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PART II

## CONTENTS

### Articles

Giving Up The Ghost To P	.....	2
A Feminist Critique Repud	SEE .....	14
Homoeopathy - An Update	.....	20
No Contest: The Non-Deb	PART I .....	24
by <i>Simon Coleman and Le</i>	.....	24

### Review Essay

Intellectual Impostures by <i>David Unsworn</i> .....	31
---	----

### Book Reviews

Eye and Brain by <i>Bruce Evans</i> .....	36
Abracadabra by <i>Dougie Gibbard</i> .....	37
The Psychic Mafia by <i>Tony Youens</i> .....	39
Positively False by <i>Jamie Revell</i> .....	40

Some Articles Of Note by <i>Wayne Spencer</i> .....	43
---	----

### Comment

Religion, Science & Skepticism - A Response by <i>Steuart Campbell</i> .....	53
Religion, Science & Skepticism - Another Response by <i>Doug Bramwell</i> .....	54
A reply to Cambell and Bramwell by <i>Dónal O'Mathúna</i> .....	55

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## REVIEW ESSAY

### Intellectual Impostures

By David Unsworth

Review of Alan Sokal and Jean Bricmont. *Intellectual Impostures.* London: Profile Books. 1998. £9.99. Paperback. ISBN 1-8619-7074-9.

Contents: Preface to the English edition. Introduction. Jacques Lacan. Julia Kristeva. Intermezzo: Epistemic relativism in the philosophy of science. Luce Irigaray. Bruno Latour. Intermezzo: Chaos theory and 'postmodern science'. Jean Baudrillard. Gilles Deleuze and Felix Guattari. Paul Virilio. Godel's theorem and set theory: Some examples of abuse. Epilogue. Appendix A: Transgressing the boundaries: Toward a transformative hermeneutics of quantum gravity. Appendix B: Some comments on the parody. Appendix C: Transgressing the boundaries: An afterword. Bibliography.

#### Introduction

*Intellectual Impostures* by Sokal and Bricmont arose directly from the infamous hoax perpetrated by Sokal upon the American cultural studies journal, *Social Text*. Sokal's article, *Transgressing the Boundaries: Towards a Transformative Hermeneutics of Quantum Gravity* (reproduced as an appendix in the book under review), was a parody compiled from nonsensical - but genuine - quotations about physics and mathematics culled from the works of a number of prominent French and American academics. The article berated natural scientists for clinging to the dogma 'imposed by the long post-Enlightenment

hegemony' which included the assumptions that there is an external world which is independent of individuals and that human beings can obtain objective, albeit imperfect, knowledge of physical laws. In addition to containing falsehoods, non sequiturs and pure nonsense, the article deliberately misrepresents and parodies theories within mainstream physics and mathematics to see whether these assertions would be challenged by the editors. No such challenges were raised.

The article was accepted and published only to be exposed as a hoax by Sokal himself. Sokal's objective had been explicitly political. It was to:

... combat a currently fashionable postmodernist/poststructuralist/social-constructivist discourse - and more generally a penchant for subjectivism - which is, I believe, inimical to the values and the future of the Left' (Sokal and Bricmont: 146)

Whatever Sokal's motivation, the effect was immediate and dramatic. Articles appeared in the Times, Independent, Guardian and other broadsheets. He was described as 'Le pauvre Sokal' by Jacques Derrida and the book denounced as 'disinformation ... an intellectually and politically insignificant product' by Julia Kristeva. On the other hand, he has been hailed as the person who dared to say what many had been thinking. Perhaps a large body of work which had found its way into academia was proving difficult to understand and subject to endless interpretations because it might not mean anything substantial in the first place.

In this review I shall consider three aspects of this affair. Firstly, I shall consider Sokal and Bricmont's ostensible objectives within the book and the extent to which they substantiate their claims. Secondly, I shall focus upon the contribution of the book to the wider debate concerning epistemic relativism within social and natural science. Finally, I shall offer some observations upon the value or otherwise of the infamous *Social Text* hoax.

