative creation. In 1917, he tried to rid himself of Holmes again: the short story 'His Last Bow' was intended to be the detective's final appearance, but in 1921 Holmes re-appeared in the first of a series of short stories which were to appear in *The Strand Magazine* until 1927. There is no doubt that the super-logical, un-superstitious Holmes brought in the income to subsidise Doyle's Spiritualist activities.

We can only speculate as to whether Holmes was his author's alter ego or a caricature of the materialism Doyle detested. In 1924, at the height of his Spiritualist activities, Doyle published a story in which Holmes finds a natural cause for apparently supernatural events. Unlike his creator, the detective disowns any belief in the supernatural, boasting that [21]: 'This Agency stands flat-footed upon the ground, and there it must remain. No ghosts need apply'.

Notes

1. Arthur Conan Doyle: *The New Revelation* (1918, reprint ed Ebenezer Baylis, 1938), p12.
2. Kelvin I Jones: *Conan Doyle and the Spirits: The Spiritualist Career of Sir Arthur Conan Doyle* (Aquarian Press, 1989), p45.
3. Arthur Conan Doyle: *Memories and Adventures* (John Murray, 1924, reprinted 1930), p99.
4. *The New Revelation*, p17.
5. *Memories and Adventures*, p102.
6. *loc. cit.*
7. *Light: A Journal of Psychical, Occult and Mystical Research*, 2 July 1887, p303.
8. *Memories and Adventures*, p103.
9. Charles Higham: *The Adventures of Conan Doyle* (WW Norton, 1931) pp117–118.
10. Higham, pp117–118, Jones p80. In *The New Revelation* (p21) Doyle recalled that he had joined 'about 1891'.
11. *Memories and Adventures*, p138.
12. *Light: A Journal of Psychical, Occult and Mystical Research*, 4 November 1916, pp 357–358.
13. Arthur Conan Doyle: *Psychic Experiences* (GP Putnam, 1925), p102.
14. Jones, p218.
15. Arthur Conan Doyle *et al*: *The Case for Spirit Photography* (Hutchinson, 1922).
16. Jones, p179.
17. Arthur Conan Doyle: *Our American Adventure* (Hodder and Stoughton, 1923), p179–181.
18. Harry Houdini: *Houdini: A Magician Among the Spirits* (1924, reprinted Arno, 1972), pp150–158.
19. *op. cit.*, pp138–141.
20. Arthur Conan Doyle: *Phineas Speaks: Direct Spirit Communications in the Family Circle* (Psychic Press, 1927).
21. Arthur Conan Doyle: 'The Adventure of the Sussex Vampire' in *The Strand Magazine*, January 1924, p4.

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Skeptical sights

An occasional series of pictorial follies



Our thanks to reader John Yates for this photograph of an electronic Tarot machine at the Gare de Lyon, Paris.

Surely There's Something In It?

Michael Heap

The social psychology of healing

THE AMERICAN psychologist B F Skinner described an experiment (Skinner, 1948) in which a hungry pigeon would be left in a cage where food was dispensed at brief intervals. Although the food would arrive regardless of the bird's actions, after some time highly ritualised and idiosyncratic sequences of behaviour began to take shape. Skinner ascribed this to the fortuitous rewarding of initially random responses and he termed the phenomenon *superstitious behaviour* by analogy with certain forms of human behaviour. Superstitious behaviour is *resistant to extinction*. That is, it continues for a long time after the reward is withdrawn completely. This is characteristic of any behaviour maintained by intermittent (and variable) schedules of reward.

Healing and therapy

This article concerns the social psychology of healing and therapy. I am using these words more or less interchangeably and in a very broad sense. They refer to all aspects of the situation in which healing or therapy is intended to take place, regardless of whether it does so in reality. I am thus referring to the circumstances in which a person has some problem of mind or body, and another person—the healer or therapist—attempts to alleviate that problem by means of some special knowledge or expertise.

Defined as such, healing is a universal phenomenon, a significant activity in all societies at all ages of history. Indeed, if you survey healing throughout history and across contemporary cultures, and even within our own culture, you will encounter an extraordinary and fascinating range of human behaviour and beliefs. I think this is more so than in any context other than religion. I am, moreover, challenged to understand why in our own society we have so many people involved in healing and therapy. I once visited an exhibition of alternative medicine and counted no less than thirty five distinct remedies being offered for someone complaining of headaches. Perhaps the more treatments there are for a problem the less likely any of them has a direct therapeutic effect. But my puzzlement in this regard is not confined to unorthodox medicine. In a recent critique of contemporary medical practices (Skrabanek & McCormick, 1989) I was astonished to read the following:

Sir Douglas Black, a past president of the Royal College of Physicians, estimated that only about 10% of diseases are significantly influenced by modern treatment. This echoes the opinion of Sir George Pickering who guessed



Mary Evans

that in some 90% of patients seen by a general practitioner the effects of treatment are unknown or there is no specific remedy which influences the course of the disease. Yet prescribing in general practice is the rule rather than the exception. (pp 10–11)

In fact, I insist that if you put together mainstream public and private medicine, alternative or complementary medicine, commercially available, across-the-counter remedies, and so on, then you have a healing industry, the collective scale of which vastly outstrips whatever it is really capable of achieving. In short, there seems to me to be far too much of it about. And yet the constant message that I am hearing is that we need *more* of it. Is it possible that there is another perverse law, namely that greater affluence brings less disease and better health but paradoxically the call for more healers? Indeed, I find little to restrain me if I speak of the 'Healing Classes' since healing involves the exercise of power over a disadvantaged population.

My interest in these matters is as a healer or therapist myself. I have worked as a psychologist in the Health Service and in private practice for twenty five years, and whatever I have to say about healers applies to me also. The ideas I shall put forward are not scientific and are not really testable by scientific means. However they are an attempt to stand back and find a perspective on this whole business, a way of interpreting or explaining what's going on which seems to make the most sense.

The tree of knowledge

In order to do this, I would first like to present a very simplified consideration of the nature of orthodox and established spheres of knowledge and the practices derived from them. I am referring here to knowledge and understanding of the material world, the world available to our

senses. This knowledge is based on the collection of commonly observable evidence and data, the interpretation and explanation of these observations by logical and rational means, and the application of this knowledge for human benefit. Such spheres of knowledge include not only the pure and technological sciences and the social sciences, but also subjects such as geography, history, archaeology, linguistics and so on.

There are two important principles which govern the knowledge, ideas and practices relating to the aforementioned subjects. Firstly is the principle of *clear derivation*; that is, it should be as clear as possible how the observations, ideas and practices have been derived, and any deductions and inferences made should follow accepted rules of logic and mathematics, so that other people may be in a position to make the same observations and derive the same conclusions.

The second principle of these spheres of knowledge is that they are *self-regulating* or *self-correcting*. By this I mean that observations may be checked and re-checked and ideas and practical applications may be modified or replaced in the light of new observations.

Consider what can happen to knowledge and ideas which develop by self-regulation. Here one may use the analogy of a computer programme which corrects itself in response to feedback about its validity. Three things may occur. Firstly it may be rendered unviable and thus will self-terminate. Related examples are the phlogiston theory of combustion, medical practices such as bleeding and purging, and phrenology. Secondly the programme may continue relatively intact with only modest adjustments. The laws of motion of objects bigger than atomic particles formulated over 300 years ago are a case in point, likewise the way historical figures and events are continuously re-evaluated.

Finally, the system may survive but transform itself into a structure which is radically different and even unrecognisable from its initial state. For example, the ideas and practices of modern hypnosis may be traced in almost linear fashion to those of Anton Mesmer in the second half of the eighteenth century, yet they bear little resemblance to them.

The system of knowledge and study to which I am referring may be depicted as a tree: the *Tree of Knowledge*. The main branches represent major disciplines of learning, smaller branches and twigs subdivisions down to specific ideas and practices. The Tree of Knowledge flourishes as a human enterprise because of the firmness of its roots, which lie in the twin disciplines of proper derivation of observations, ideas and practices and the continual process of self-correction or accountability. Explicit commitment to these rules is rewarded by the accepted authenticity of such ideas and practices. This is reflected in, for example, the trust that most people are willing to place in the technology developed by science, including medicine, even when, as is usually the case, they have little knowledge of the theory and principles behind that technology.

There is, however, a price to be exacted for these privileges: the observations, ideas and practices are constantly subject to modification, transformation and even

outright invalidation. Moreover, each part of the structure is committed to every other part; that is, no part exists in isolation, but may influence and inform and be influenced and informed by any other part by the shared adherence to the above principles. This rule of reciprocal commitment by even the most diverse disciplines cannot be over-emphasised in its importance, and it represents one of the triumphs of modern knowledge and learning. Consider for example how evidence derived from nuclear physics in the form of carbon-dating is used to inform the study of ancient civilisations. Here the crucial principle is the *logical congruity* of the two sets of knowledge—the results of a carbon-dating analysis on the one hand, and the historical observations and ideas on the other. In the absence of such congruity, the two sets of knowledge cannot co-exist and must be reconciled by further observation and reasoning.

Now there are also ideas about the material world which describe observations, offer explanations, and give rise to practices, none of which are part of the aforementioned Tree of Knowledge. Their adherents have no abiding commitment to the principles of derivation and accountability nor to the rule of logical congruence espoused earlier (see note 1). Yet the authenticity of such ideas and practices gains sufficient acceptance to enable them to flourish.

Examples of such ideas and practices are astrology, various other fortune-telling and character-reading procedures such as graphology and palmistry, and even spiritualism. However for our purposes the most relevant are the various practices which are now labelled ‘complementary’ or ‘alternative’ medicine.

It is of great interest to consider the processes whereby all of these are able to thrive un nourished by the Tree of Knowledge; how is it that so many people espouse these beliefs and practise the methods derived from them without there being any clear derivation or systematic self-regulation as I described earlier? And likewise how can people continue to put their faith and trust in adherents of these ideas? Not only are the ideas unsustainable by the Tree of Knowledge, they are often contradicted by it.

Power and authenticity

There are numerous answers to the above questions, but I believe there is one crucial factor. All the aforementioned phenomena have their roots as *practices*. They are not knowledge for knowledge’s sake. They all involve a practitioner *as an expert* doing something to someone—treating or assessing him or her in some way and, most notably, *interpreting on behalf of that person what is right or wrong about his or her body, mind or personal circumstances and what are the necessary remedies*. Consequently they are about *power*, and one thing which sustains such practices is the power relationship—the practitioner’s need for power and the recipient’s need for someone with that power. Hence anything which challenges the authenticity of these ideas and practices challenges the authenticity and power of the practitioner. Please note that I am not necessarily using the term ‘power’ in a pejorative sense; in fact it is an essential feature of everyday life.

In passing, you may compare what I am saying with

what the American psychologist Clarke Hull (1933) said of hypnosis over sixty years ago:

We have already seen that the dominant motive throughout the history of hypnotism has been clinical, that of curing human ills. A worse method for the establishment of scientific principles among highly elusive phenomena can hardly be devised. (p. 18)

The purpose of healing and therapy

In our own society the role of healer has a certain permanency; that is, it is usually a profession or occupation from which the person derives his or her livelihood and social identity. In consequence the question of the authenticity or legitimacy of that power is all the more significant. In fact this combination of firstly the importance to the therapist of his or her perceived authenticity, and secondly the power imbalance between therapist and patient seems to me to be of such significance that I am driven to make the following assertion. Normally we would define the purpose of healing or therapy as something like 'to alleviate the sufferings of the patient'. I propose the following definition: *The purpose of therapy is to authenticate the therapist.* That is, to legitimise his or her power and the validity of his or her beliefs and practices.

I am here referring to what determines the behaviours and beliefs of both the therapist *and* the patient. Usually, though by no means always, in any therapy there is a mutual commitment on the part of both therapist *and* patient to uphold the authenticity of the therapist (see Note 2).

As I said earlier, this is not a testable hypothesis; it is a way of interpreting and explaining the ideas and activities that are associated with healing or therapy. It has an advantage over a definition which refers to *healing* or *curing* the patient because, for one thing, this more obvious purpose is contained within the more general definition; the best way for the therapist to be authenticated is indeed for him or her to cure the patient and he or she will usually strive to the utmost to achieve this. But the definition also helps to make sense of a lot more that goes on in therapy. This includes how a treatment or practice which has no validity in terms of existing knowledge is able to survive and flourish.

In proposing this definition I am referring to *the whole range of therapists and healers*—orthodox medical practitioners, psychotherapists, alternative medical practitioners, and so on. These ideas also adapt well to practices such as character-reading and fortune-telling.

How do therapists set about authenticating themselves? There are a number of ways, but for the present I would like to discuss just three of the more important ones which are particularly relevant to our understanding of the flourishing of unorthodox practices.

Authentication by validation

The most effective way for a healer to be authenticated is obviously for his or her patients to get better, thus demonstrating the validity of the practices. Therefore, one means of authentication is to submit one's knowledge and expertise to the disciplines of clear derivation and accountability

as described earlier. Such validation may be undertaken directly by the therapist by monitoring the outcome of his or her therapy in some way. Or the therapist may use ideas and methods which have been validated by other people, say in controlled clinical trials. The price for this perceived authenticity is that the therapist's knowledge and practices are continuously open to evaluation and may suffer transformation or even be rendered invalid or obsolete by those very principles of derivation and accountability (see Note 3).

A therapist unwilling to risk the penalties of this means of validating his or her practices is not without other resources. Consider the following: 'The fact that these practices have been used by people for hundreds of years proves that they work'. Presumably the same could have been said for bleeding and trepanning. Or, 'We don't need to test whether or not our procedures are effective—we know they are from our own experience' or 'our patients tell us so'.

This sounds very reasonable, but bear in mind this: many patients have problems and conditions which are variable over time and not infrequently have a tendency to change for the better regardless of their therapist's interventions.

The alert reader may at this point be anticipating an analogous reference to Skinner's superstitious pigeon mentioned at the beginning of this article, the idea being that the therapist's rituals are maintained by an intermittent and non-contingent schedule of reward (the patient's getting better). But human beings are not like pigeons and we have to invoke another principle to further our understanding.

Human beings think and have beliefs about their world. Beliefs are important because, for one thing, they help us to predict the world. A predictable world is a safe world. For this and other reasons we over-value our beliefs and ideas at the expense of our observations (and scientists their theories in preference to their data!).

As a consequence, when we judge the validity of our own valued beliefs and practices, we attach greater weighting to confirming as opposed to disconfirming evidence. Now put yourself in the role of the therapist seeking evi-

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dence of your own authenticity in your patients' response to your treatment and you will see how this principle works in practice.

Contemplate two other aspects of this means of validation. Firstly consider what can happen when your patients unmistakably *do not* get better. What responses are at your disposal to preserve your authenticity? On a recent television programme featuring a pain clinic, one specialist there, on being asked why a patient had made no improvement replied 'she did not want to get better'.

Specifically in the case of problems or treatments which have a psychological component, there is a range of concepts which, although not invalid, may easily be recruited in the services of the therapist's authenticity, namely resistance, lack of compliance, secondary gain, the sick role, poor motivation, hysterical overlay, the manipulative personality, lack of ability of the patient to make use of the therapy, and so on.

Secondly, consider this cumbersome piece of advice: 'Maximise the range of conceivable positive outcomes'. For example, if your patient improves, obviously your therapy is working; if your patient gets worse, your treatment is starting to show some effect; if your patient is unchanged, any further deterioration has been halted.

I was interested in the reactions of the staff at a well known alternative cancer treatment clinic when they received some adverse publicity concerning their therapy regime and hence their authenticity. In interviews given with the personnel involved it seemed to become increasingly obscure as to what defining qualities would distinguish a satisfactory and an unsatisfactory response to their programme.

Authentication by charisma, mysticism, magic and religion

If beliefs and practices have no clear and testable derivation, and if we are to place our trust in them, then we need some impressive answers to our question 'How were they derived in the first place?'. For instance, we may ask how it is known that a herb is helpful for reducing high blood pressure, or that a given planetary configuration has a specified influence on an individual's behaviour? 'It was discovered by Amazonian Indians, long before the invasion of white men' or 'Thousands of years ago by Chinese physicians, philosophers or astronomers' may be the answer. This is authentication by *mysticism*. Or maybe by *charisma*: The ideas and discoveries were made by some extraordinary and inspired individual. Examples of this come from homeopathy, osteopathy, iridology and bio-

rhythms.

In fact alternative practices by their nature tend to form rather static structures: we do not hear, for example, of many recent discoveries or breakthroughs by astrologists or alternative practitioners. My impression is that rather than gradual change or transformation, there is a kind of grafting of ideas on to the existing structure, often as a result of some charismatic figure who introduces his or her own eponymous version of the practice in question and creates a following—the Bach Flower Remedies, the Alexander Technique, the Feldenkrais Method, Rolfing, Ericksonian Hypnosis, and so on. This process is particularly noticeable in psychotherapy.

Sometimes the phenomenon is a special gift the practitioner has: 'I have an energy flowing from my hands' I heard a healer say recently. Please consider three interesting aspects of this assertion which I have also heard from other religious healers.

'I have an energy flowing from my hands.' First, note the attraction of the idea of an invisible force or energy which has fluid properties. This is a very common theme in the history of healing; recall the activities of Anton Mesmer in the eighteenth century and the extraordinary carryings-on at his Paris salon, which he ascribed to an invisible fluid force, 'animal magnetism'. You may also be reminded of the theories and practices of Wilhelm Reich in this century, and the ideas behind acupuncture.

Please, do not underestimate the appeal of magic for those seeking power—albeit the power to do good—and those seeking relief from suffering and unhappiness. I mean magic in a very broad everyday sense. We



invest things and ideas with magical properties when we do not understand them, when they have an intangible and ethereal quality and when in some way they appear to have the potential for some unusually powerful or supernatural properties. Some magical concepts are of course nonentities such as animal magnetism or ghosts. Of course the magic is in the mind of the beholder, not in the thing itself

When a concept or entity is invested with magical properties, it acquires the capacity to evoke an almost boundless range of behaviours and beliefs, but only amongst those people who accept those magical properties, and they tend to do so in a *dogmatic* fashion. A concept in psychotherapy which elicits much magical thinking is the 'unconscious mind' (see Note 4). Another one, fashionable in alternative therapies, is the 'aura', the presumed field of energy that radiates from the bodies of living things, including humans.

Some years ago I attended a training course in therapeutic massage at a well-known centre in West London. One thing we had to practise was massaging the aura. This involved passing the hands up and down the client's reclining body without touching it, thus supposedly clearing congested areas of 'negative energy'. Various hand movements were employed; for example, now and again we had to shake our hands away from the person's body in the manner one does when dispelling droplets of water. When massaging around the head one used twirling movements as though gathering the energy up, and then one slowly drew it backwards away from the head in the manner of pulling on the reins of a horse.

This was especially recommended if the patient needed to resolve a past trauma; the more distant the trauma, the further one pulled back the energy, so that in a small consulting room this might necessitate making a gradual backward exit out of the door. We were also urged to wash our hands on completion of the massage lest the client's 'negative energy' adhere to us and leave us with bad feelings.

Apart from these behaviours, I found interesting the reactions of the teacher and group to the lone questioning voice. I shall not say whose this was and I shall leave it to the reader to imagine the nature of these reactions.

My point is this: that were the aura a more visible or tangible entity and more rationally understood, then one would see a more restricted range of beliefs and behaviours, and a greater tolerance of divergent opinion.

'I have an energy flowing from my hands'. The second point to note is that in any other context such an assertion would invite not mere disbelief, but some harsh questions about the claimant's motives and even mental stability. But place him or her in a context of healing, in this case a hospice for the terminally ill, legitimise this with religion, and merely to raise an eyebrow becomes an act of profanity. So we have authentication by *religion*.

Thirdly, note the lure of the *cheap source of power*. It is not only physicists who are looking for this—it appeals to us all. Why bother with the toils of six years' full-time study when the power to heal is literally there at your fingertips?

Take a set of simple techniques, endow them with magical properties by some quasi-scientific, mystical or spiritual theory, make extravagant claims about their healing properties, and you have a common formula in the marketplace of unorthodox therapies. This has been especially noticeable for some time now in the area of lay psychotherapies and psychologically-oriented therapies for medical problems. But more of that at another time.

Authentication by pseudo-science

Most of us do not understand science, and the achievements of science astonish us. People therefore inevitably attribute to science, and to modern medicine itself, magical properties in the manner described earlier.

Not surprisingly, certain concepts elucidated by science have been appropriated by alternative therapists, invested with magic, and presented as authentic ideas and practices. These concepts include force, energy, magnetism, and elec-

tromagnetic waves. Consider the reply of a Kirlian photographer to my question 'What exactly is the "aura"?': 'It's a form of electromagnetic radiation, but it's not recognised by scientists'. Better variations on this authenticating theme are: 'not yet recognised by scientists', 'scientists still don't understand how . . .', and so on.

More recent concepts borrowed and given magical powers are vitamins and minerals, hormones, toxins, allergy, biological rhythms, brain waves (particularly the alpha rhythm, which in itself has given rise to the magical 'alpha state'), subliminal perception, and left-right brain differences, the right cerebral hemisphere having now become a magical concept.

The same fate has now befallen endorphins. These are neuropeptides which ameliorate our experience of pain and are related to certain pleasurable experiences. I have seen several unorthodox therapies authenticated by the assertion that they 'cause the brain to produce endorphins' for which magical claims are then made.

I earlier suggested that magical therapeutic properties are often conferred upon phenomena which, having an ethereal and intangible quality and not being fully understood, somehow hold out the promise of an accessible source of unusual power. Acquisition of this power provides the main motivation for this process, but it is in fact difficult to predict with any exactitude which phenomena may be selected. Half seriously, I believe, for example, that one great attraction of the alpha rhythm is simply its name. When alpha biofeedback was a fad in the USA in the 1970s, group sessions of alpha training used to be held in special places called 'alpha temples'. Would any of this have happened had the phenomenon been labelled 'Higginbottom's rhythm'? I very much doubt it.

Another relevant attribute for a phenomenon to be endowed with magical healing properties is that, at least in our own culture, it must be without harmful side-effects. This would be an unusual characteristic for any treatment of scientifically proven efficacy, since most organically active interventions can't help but carry some risk of compromising healthy functions as well as ameliorating diseased ones. The key point is this: the administration of any substance or procedure which may have harmful effects is usually subject to legal restriction, and it is thereby unavailable for recruitment as a magical nostrum. So something like X-ray radiation, which would appear to be eminently eligible for endowment with magical healing properties, is not promoted as a remedy in the marketplace of alternative therapies *only* because its cumulative harmful effects restrict its accessibility.

But there was a time when these harmful effects were not recognised, and what do you suppose happened? In the 1920s and 1930s X-rays were advertised as a cure for all manner of medical and psychological complaints! No doubt they still would be had not their harmful effects been discovered.

I lately read an interesting account of the ways in which no less a mundane substance than water is marketed as a panacea (Gardner, 1993). Clearly my portrayal of magical remedies as 'ethereal and intangible' is in need of further elaboration.

Conclusions

I do not wish the reader to be left with the impression that my analysis of the social psychology of healing and therapy is concerned just with alternative or unorthodox practices. It is the case however that my initial motivation in pursuing this enquiry is partly the question of how so many practices are able to flourish in the public domain, often apparently indefinitely, when they appear to have no objective validity. The most common and compelling riposte is the assertion 'There must be *something* in it'. 'Surely', we frequently hear, 'astrology (homeopathy, acupuncture, herbalism, etc.) would not have survived for so long, and surely so many people, highly informed and eminent individuals among them, would not believe in it unless there were something in it'. My response is not to try to show that there is nothing in it, but that, human nature being what it is there doesn't *have* to be something in it; a set of beliefs or practices may survive and flourish indefinitely without there being anything in it all, and my intention has been to demonstrate how.

I am not so much concerned here with the rightness or wrongness of unorthodox healing practices or with whether and under what circumstances they should be promoted, regulated or even prohibited outright. The two greatest goals which the alternative medicine industry now seeks for its authentication are firstly legislation or regulations concerning professional recognition, and secondly its advancement within our National Health Service. The orthodox medical industry on the other hand wishes to restrict and even effectively prohibit these practices. I do not wish to address this particular controversy here although I have my own opinions which tend to support the status quo at the time of writing.

However, returning to my broader theme, my enquiry is about healing and therapy in general and I do not wish to overplay the distinction between orthodox and alternative practices which, in any case, is probably far from being clear-cut. There are several other important ways in which healers and therapists seek and maintain their perceived authenticity and the above distinction is of less relevance to these. I hope to be able to discuss these on another occasion.

References

1. Gardner, M (1993), Weirid water or H₂O! *Skeptical Inquirer*, 18, 15–20
2. Hull, C.L. (1933), *Hypnosis and Suggestibility*. New York: Appleton Century Crofts.
3. Skinner, B F (1948) 'Superstition' in the pigeon. *Journal of Experimental Psychology*, 38, 168–172.
4. Skrabanek, P S and McCormick, J (1989), *Follies and Fallacies in Medicine*. Glasgow: The Tarragon Press.

Notes

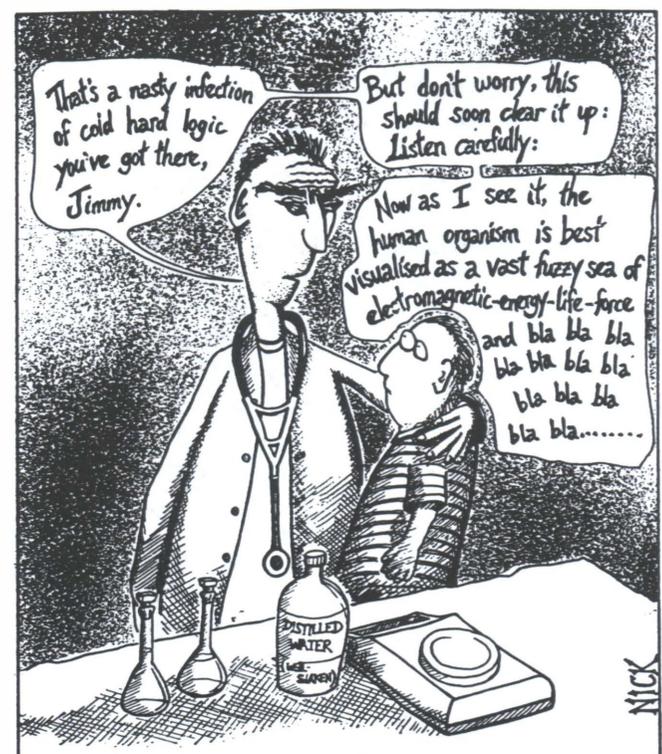
1. The significance of the commitment to the logical congruence of disparate ideas is often overlooked by those who claim the objective validity of unorthodox ideas and practices. For example, suppose a homeopath claims to have demonstrated that certain dilutions are therapeutically active and has put forward an explanation which postulates changes in the molecular structure of the solvent. Suppose that his ideas are now disputed by

physicists on the grounds that they are incompatible with the mass of scientific evidence provided by their discipline. The homeopath may retort that he has offered what he believes is a scientific rationale for his observations and the physicists should either accept it or come up with a different explanation.

There is no immediate satisfactory solution to this impasse but there are important guiding principles which in this instance weigh heavily on our homeopathic colleague. Once he has insisted on the scientific *bone fides* of his observations and ideas, then they are no longer his own private property but are part of the pool of knowledge available to all. Not only that, but just like his physicist colleagues, if he wishes to propose a scientific theory then he is obliged to provide one which is not just consistent with the observations he is endeavouring to explain *but with all other observations in this pool of public knowledge* (or as many as possible). Contrast the implications of this with the recent statement of a homeopathic practitioner that as a result of his observations 'the laws of physics will have to be rewritten'. 'By whom?' we should ask. 2. In psychotherapy, at least, we speak of difficult patients as being 'resistant'. Maybe we can define 'resistance' here as 'the unwillingness of the patient to authenticate the therapist'. Perhaps the opposite could approximate to a definition of 'placebo'. 3. I need to confess here a scepticism about the validity of some clinical trials—that is, how well their results generalise to routine clinical practices. (See M Heap (1992) Science in everyday life. In J W Nienhuys (Ed.) *Science or Pseudo? The Mars Effect and other Claims: Proc. Third EuroSkeptics Congress*. Utrecht: Skepsis, pp 49–58.) 4. c.f. William James on 'the unconscious mind': 'The sovereign means for believing what one likes in psychology and of turning what might become a science into a tumbling ground for whimsies'. (*The Principles of Psychology*, New York: Holt, 1890).

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This article is based on a paper presented by the author at the Fifth European Skeptics' Conference.



Nick Kimm

HOMEOPATHIC REMEDY FOR COMMON SENSE

Quackery Now and Then

Russell Dear

'Alternative' therapies are nothing new

ALTHOUGH I FEEL I should know better, I am still bemused by the never-ending succession of alternative health-care handouts arriving in my mail each week. They assume I'm suffering from a whole range of debilitating illnesses and offer cheap reliable remedies backed up by impressive testimonials.

A recent example was an invitation to buy a magnetic necklace designed to stimulate circulation and hence, apparently, to hasten pain relief in 'all those aching joints'. The handout explained that the secret lay in its 'constituent non-invasive substance Nedymium'. I'm not impressed: I've never heard of it. Unless of course it's a misspelling of the toxic element neodymium. Can a toxin be non-invasive?

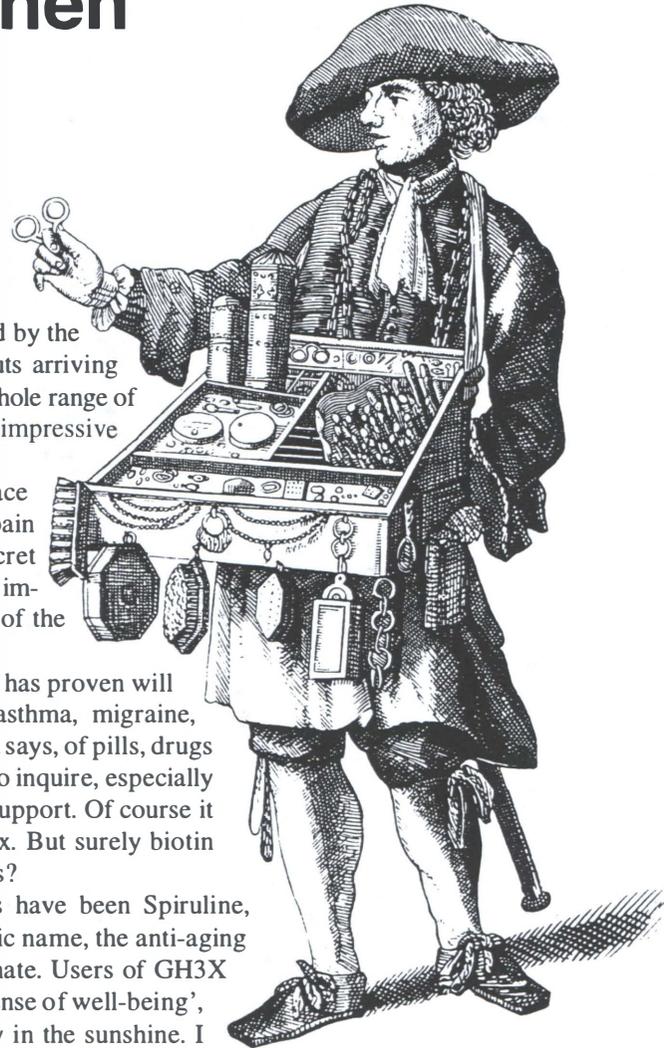
Another handout promotes Biotens which, it is claimed, science has proven will relieve pain caused by. . . well, just about everything: sinus, asthma, migraine, tendonitis (*sic*), and sciatica head the list, and all without the aid, so it says, of pills, drugs or ointments. I still don't know what Biotens is/are, but am tempted to inquire, especially as I know some of the people who provided the testimonials in its support. Of course it could be another misspelling: of 'biotin', vitamin of the B-complex. But surely biotin hasn't been proved to be effective against all those listed complaints?

A couple of food supplements touted in the last few months have been Spiruline, described as the ultimate food additive and with its dubious scientific name, the anti-aging substance GH3X. Spiruline is said to increase stamina and rejuvenate. Users of GH3X claim that it has 'improved their skin quality', 'given an increased sense of well-being', and 'eliminated tiredness'. I think I'd rather have a week's holiday in the sunshine. I know it has the same effects.

Then there's Matol K^m which apparently gives one back that 'get up and go' feeling you had 5, 10 or 20 years ago'. Don't you just love those pseudo-scientific names? They give a ring of authenticity to a product. There's another, Toxoid (sounds poisonous to one) with a formulation which we are told will cure or significantly help acne, shingles, sprains, nappy rash, varicose veins, colitis, ringworm, and many other complaints. My goodness, I must have some of that.

The contemporary alternative health-care scene, of course, promotes therapies as well as elixirs. One I came across recently, 'craniosacral therapy', is particularly appealing. Quoting the handout, 'craniosacral therapy is a form of analytical and intuitive bodywork that focuses on the fine mortality patterns that are present throughout our bodies'. Without understanding a word I can't help but be impressed by the rhetoric.

Of course, quack cures have abounded for centuries, although I suspect the conventional versus alternative health-care dichotomy only began to appear early last century when people, through the application of more rigorous scientific principles, became able to tell the difference. Carl Baunscheidt, for example, in the mid 1800s, got it all



wrong. Observing that his rheumatism seemed to improve after bites from mosquitoes, he constructed a mechanical mosquito he called his 'great resuscitator'. It punctured patients' skins with needles to a depth of 5 centimetres, apparently to allow toxins to escape through the holes.

Baunscheidt didn't have a monopoly on getting things wrong. At about the same time, in parts of Italy, people thought the best way to rid themselves of diseases was by drinking the still-warm blood of recently slaughtered animals. In Germany a health clinic attempted to cure its patients by putting them on an all-grape diet. The American Samuel Thompson had a theory that health depended on an adequate supply of heat being generated by the efficient utilisation of fuel (food) in the body's fireplace (stomach). He believed that heat was the source of life and that when the fire was clogged, burning was less efficient. This necessitated purging to restore health. This took the form of steam baths and eating hot spices to encourage sweating, enemas to clean the lower intestines, and emetics to purge the whole intestinal tract [1].

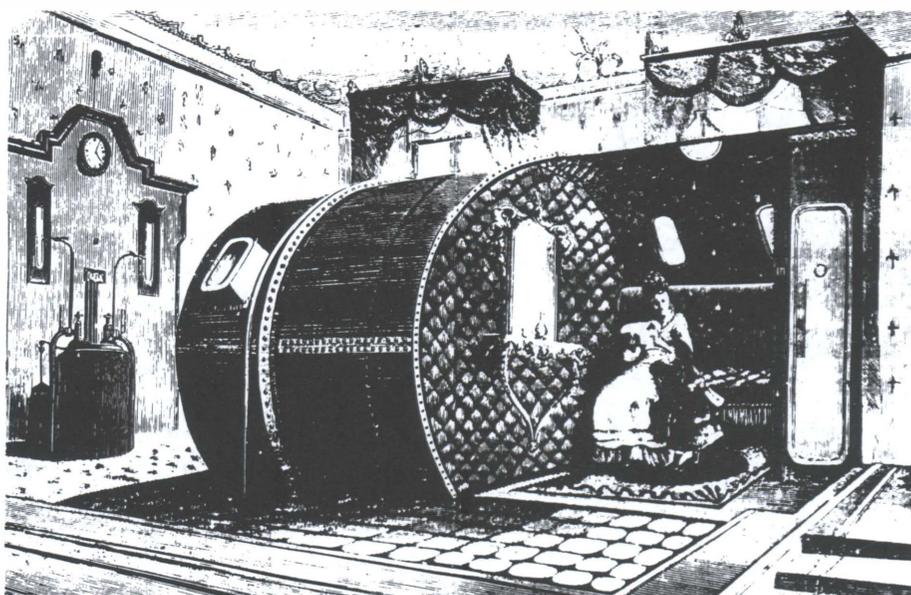
Dr Carlo Forlianini who worked in Milan in the mid-to-late 19th century, devised a method of using air which he claimed was able to cure various ailments associated with

blood and glandular diseases, as well as pulmonary conditions. The sufferer was incarcerated inside a cylindrical metal drum which contained a well-appointed room with comfortable furnishings and portholes. Chemically purified air was pumped into the room and maintained at a pressure slightly higher than that of the outside. The principle of this 'aerotherapy', as it was called, rested upon the idea that air at higher-than-normal pressure would reach all parts of the lungs and so supply more oxygen to the blood. At the same time the higher pressure would remove specific obstructions in the bronchial tubes and the respiratory muscles would also be strengthened. Dr Forlianini's treatment attracted enough custom for him to rename his clinic the Pneumatic Health Institute of Milan [2].

Early this century, probably after the inception of the Pure Food and Drug Act (1907) in the United States and similar initiatives elsewhere, therapies as opposed to medicines became even more popular. Autogenic therapy, for example, was a form of self-hypnosis developed by Berlin neurologist and psychologist J H Schulz early in this century, based on research by Oskar Vogt in the late 19th century. Patients mastered a series of six exercises involving verbal formulae on which they concentrated while lying with their eyes closed in a quiet room. The exercises apparently focused on a feeling of heaviness and warmth in the limbs, regulation of the heartbeat, breathing, warmth in the upper abdomen, and a cool forehead. When these had been mastered further procedures were learned to deal with disorders such as asthma, brain injuries and, we're told, writer's cramp.

Only a few of the early alternative health-cures are remembered. Some like hydrotherapy, are known through the writings of well-known people like Charles Darwin [3]. Others live on in vestigial form, such as the hot and cold compresses, leftovers from hydrotherapy again, or the concept of 'mind over matter', possibly a remnant of Emile Coué's auto-suggestion therapy which was widely accepted early this century. Maybe too, the old idea that heat cures explains the perennial popularity of medicines like Sloane's Liniment and Vick Vaporub.

A few alternative health-cures such as homeopathy survive almost unchanged from their original form. This is probably not surprising since since towards the end of the eighteenth century when homeopathy was introduced, most conventional forms of treatment were invasive to say the least. Techniques such as leeching, purging, and cupping weakened the body and hindered healing. Conventional treatment was almost certain to make a condition worse and could even kill. Owen McShane writes [4] that all of Louis XV's brothers and sisters were killed by doctors and



Dr Forlianini's 'Aerotherapy' room at The Pneumatic Health Institute at Milan, 1876

Louis XV himself only survived because his nanny hid him whenever doctors made a palace-call. Homeopathic remedies and those like them were bland. Having absolutely no effect they allowed the body to carry on its natural healing process without further weakening the system. That fact alone ensured the survival of great numbers of those taking the treatment.

Me? I'm still thinking about that all-grape diet. I'm quite fond of the grape.

References

1. Glymour, Clark and Stalker, Douglas, *Examining Holistic Medicine*, Prometheus, 1989.
2. deVries, Leonard, *Victorian Inventions*. John Murray, 1975.
3. Dear, Russell, 'Water, Water Everywhere'. *The Skeptic*, 8.3.
4. McShane, Owen, 'Homeopathy: Witchcraft for the Times', *New Zealand Skeptic*, 36.

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Lies, Damn Lies, and Statistics

Chip Denman

A look at probability and coincidence

'When you can measure what you are speaking about, and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind.'

William Thomson, Lord Kelvin 1824–1907

MEASUREMENT IS NOT ENOUGH. Scientific understanding lies in comparing measurements and understanding their uncertainty. Statistics is the discipline which not only tolerates uncertainty, but embraces it. Virtually every field of scientific inquiry has contributed to the language, variations, and styles of presentation which make up the body of statistics.

Statistics: a word which has struck fear into many a student. Graduate students from Agronomy to Zoology have been left clueless by introductory statistics and research methods courses everywhere. Undergraduates have despaired over chi-square formulae and F-tests. Those who never had such a course may feel even less comfortable with the 'correlations', 'margins of error', and other terms slung around in the morning paper. Sometimes, I suspect, being more self-consciously ignorant may be better than being blissfully half-smart, statistics being merely the example that I know best.

The language of probability and statistics is everywhere. All of these are from the same edition of a newspaper:

- At least in the near future, state and local government is probably not going to generate a lot of jobs.
- Witch Doctor in the 8th race, odds: 9-2.
- The likelihood of developing severe symptoms was 20 percent in patients receiving the highest dose of AZT.
- Cancer: You'll have luck in matters of finance, romance.
- Gemini: Because Mercury, your ruler, now joins

the sun and Mars in that area of your solar chart which governs work and career matters, you should be quietly confident about the future.

Most of these examples convey a straightforward, everyday meaning (well, maybe if you are a Gemini). Sometimes this everyday meaning is not the same as the precise mathematical meaning that underlies the original intention.

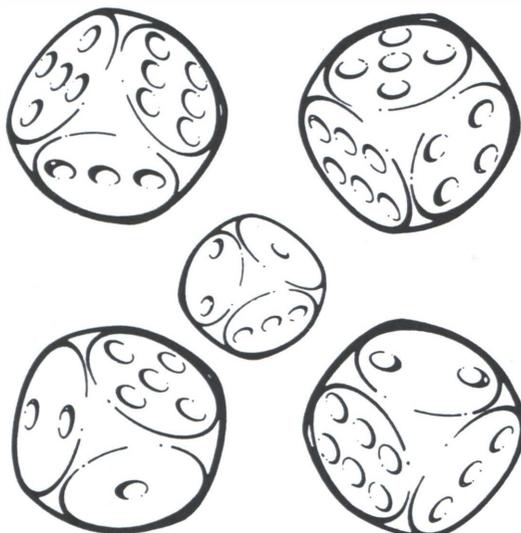
The very term 'statistics' has many connotations. I once spent an hour on the phone with an attorney who called to find out if a certain product was safe. 'Give me the data', I suggested, 'and I can develop the risk estimates'. 'Data? You are a statistician; you are supposed to know these things!' A good librarian might have helped; I could not.

Let me be clear: My role as a statistician is that of a professional skeptic. My training is in mathematical tools for looking at data and evaluating hypotheses. My obligation is to ask tough questions about the data and its source.

The classic statistical paradigm (brushing aside the differences between the philosophies of Fisher, Neyman-Pearson, and Bayesian statistics) is a mirror of the mythic scientific method as promulgated in textbooks:

1. Formulate hypotheses (in terms which relate to probabilities);
 2. Use data to derive a quantitative summary which relates directly to the probability statement above;
 3. Reject (or not) hypotheses based on an evaluation of probabilities;
- ... and repeat as necessary.

Of course, real-life data analysis rarely follows such a recipe exactly. But, hey, if you've seen me in the kitchen, you know that I rarely cook exactly by the book either. In the last 20 years graphical methods, especially those suited to exploratory data analysis, have expanded the statistical menu. Computer-intensive methods based in part on (pseudo) random numbers and repetitive enumeration were



unthinkable even a few years ago.

All of these statistical methods have one fundamental theme: human intuition is very fallible at evaluating likelihoods and coincidence. Even the very meaning of 'random' is far from obvious. We can give a precise definition of probability in terms of abstract mathematical properties (for example, measure theory), but the mathematics *per se* do not define everyday experience. What is this probability thing anyway?

The so-called classical approach to probability provides a convenient way to calculate, at least for simple, finite situations. According to this approach, derived from gambling problems and formalized philosophically by Pierre Simon de Laplace (1749–1827), probability represents the ratio:

$$\frac{\text{number of (equally likely) ways something can happen}}{\text{total number of (equally likely) possible outcomes}}$$

This works fine for things like lotteries and other gambling games, but it's a bit of a reach to apply it to complex events.

To call this *the* classical approach is misleading. Other ways of thinking about probability have been with us for just as long. The relative frequency interpretation is common among modern statisticians, but this same kind of thinking can be found in the mortality tables published in 1662 by John Graunt of London. In slightly more modern terms (proposed by John Venn in 1886 and developed mathematically in the 1920s by Richard von Mises), imagine an experiment in which we observe whether event E happens or not. If we repeat the experiment many, many, many times, the ratio:

$$\frac{\text{number of times E happens}}{\text{total number of repeats}}$$

will get closer and closer to some fixed number from 0 and 1. If we could imagine repeating the experiment forever, the limiting value of the relative frequency would be the 'probability of E'.

This makes sense in a large number of practical problems. We can easily imagine people playing the lottery time and time again. We can imagine, at least in principle, running a horse in race after race. We can even imagine interviewing a large number of 'Cancers' and asking them about their love life. With a little more imagination we can make this work for, say, weather predictions. 'A 30% chance of showers' could mean that if we could somehow observe a really large number of days with conditions just like today, 30% of the time our picnics would be cancelled.

A third (and by no means, final) way to interpret probabilities is as a degree of belief, also known as the subjective interpretation. Only a mental contortionist could devise a frequency interpretation of the statement 'Lee Harvey Oswald probably acted alone'. In this way of thinking, probability represents a measure of your strength of belief. Variations on this idea are useful in trying to represent the degree to which evidence may confirm or disconfirm, say,

'the single bullet theory'. It is also a natural way of talking about the 'prior distributions' in Bayesian analysis. The mathematical niceties of this idea are recent (F P Ramsey in 1926 and L J Savage in 1954). However, the concepts can be traced to 16th and 17th century jurisprudence in which 'probability' was apportioned to evidence according to its certainty.

In practice, it rarely matters which interpretation is chosen. The numbers remain the same.

Even simple problems can knock intuition sideways. I just tossed a penny in the air. What's the probability that heads is showing? One-half, of course. One equally likely chance out of two. But now I have tossed a penny and a nickel together, and I tell you that one of them, and maybe both, heads. What's the probability that *both* are heads? Surely one coin has no effect upon the other, so is it one-half again? The correct answer is one-third. Huh?

Looking at the four possible outcomes of tossing the two coins shows why:

	Penny	Nickel
Case 1:	HEADS	HEADS
Case 2:	HEADS	TAILS
Case 3:	TAILS	HEADS
Case 4:	TAILS	TAILS

There are four equally likely scenarios when we toss both coins. Although the nickel and the penny are certainly independent, we know that they are not both tail up, leaving three possibilities. Double heads is one out of three. The key here is that I did not tell you which of the two coins I was talking about when I said that one of them was heads. If I had let on that it was the nickel, then we'd be left with only two scenarios, which *does* yield the answer of one-half. Something as seemingly trivial as naming or not naming a coin makes all the difference.

If this still seems a bit weird, try the experiment. Toss two coins on the carpet. If both are tails, forget it. Pick them up and toss again. But if at least one head is showing, record the result. Repeat the process until you have a good number of recorded data. What percentage of the record shows double heads? (This same problem is sometimes given in terms of a person with two children, at least one of whom is a boy. For some reason this seems to confuse intuition even more effectively than coins. Try it on someone.)

Another simple problem makes a great classroom demonstration. It is rather unlikely that you and I share the same birthday (day and month, ignore the year). Obviously the more people that we pull into the party, the more likely it is that at least 2 people will match. How many people do we need in order that a match is more likely than not?

Wishing away the pesky matter of leap years, it's pretty clear that if we invite 366 people, at least two of them *must* share a birthday. So how many before the chances are 50-50? (When I've posed this problem in large gatherings, I sometimes get answers like '1000'. Go figure.)

If you've never heard the answer before, it just doesn't feel right: twenty-three. The box shows the calculation.

The key again is that we did not specify which birthday had to match. We did not specify June 25, nor did we require that James and Shirley had to match. We are merely looking for some coincidence, somewhere, anywhere.

Simple puzzles like these do more than point out the weakness of intuition. They also can give us a start toward quantifying more real-life coincidences. Persi Diaconis and Frederick Mosteller have presented extensions to the birthday puzzle which show how easy it is to get near-misses like birthdays one or two days apart. But what about the 'psychic' puzzlers like we've all encountered, at least second-hand? Is Aunt Martha's dream which came true beyond the reach of probability and statistics?

Here's a way of thinking about such events that I first saw sketched out in *Innumeracy* by John Allen Paulos. If there are absolutely no psychic powers whatsoever, it's pretty unlikely that a dream of yours will predict the future. How unlikely? I don't know . . . let's start with the guess of 1 chance out of 10,000. What constitutes a hit? It doesn't really matter; be your own judge. Since this is just an approximation, let's also pretend that you remember one dream a night and that each dream is independent of the rest. Just like in the birthday calculation, start by looking at the probability that a dream *does not* match with the future; Probability of one non-matching dream:

$$9,999/10,000 = .9999$$

Probability of non-matching dreams for two nights in a row (note for non-mathematical readers: the symbol ' \approx ' means 'approximately equal to'):

$$.9999 \times .9999 \approx .9998$$

Probability of a whole year of non-matching dreams:

$$(.9999)^{365} \approx .9642$$

In terms of the relative frequency interpretation of probability, we should expect that about 96.4% of us will not have any matching dreams over the course of a year of dreaming, waking, and remembering.

But this means that we should also expect those other 3.6% to have *at least* one dream each which seems to predict the future. And remember, we are talking about what would happen *without* psychic powers, just relying on pure blind luck. The population of the United States is

The 'Birthday Problem' solved

Probability of *no match* with 2 people:

1st birthday can be any day out of the year: 365/365

2nd birthday can be any of the other days: 364/365

So chance of *no match* is $(365/365) \times (364/365) \approx .9973$

So, probability of a *match* = $1 - .9973 = .0027$

For 3 people the chance of no matching birthdays is:

$(365/365) \times (364/365) \times (363/365) \approx .9918$

For 23 people the probability of no matching birthdays is:

$(365/365) \times (364/365) \dots (343/365) \approx .4927$

So the probability of getting *at least one* match with 23 people is:

$1 - .4927 = .5073$, which is just a little better than 50%. Voila!

about 250 million, so we should expect about 9 million people in the US alone to have 'precognitive' dreams just by chance!

An individual who dreams for 19 years will have almost exactly an even chance of having at least one such spooky dream $(1 - .9999)^{365 \times 19} \approx .5002$. It's no surprise to me many of my students at the university tell me that it's happened to them.

Even if you think that our original guess of 1/10,000 was too high, this kind of analysis is still revealing. What if we try one chance out of 100,000? We still should expect 900,000 people to have the illusion of a psychic flash. Even if we try a ridiculously low chance of only 1 out of a billion, we should expect enough 'precognitive' dreams for *Unsolved Mysteries* to re-enact one a week and have plenty left over as fodder for *The X-Files*.

These kinds of tentative analyses are not proof. The numbers are guesses—your mileage may vary. But they are educated guesses. They show how even elementary arithmetic can go a long way toward slowing the jump to hasty conclusions.

Astute readers have noticed that I said that I would talk about statistics, but in fact I have talked mostly about probability. I lied.

Sources and suggested reading

1. Persi Diaconis and Frederick Mosteller, 'Method for studying coincidences', *Journal of the American Statistical Association*, vol 84 no 408, pp853-861, 1989.
2. Martin Gardner, many volumes of collected 'Mathematical Games' columns from *Scientific American*.
3. Henry E Kyborg, Jr., *Probability and Inductive Logic*. London: MacMillan Company, 1970.
4. John Allen Paulos, *Innumeracy: Mathematical Illiteracy and its Consequences*. New York: Vintage Books, 1990.

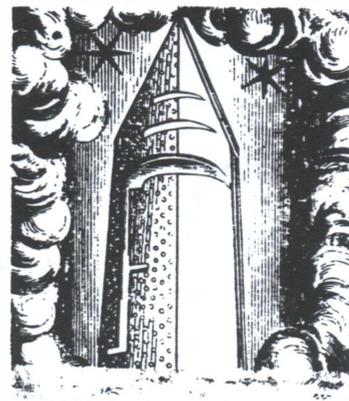
Chip Denman is a statistician at the University of Maryland College Park.

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Psychic Diary

Toby Howard

Deaf to the music of the spheres



I HAVE JUST BECOME the owner of a grave. It came in the post. Well, not the grave itself, but the deeds to it, for me to sign. This plot of land, in a corner of Wallasey on the Wirral peninsula, is now, with a flick of my pen, mine. I hold the title to a few cubic yards of earth, rocks, silt and bugs, and whatever is left of my grand- and great-grandparents, therein.

It focussed my mind. We don't like to think about death, unless we're connected with the undertaking trade, and here I was signing on the dotted line to cheerfully accept custody of my forebears' last resting place. Their molecules are down there, mingling with the earth and perhaps destined to end up in someone's potatoes. (Sorry if you're reading this over dinner.)

For some people, this isn't an issue, because they know that the reality of the person has, at the point of death, escaped the horrors of bodily decay, and flown majestically to the 'Other Side'. The 'Other Side', in case you hadn't heard, is a place of beauty, caring, love and contentment. The 'other side', I remember once hearing a medium say, of 'the coin we call "life" '. Cringe.

Which brings me to a confession of a U-turn. A few issues ago, I wrote rather kindly of *Psychic News*, praising its recent re-styling and re-invention as a sort of post-modern paranormal paper. Alas, it has now re-re-invented itself, having been acquired by the Spiritualist National Union, who replaced the paper's entire editorial staff. With this change, whatever innovations I thought I had detected have now vanished into the astral ether, and the newspaper

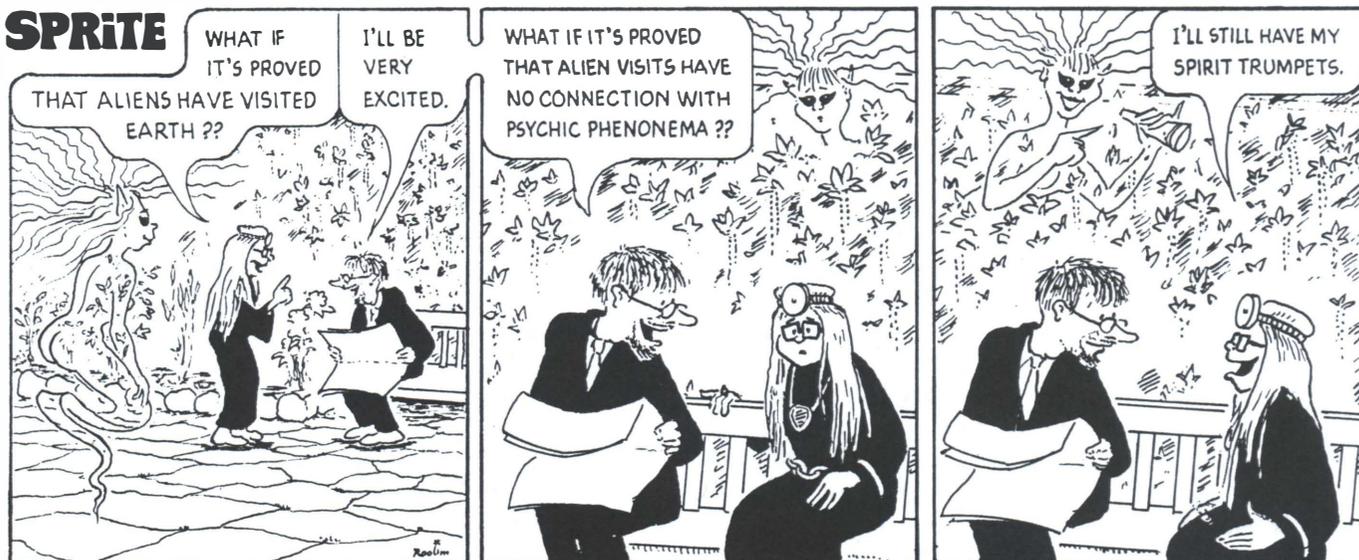
has plunged back to plumb the psychic depths. It's a pity.

But the old *Psychic News* went out in style, covering the reappearance of Liberace at a Nottingham séance of the Noah's Ark Society, who go in for good old-fashioned physical mediumship, via 'direct voice' medium Colin Fry. Not only did Liberace speak in his trademark smarmy voice (*Ireallywannathangyewladiesangennelmen*) to describe the 63 feet long candlestick he now possesses in lieu of his famous candelabra, but his fingers materialised too. Fair enough, but—hang on—what on earth was *Liberace* doing in *Nottingham*?

I think I can explain this. It's a slow day in the musicians' section of the spirit world. God is having a lie-in, and everyone's feeling rather lifeless. Jimi Hendrix has an idea: he calls Django Reinhardt to suggest an all-star jam session. Django calls J S Bach, who calls Cole Porter, and also a guy called 'Ug' from the Palaeolithic era who invented the drums. Cole calls recent resident Jerry Garcia and then John Lennon, who astral-emails his soul-mates Elvis and Buddy Holly. On the way, Buddy runs into Glenn Miller, who spirit-faxes Miles Davis, John Coltrane and Handel. Handel pops over to Vaughan Williams' place, where Mozart and Elgar happen to be staying, and they head along to Freddie Mercury's jam joint. Unfortunately, *Liberace oversleeps and misses the gig*. So when the call comes in from the Noah's Ark Society. . .

Toby Howard is a lecturer in computer graphics at the University of Manchester

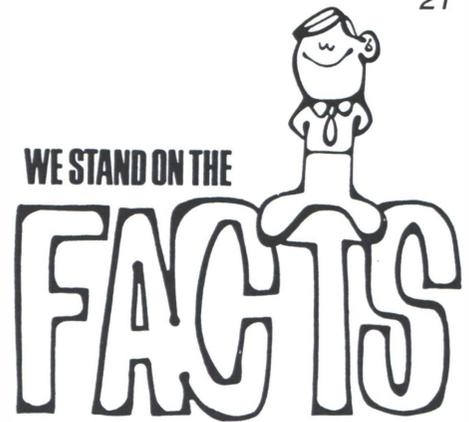
SPRITE



Skeptic at Large

Wendy M Grossman

Getting it right, and getting it wrong. . .



TODAY HAS BEEN a schizophrenic day. Half of the time I feel like a star. The other half, I've spent incompetently trying to write an article I hate for a publication that ought to be far too august to hire me. This column is one of many displacement activities I've adopted to get away from it.

Top two reasons for stardom. One: yesterday I became one of the first people in history to get paid for writing for the World Wide Web, the Internet facility where many think the future of commercial publishing may lie. I wrote my piece, and a week later it was published where any of the many hundreds of thousands, perhaps millions, of Web users can go look at it. What's interesting is that the e-publication is owned by *The Economist*, which hires almost no freelancers in its real life. I guess the piece will be gone from the Web by the time you read this—though I don't know what they're doing about back issues—but if you're on the net and want to read a net-publication written by real (or in my case, fake) journalists, try <http://www.d-comm.com>. You'll need forms to register, but there's no charge.

Two: I have been named as a co-conspirator in a book. While this is not quite the thrill that being threatened with suit by Uri Geller was (I wrote a news piece for *New Scientist* a few years ago about the legal battles between Randi and Geller, and Mr Geller was apparently not a happy reader), it's still pretty 'coo-uhl' as my friends' kids say. Or at least it would be if any of the conspiracy charges were true.

The book in question is called *Dirty Medicine*, and its author, Martin J Walker, is apparently highly skilled in the art of drawing conclusions where none exist. He did at least some of his homework: he read all the back issues of *The Skeptic*, even in the old, Irish days when it was a scruffy newsletter produced at home with dry transfer lettering and lots of wax. Here are some of his conclusions: Manchester is the UK centre of CSICOP activity; Toby Howard was the most important member of the editorial board of *The Skeptic* in its Irish days, before he moved to Manchester; CSICOP and *The Skeptic* have an agreed agenda; and I have written about microtechnology, thereby showing my 'continuing commitment to industrial science'. I am hugely and enormously flattered by this, which is a pity, because it's mostly wrong.

Manchester is indeed the home of *The Skeptic*, but that's because Manchester is where its editors live. Although Randi's TV show was taped there, that was largely

an accident of who bought the series. The production company, Open Media, has as much connection with the skeptics as the tabloids have with Hugh Grant. As most people know, the leading UK purveyor of CSICOP-related materials, Prometheus Books UK (proprietor Mike Hutchinson) is located in Essex. The book never mentions Mike, who predates all of us by 10 years. The most important *Skeptic* editorial board member in the Irish days was Peter O'Hara, who did half the work.

There is no agreed agenda with CSICOP. When I founded the magazine, admittedly at the suggestion of CSICOP's then executive director, Mark Plummer, CSICOP provided a mailing list of UK subscribers to the *Skeptical Inquirer*. Other than some ideas for increasing subscriber rates and activities, that's their whole input. *The Skeptic* is an entirely autonomous publication. The fact that many of us share the same views is as 'conspiratorial' as the fact that a high percentage of *Windows User* magazine's regular contributors are into fly-fishing.

Now, about being committed to industrial science. I only wish it were true: it sounds so noble and knowledgeable. In fact, like most freelance writers, I am only committed to earning a living. If someone asked me tomorrow to write a piece about medical scams, or industrial wastage, or saving the Panda, I'd take the work, deadlines and fees permitting.

What I do, mostly, though, is write about computers, and the horrible software that runs (badly) on computers, and the things people do with computers. My favourite subject, as some of you may have noticed, is the weird and Protean world of cyberspace. I knew nothing about any of it when I started; they actually pay me to learn about this stuff. They call it research. I wish Walker had done some more of it: why on earth didn't he ask us a few questions checking his facts? We'd have answered.

What's really sinister, had Walker but known it when he read his single copy of *What PC?*, is that the person who got me my first jobs writing about computers is Nick Beard, one of the two co-founders of Walker's much-despised Campaign Against Health Fraud (now Health Watch). Does this mean that the computer industry is secretly funded by the health industry? Answers on a postcard in pink ink, please. There will be a prize for the best conspiracy theory.

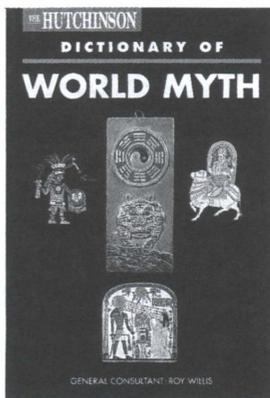
Wendy Grossman is the founder of *The Skeptic*, and a writer and folksinger.

Reviews



Myths and gaffs

Roy Willis (Editor), *The Hutchinson Dictionary of World Myth* (Helican, 1995, hardback, 240 pages, £14.99)



Not too long ago, I took a coach tour of the Peloponnese to see as many of the famous ancient sites as I could reasonably manage within a week. Our guide was a personable English woman who spoke fluent Greek but who had clearly mugged up her ancient history at one of those training seminars the brochure says the tour operator gives. As we travelled, she read relevant myths

and potted history from a big notebook. The stories were confused, the history inaccurate, the whole thing hilarious. But while I enjoyed the unintentional comedy and kept quiet, I am quite sure that someday, someone else will cause her considerable embarrassment by publicly pointing out her gaffs. If I had known about this book then, I would have given her a copy.

The Hutchinson Dictionary of World Myth is just what the title implies—a collection of short articles identifying mythical people and motifs from all over the world. The book includes China, Japan, South America and Australia as well the more usual Greece and Egypt, although, obviously, Greece in particular is very well represented. The book is illustrated with line drawings adapted from works of art so it is very attractive to look at. Another nice touch is the cross-referencing. Near each entry, on a side bar, is a list of related subjects for the reader to refer to. At the back there is an index of themes and a supplementary list of names with references back to the main dictionary. For those who want to know more, there is a bibliography. My only slight complaint is that there is no pronunciation guide. I could certainly use some help with the Celtic and South American names.

There are a few minor errors mainly in the dates given for some of the works of art illustrated. But all in all this is a good, standard reference book for anyone who wants or needs to know about mythology and it is small enough to slip into your luggage if you are planning a trip to Greece, particularly if you think you might wind up with the same guide that I had.

—Marjorie Mackintosh

Persuaded by magic

Tanya MLuhrmann, *Persuasions of the Witch's Craft* (Picador, 1994, paperback, 470 pages, £9.99)

The author, an American anthropologist carrying out research in the UK, writes about her encounters with witches, pagans, and ritual magicians generally—in contemporary England! In traditional anthropological style, she investigated the subject in person by joining many magical societies and participating in their studies, beliefs and rituals. While remaining skeptical herself, she nevertheless describes the individuals and groups she encountered with courtesy and understanding, and with the sympathetic eye of a skilled novelist. This fascinating work is neither a credulous catalogue of marvels nor a polemic of 'debunking', but rather an attempt to understand what happens culturally and psychologically when people are convinced by the 'persuasions of the witch's craft'.

The author explores four general categories of modern occultism and ritual magic (that is, specifically *not* stage conjuring and sleight-of-hand). Popular prejudice to the contrary, Luhrmann reports that these groups are basically law-abiding and socially responsible (practising 'white magic'), and that nude dancing, ritual sex, drugs and satanism are (generally) absent.

The first category is 'Wicca' (witchcraft), mainly modern covens founded by Gerald Gardner and Alex Sanders. Although claiming ancient lineages, the rituals of these groups seem to be recent creations, with extensive borrowings from Freemasonry, the Golden Dawn, and (of course) the writings of Aleister Crowley. The second, 'Western Mysteries', refers to fraternities which use Kabbalistic ritual to contact spiritual guardians ('adepts on the inner planes'). These movements (such as Gareth Knight's 'Greystone' group) owe a lot to Theosophy and the Golden Dawn, two organisations that (together with the Society for Psychical Research) arose in the last century at a time when the findings of modern science (especially Darwinism) had undermined traditional religion and spirituality, and many people were searching for an alternative that would combine the best of both worlds, that is, this one and the 'astral' plane. The third category, ad-hoc ritual magic, is practised often in groups started by someone who read a book on Egyptian or Nordic ritual and decided to have a go themselves. The fourth category is non-initiated Paganism, involving Earth mysteries, study groups, and frequent meetings in parks, pubs and so on.

Magicians in the first two categories often describe

themselves, interestingly enough, as Pagans. Again, none of the above see themselves as in any way Satanists or Devil-worshippers. Members of these groups are by and large sane, well-educated, and in many cases professionally qualified individuals (such as computer scientists, academics, bankers, civil servants, company managers), and are by no means hippies, drop-outs, or mentally disturbed. They often take an interest in scientific theories, which they see as being complementary (rather than antagonistic) to their more spiritual beliefs.

Again, unlike many 'New Age Cult' organisations, the above societies have a tolerant and eclectic approach—'all paths are valid'—and are not dogmatic in their philosophies. Indeed, members are left to decide for themselves whether the forces, entities and deities experienced in ritual are real beings, metaphors for some sorts of psychic processes in the individual, or perhaps psychological emanations from a Jungian collective unconscious.

Many magicians start off as philosophical skeptics, willing to try out the methods pragmatically just to see if they work, and only gradually come to believe in the theories as a result of practical experience with ritual, meditation, lucid dreaming, astral projection, and so on. It seems that imagery, dreamwork and dramatic techniques (such as ritual) are all fairly standard contemporary forms of psychotherapy, and there is no reason to doubt that they can sometimes be effective, albeit in a psychological rather than an occult context.

The author read astrological charts, tarot cards and auras, experimented with guided meditation and dream control, and invoked the mystic powers from the safety of a magic circle. While not a believer, she explains how the mystical experiences and altered states of consciousness involved can be very compelling, and (to many magicians) can be *prima facie* evidence that their techniques actually work.

Luhrmann takes for granted that these methods have no physical (as opposed to psychological) effect, and so does not discuss evidence for and against topics such as psychic healing and astral travel. Such commonplace 'psychic phenomena' as spoon-bending and levitation are not even mentioned, nor is there any reference to CSICOP or the skeptical movement.

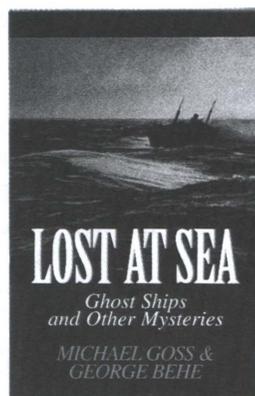
A large bibliography contains many academic references, together with Blavatsky, Aleister Crowley, Farrar and Farrar, Fortune, and Marian Green. I found a solitary skeptical reference—Sue Blackmore's *Beyond the Body*. Luhrmann does, however, point out some of the strategies that ritual magicians (and no doubt other alternative groups) use to justify their ideas to the outside world. If a healing ritual (say) seems to work, then the theory is taken to be confirmed. On the other hand, if the ritual fails to work, then the participants may be blamed for not carrying it out correctly, and the theory is not called into question.

This book contains many thought-provoking observations on the way New Age ideas may spread and be believed by otherwise rational and well-educated people, and deserves a wide readership, not least amongst skeptics.

—Mike Rutter

All at sea

Michael Goss & George Behe, *Lost at Sea* (Prometheus, hardback, 1995, 360 pages, £15.99)



I approached this book with some enthusiasm. It is an accepted fact that sailors are the source of a great deal of superstition, and tales of shipwrecks are often embroidered with invocations of the supernatural. I was interested, therefore, to hear a sceptical point of view of such matters. Unfortunately I was sadly disappointed.

The book is divided into four sections: 'Ghost Ships', 'Mysteries Under The Sea', 'Lost Liners' and 'Assorted Tales'. It begins encouragingly enough, recounting the story of the *Lady Luvibund*, a ghost ship rumoured to have foundered on the Goodwin Sands in the early eighteenth century. The authors show that no account can be found of the ship before the twentieth century, thus casting considerable doubt as to whether the prototype ever existed, let alone its spectral namesake. Later in this section the authors show that another alleged phantom ship, the *Palatine*, is the victim of an oral tradition that totally distorted the facts of the story, even failing to get the name of the vessel correct. So far so good, apart from a rather long passage speculating on the existence of the *Flying Dutchman*, and a seemingly interminable section on a Japanese 'ghost light' phenomenon known as *shito-dama*.

The second section, which deals with submarine mysteries is also quite well done. In an examination of the sinking of the *USS Thresher*, the authors show how accusations that a vessel is jinxed can be reasonably easily explained by examining the way in which the press works and the spurious connection of unrelated incidents. Similarly the story of a haunted U-Boat is carefully researched and shown to be riddled with inaccuracies.

It is in the third section, 'Lost Liners', that the authors seem to completely lose their ability for analytical thought. We get an inkling of what we are in for in a section about the *Waratah*. This was a passenger liner whose loss was apparently foreseen in a dream by a man who reported his fears to fellow passengers and left the ship just in time (unfortunately none of the passengers he allegedly warned did, leaving his story a little difficult to verify).

Things go from bad to worse, however, in the sections on the *Titanic* and the *Lusitania*. Here case after case is cited of people who had premonitions of the disasters. These premonitions came to them in various forms, such as visions, dreams or via the ouija board. Unsubstantiated claims made more than eighty years ago by people who have long since died are repeated with breathless awe. The rules of probability or coincidence are barely alluded to in the face of dreamers and professional mediums. One of these professionals has an extraordinary visitation by a

dead soul from the *Lusitania* whilst sitting in a restaurant. It is only when she rises to leave that she spots the plaque on the chair, commemorating the unfortunate man. Didn't it occur to the authors that she might have seen the plaque before she sat down. . . ?

Worse, the book disobeys its own rules. On page 151 the authors criticise an account for being ' . . . too dramatic to be true'. How, then, do they justify the account of a visit to a medium concerning the *Lusitania*, in which the medium's statements are repeated word for word, the narrative even given in inverted commas? Or what about this section about a young fiancé apparently foreseeing his own death in a wreck?

But Edward looked at her earnestly. 'Don't joke Sadie,' he said. 'Don't think I haven't prayed about this'. . . Embarrassed and flustered the young man handed his fiancée the papers. Sadie paled and tried to refuse. . . (page 323)

And all this about a couple who were on their own at the time! Later, in their section on the *Queen Mary*, the authors point to the fact that, during her lifetime forty-nine deaths occurred aboard her, and speculate that this could have a bearing on so-called ghost sightings aboard. By this kind of logic, every hospital in the land would be infested with ghosts, and extensions would be required simply to house these spiritual inhabitants.

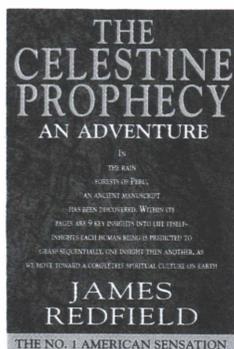
I could go on, but I won't. Suffice to say that whilst some apparently paranormal phenomena may be worthy of investigation by sceptics, I could find little or nothing here that fell into that category.

One final thought. The book has two authors, and of the four parts, two are quite well treated and are moderately interesting, whilst the other two contain nothing but credulous speculation. If the division of authorship was along these same lines, as I believe it might be, either Mr Goss should get rid of Mr Behe, or vice-versa.

—Mike Walsh

GCSE wisdom

James Redfield, *The Celestine Prophecy* (Bantam, 1994, paperback, 282 pages, £7.99)



This book is rather like the Curate's Egg—but unfortunately it is good in all the trivial places, and bad in all the important ones. Thus, it has a lovely appealing cover, all blue and gold, proclaiming this to be the 'No. 1 American Sensation'. But while the shell may be speckled, blue, gold and glossy, the innards are rotten to the core.

The story is a contrived tale about a man—strangely similar to the author—who falls into a search for the Manuscript, an ancient Mayan text written in (of all things) Aramaic, which reveals nine fundamental insights into the cosmos and mankind's place

therein, now and in the future. The trouble is that these new insights have been split up and are now drifting around Peru in the possession of various research groups, hotly pursued by the religious establishment and the military.

On his quest for the insights the hero gets into various scrapes with the authorities, never however letting this get in the way of his blooming spiritual development. As for this, the aim is to absorb the insights in order, and hence to enable the wider culture to raise its level of vibration to such heights that whole groups of people become attuned with universal energy and disappear off to a new plane of existence! This is all a bit far removed from the first insight, which is to become aware of the coincidences that mesh together significant parts of our lives. Indeed, the way in which our hero's spiritual development progresses, learning to see auras in little more than half an hour, just by looking, makes the whole story seem farcical. I imagine there are a great many GCSE English students capable of knocking together a book of this quality (the conversational prose is formulaic, often reminding one of the early attempts to make computers understand English, especially when dialogue takes place with those who are highly developed.)

This is not to say that the book is totally without merit. Some of the ideas expressed (the second and fourth insights) may even have some use. But the author has obviously chosen to represent his views about the world via a fictional narrative, with the consequence that those of his conjectures which are amenable to factual assessment will pass to the reader as given.

Additionally, I gather that one can join the Celestine Prophecy spiritual development path by purchasing supplementary materials at the snip of \$49.99! Those who complete it all and master all the insights need not be bored—a book on the tenth insight is forthcoming. One wonders how many more insights Redfield and his followers will discover before the mass market appeal is gone and the spiritual wisdom dries up.

Of course, by that time the devotees will have raised their vibrations to a higher plane, hence disappearing from Earth altogether. Let's hope they take this book and its 282 pages of New Age nonsense with them.

—Tony Lawrence

In eighty nutshells

Michael Macrone, *A Little Knowledge: A World of Ideas from Archimedes to Einstein Clearly Explained* (Pavilion, hardback, 253 pages, £12.99, 1995)

This is the fifth book by Michael Macrone. His previous works include *Brush Up Your Shakespeare!* and *By Jove! Brush Up Your Mythology*. This is his first book that doesn't have 'Brush Up' and an exclamation mark in the title. I suspect Macrone is trying to go a bit up-market.

The idea is a bold one. Macrone has written 80 little essays, each a few pages long. In each he explains, in a chatty, easy to read style, one of the Really Big Ideas of humanity, such as Original Sin, Deconstruction or Chaos Theory. The longest essay is on Relativity. He polishes off

the general and special theories in a total of 7½ pages!

The sounds ridiculous, but Macrone generally does a good job. He has a knack for getting right to the heart of ideas and potting them in a few sentences. As far as I can tell, his descriptions are accurate, and he doesn't seem to be pushing any particular idea himself.

I did find a number of small bloopers. Writing about evolution, for instance, Macrone says that Darwin spent years breeding pigeons to provide evidence for his theory. In fact, he collected enormous amounts of evidence from a great range of sources. Then, says Macrone, when Wallace's outline of the idea arrived, Darwin hastily presented a summary paper. Well, not quite. Two friends of Darwin presented bits of Darwin's work and Wallace's work at a meeting. However, these are not very important errors.

I suspect that the book is not meant to be read straight through. Eighty potted big ideas, one after the other, is enough to make you feel a bit bilious. Instead, the best way is to read through one essay or another as your interest guides you.

Two reservations: First, of course, reading a Macrone mini-essay is not really a proper study of an idea. You'd do far better spending a couple of days with a decent introductory book. Macrone says as much, and obligingly presents a list in the back. Second, Macrone's chatty little essays tend to conceal another Really Big Idea: getting big ideas and working them out is very, very hard work. It can take years of effort.

I suspects skeptics will like this book, both for its breezy tone and the way it cuts through swathes of baffle-gab to present the ideas. It would make a good present for someone who has everything, but doesn't know everything.

—Martin Bridgstock

A magical A to Z

E and M A Radford, Edited by C Hole, *The Encyclopedia of Superstitions* (Helicon, 1995, paperback, 384 pages, £10.99)

A great book, the kind to keep in the magazine rack in the smallest room (this is definitely not to suggest that it should replace the services of the Sears catalogue).

Published originally in the 1940s, the book combines a calm and scholarly presentation with great accessibility. It is an A–Z of superstitions, and there is something of interest anywhere you dip into it and whatever your tastes. To a rank amateur in the field of folklore like myself, the survey appears pretty thorough and I couldn't come up with a superstition on which it didn't comment.

For the skeptic, of course, it is an entertaining survey of British 'magical thinking' over the ages. It also illustrates the enduring aspects of human nature, good and bad. I will give just one example, from a paragraph in the entry under 'hair'—where I had hoped to find something with which to tease my red-headed wife. According to the authors, it was believed in Scotland that almost any ailment could be cured by taking hair, an eyelash and some nail parings from the patient and leaving them on the highway sewn up with

a small coin in a bag. Whoever picked them up would take the disease—a touching display of consideration for strangers.

A thoughtful reading of the material in this book will, I believe, pay dividends to the skeptic. To quote from the foreword:

It is this persistent vitality, and their long history, that make superstitions so interesting and justify their study. To believe in them too deeply, as some do, and allow them to prey upon the mind is foolish, because that is to carry unnecessarily a burden of ancient fears which ought long since to have been discarded. But to understand them and to seek out their true meaning and origin, gives us a deeper knowledge of human nature in general, and of the mental history of our own forefathers in particular.

And yes, in case you were wondering, I did succeed in teasing my wife.

—Martin Hempstead

Talking heads

Martin Gardner, *The Flight of Peter Fromm* (Prometheus Books, 1994, paperback, 280 pages, £13.50)

It saddens me to have to admit that I found this book unreadable. In view of the many hours of non-fictional reading pleasure that Martin Gardner has provided me with over the years, I also can't avoid a twinge of guilt, not to say treason. But this re-issue of his 1973 book is a bummer. The cover tells you plainly that this is 'a novel'. But it isn't. Gardner provides a cod foreword, claiming to have received the manuscript from the widow of one Homer Wilson. Gardner claims that in his youth he had once attended Wilson's University of Chicago course on the psychology of religious belief. The body of the novel consists of Wilson's account of the spiritual odyssey of the divinity student Peter Fromm.

The device doesn't come off. In a short story, it is sometimes useful to let one of the minor characters tell the story. But here there is no story. This ill-chosen narrative device means that we only get in touch with Fromm on the occasions when he visits Wilson, or writes him a letter. We never get near the man, or see him in action for ourselves. Eric Ambler once said that the very least you could expect from a main character was competence. Alas, Fromm fails even on these simple grounds. He is a particularly dim recruit in the ranks of God's army of nerds.

The 'novel' presents us with a series of talking heads: a parade of theologians and their various points of agreement and disagreement with one another. Page after page is taken up with the pseudo-question of whether the resurrection of Jesus was a physical event or merely symbolical, and the issue is fought interminably, using biblical quotations as weapons. Nothing is resolved, of course.

Even when it's all over, Gardner can't bring himself to just stand back and let the book speak for itself. There is a curious afterword, in which he tells us about some of the good reviews of the book, and lets us in on some of the details of his early brushes with religion. The influence of a Sunday school teacher helped to bring about his conversion to fundamentalism. This lasted through his first three years

at the University of Chicago, and he was one of the organizers of the fundamentalist Chicago Christian Fellowship.

In the novel, Peter Fromm eventually abandons Christianity, but remains a philosophical theist. This, says Gardner, 'reflects my final views. Am I Christian? In a sense, yes, because I admire and accept what I believe were the central teachings of Jesus, in so far as they can be extracted from the gospels. His simple theism, however, was a far cry from such bizarre doctrines as the Virgin Birth, the physical Resurrection, and a blood atonement for the ridiculous sin of Adam and Eve.'

Gardner says, 'Anyone interested in my present opinions, religious and otherwise, will find them detailed in my *Whys of a Philosophical Scrivener*'. But this is hardly true either. It gives me no pleasure to record that that muddled book offers no clearer treatment of the issues: 'The view I hold will strike any atheist or pantheist as a childish way of avoiding the central problem by taking a position that can never be confirmed or falsified. To this I at once plead guilty.'

He writes: 'Ask [nominal atheists] if they believe in God, and the automatic response is a smile and a headshake. But during moments of extreme agony a strange thing happens. They are startled to hear themselves pray. Secretly, subliminally, they suspect and hope that God exists'. This sort of stuff is simply dishonest.

The saddest thing is this: 'Try meditating about God. Say something to God. Give thanks for something. Ask forgiveness for something. Ask for something you desire, remembering that God knows better than you whether you should have it or not. What can you lose?'

What can you lose?! Is this Sunday School tract the essence of Gardner's case? But he refuses to clarify. 'There is no way to justify it by any argument. . . Nor can it be justified by empirical evidence'. Now there is a motto for the paranormalists to nail to the doors of the laboratory, and it comes to them courtesy of Martin Gardner. And therein lies my main objection to his religious writings.

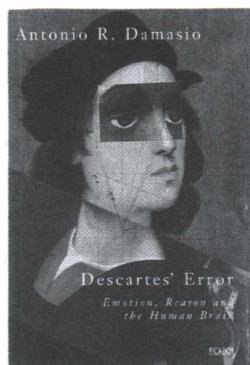
—Lewis Jones

All in the mind

Antonio R Damasio, *Descartes' Error: Emotion, Reason and the Human Brain* (Picador, 1995, hardback, 312 pages, £16.99)

Many of us assume more or less unreflectingly that reason and emotion are, or at least should be, entirely separated functions of the brain. The mechanisms of reason are believed to function optimally when emotions are carefully kept out. This ideal of 'pure' reason is implicit in most accounts of rationality.

Antonio Damasio, an American neurologist of world-renown, argues that pure reason is a self-defeating ideal. Much of his argument is based on studies of patients whose reasoning is truly 'pure' and unaffected by emotion, namely patients with localized brain lesions that give rise to 'flat' emotions, or incapability of harbouring emotions. As a consequence of their emotional deficiency, these patients have a severely reduced ability to set goals and to try



consistently to achieve them. Their minds constantly drift away from tasks given or chosen. They also fail to differentiate between options of different values, which makes them incapable of rational decision-making.

Hence, 'pure' reason is a pathological rather than an ideal form of reason. On the other hand, Damasio is well aware

of the negative effects that some types of emotional influences may have on rationality. Wishful thinking and superstition are among the most obvious examples.

Well-functioning reasoning does not require absence of emotion, and neither is it compatible with any kind of emotional influence. It requires a proper balance of emotions. Damasio does not have much to say about the exact nature of this balance. To characterize it should be a task not only for biologists but also for philosophers and decision theorists.

The essence of feeling an emotion, according to Damasio, is to experience those physiological changes in the body that are associated with that emotion. The brain continuously monitors the state of the body through neural and chemical channels of information. You are not really afraid, sad or happy unless the brain registers the biological changes in the body that are associated with these respective states of mind. In support of this hypothesis, Damasio refers to studies of patients with disturbances that affect the brain's monitoring of the body state. Loss of proprioception (perception of the body's own position and movements) and other similar disturbances are associated with severe disruption of mental processes.

According to Damasio, human rationality is connected to emotions and feelings, and the latter are in their turn connected to the basic interaction between brain and body. It follows from this that Descartes must have been wrong when he dissociated the rational mind from the body. *Cogito ergo sum* is neurophysiologically wrong, since human thinking cannot exist as pure thinking without bodily experience.

Equally wrong, says Damasio, are those cognitive scientists that regard the mind as a software program that could be run on any computer but happens to be run on the computer called the brain.

This is a well-written and thought-provoking book. It contains a mixture of what is commonly acknowledged by neurologists and various controversial hypotheses put forward by the author. However, Damasio is unusually careful to tell the reader when he is talking about agreed-upon facts and when he is speculating.

Another important virtue is the absence of 'imperialistic' claims on behalf of his own discipline. Damasio is eager to point out that although biology can teach us much about human social behaviour, social phenomena cannot be reduced to biology, but must be studied in their own right.

—Sven Ove Hansson

Letters



Russian astrology

With reference to the story that Boris Yeltsin is using astrology (Hits and Misses, *The Skeptic*, 9.3), when I first read this story in the *Sunday Times* I called the League of Independent Astrologers in Moscow for an opinion. I spoke to Karine Dilanian who told me that Yeltsin was indeed associating with the 'healer', Dzhuna, but that she was not an astrologer. She also told me of an astrologer who had previously tried to approach Yeltsin and had met with a sharp rebuff. The claim that Yeltsin has a team of astrologers would therefore seem to be an invention by the *Sunday Times* and essentially repeats those about Brezhnev's supposed relationship with healers and astrologers. However, I have heard of other contemporary Russian politicians, up to deputy prime minister level, consulting astrologers, so the essence of the story may be true. There is though, a difference between a one-off consultation with an astrologer and the consistent use of astrological advice, as in the Reagan White House.

As far as the emission of Satanic energy by Lenin's corpse is concerned, on a visit to Moscow in 1990, prior to the collapse of communism, I was told by Russians that the door to Lenin's mausoleum was always left slightly ajar (which it was) to allow Lenin's soul to breathe. At the critical moment in the hourly changing of the guard an unseen soldier inside the tomb would open the door by about another six inches, and then close it again. I was told that this was to allow Lenin's spirit to leave and enter the mausoleum. This was certainly an eerie sight and whether or not the Soviet officials who devised the idea believed Lenin had a spirit, they were clearly adept at manipulating symbols.

I have visited Russia three times since then and I'd disagree that

superstition is running rife since the end of communism. I think a better model would be the replacement of a single state-imposed superstition by the anarchic, almost democratic, explosion of a thousand systems. In other words it's not the growth of superstition which should concern us, but the change in its forms. After all, communism may have been anti-religious, but was nothing if not superstitious.

Nick Campion
Bristol

Ancient ghosts

Re: 'See-through ghosts' (Letters, *The Skeptic*, 9.3), these certainly go back not only before cinema trick photography, but before the 1860s too: well before.

In Book 23 of the *Iliad*, Achilles is visited by the ghost of Patroclus 'looking and talking exactly like the man himself', but when he tries to embrace the spirit 'it vanished like a wisp of smoke'.

Similarly in the *Odyssey*, Odysseus calls up the ghost of his mother, but as he embraced her 'like a shadow of a dream she slipped through my arms, thrice did the vainly caught vision slip through his hands like the bodiless wind, like the swift winged flight of a dream'.

There are other ancient references. In the story of Gilgamesh, Eabani is raised from the underworld 'like the wind' from the earth. Other Babylonian references describe the spirits as 'vapours' or 'winds'.

Smoke, shadows, wind, are all used to depict the insubstantial nature of the ghost. So-called witness accounts may not use the word 'transparent', but this is usually implied by the vision's habit of appearing and disappearing. The post-resurrection appearances of Christ are similar to the older stories: he will not let Mary Magdalene touch him; he can get through locked doors; he appears and disappears at will.

It seems to me that when the nineteenth century photographers, and the later film makers, wanted to depict a ghost, they were cleverly creating a visual image to correspond to an already held ancient and well-entrenched folklore belief.

Elsie Karbaz
Colchester

In search of 'Kosmon'

At a recent dinner our host produced a copy of a book I have often heard of but never seen: *Oahspe, a Kosmon Bible*, printed in 1960 by Lowe & Brydone and containing a typewritten note, tipped in before the title page, stating that there were going to be changes and referring everyone to an address in Sompting, near Lancing.

I promised to find out more about the book by way of thanks for an excellent meal. However, although I remember hearing about it long ago from a friend and fellow SF fan much interested in minor cults and religions, he is now dead and none of my own reference works indexes either the 'bible' or the Kosmon Church.

From internal indications this is American. It has most of the typical earmarks: an artificial history of the world in mock Old Testament language combines with a naïve private theory of the universe, denying, for example, gravity, and it makes particular reference to tall, copper-coloured people in the New World. The level of 'scientific argument' suggests that it was out of date long before 1960.

Well, having drawn a blank, where do I turn next?

Clearly, on the principle that Satan knows the scriptures, to *The Skeptic*.

Can anyone help? Please write to me *clo The Skeptic*.

John Brunner
Somerset

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