#### Postmodern misuse of science and mathematics:

Sokal and Bricmont have a number of modest aims within this book. They intend to show that a number of famous intellectuals - Lacan, Kristeva, Irigaray, Baudrillard and Deleuze - have repeatedly abused and misunderstood scientific concepts and terminology within their work. This abuse manifests itself in the use of scientific ideas completely out of context, with no rationale for the extrapolation of the concepts from one field of enquiry to another and with scant regard for their meaning.

Three examples will serve to illustrate Sokal and Bricmont's approach and general conclusions.

As an example of mathematical formalism being used in an inappropriate fashion, Sokal and Bricmont cite Lacan's conclusions concerning the meaning of  $\sqrt{-1}$ :

"And since the battery of signifiers, as such, is by that very fact complete, this signifier can only be a line [*traif*] that is drawn from its circle without being able to be counted part of it. It can be symbolised by the inherence of (-1) in the whole 'set of signifiers.

... Thus by calculating that signification according to the algebraic method used here, namely:

$$S (\text{signifier}) / s (\text{signified}) = s (\text{the statement})$$

with  $S = (-1)$ , produces:  $s = \sqrt{-1}$ ." (Lacan; cited Sokal and Bricmont: 25)

Sokal and Bricmont point out that even if this algebra had any meaning, the "signifier", "signified" and "statement" are not numbers. In addition, the "/" appears to be an arbitrarily chosen symbol which cannot have the conventional meaning of the division of two numbers. However, this does not prevent Lacan from pursuing his reasoning to the following conclusion:

"Thus the erectile organ comes to symbolize the place of *jouissance*, not in itself, or even in the form of an image, but as a part lacking in the desired image: that is why it is equivalent to the  $\sqrt{-1}$  of the signification produced above, of the *jouissance* that it restores by the coefficient of its statement to the function of lack of signifier (-1)" (Lacan; cited Sokal and Bricmont: 25)

In addition to not being able to resist a joke about the equation of a penile erection to  $\sqrt{-1}$ , Sokal and Bricmont point out that these calculations are pure fantasy.

A further target for Sokal and Bricmont is the arbitrary stringing together of scientific and pseudo-scientific terminology without any apparent regard for their meaning within a specific context. Quoting an example from the writings of Baudrillard:

"... Our complex, metastatic, viral systems, condemned to the exponential dimension alone (be that of exponential stability or instability), to eccentricity and indefinite fractal scissiparity, can no longer come to an end. Condemned to an intense metabolism, to an intense internal metastasis, they become exhausted within themselves and no longer have any destination,

any end, any otherness, any fatality." (Baudrillard; cited Sokal and Bricmont: 142)

Sokal and Bricmont assert that Baudrillard's work contains a "profusion of scientific terms, used with total disregard for their meaning and, above all, in a context where they are manifestly irrelevant."

One of the more damning accusations made by Sokal and Bricmont is that some of the authors cited manifestly do not understand the mainstream scientific and mathematical concepts which they employ within their own work. The work of Paul Virilio on "dromocracy" (from the Greek *dromos*: speed) comes in for particular criticism:

"Remember that the dromospheric space, space-speed, is physically described by what is called the 'logistic equation', the result of the product of the mass displaced by the speed of its displacement,  $M \times V$ ". (Virilio; cited Sokal and Bricmont: 163)

Sokal and Bricmont point out that the logistic equation is a differential equation which is used, among other places, in biology. It is written  $dx/dt = \lambda x(1-x)$ . It has nothing to do with  $M \times V$ , the Newtonian concept of momentum.

These specific examples have focused upon the authors' abuse and misunderstanding of scientific and mathematical concepts. The general point is that the inclusion of scientific jargon and symbols within a work does not, of itself, imply that the work is meaningful or rigorous. Whilst Sokal and Bricmont do not claim that their criticisms apply to all of the work of the cited authors, those who attempt to understand and appreciate this wider work should not feel guilty or inadequate because they cannot discern the meaning of the jargon and symbols. Their meaning may be difficult to understand precisely because they are meaningless within this context.

### Postmodernism and Epistemic Relativism

What do Sokal and Bricmont contribute to the wider debate concerning epistemic relativism within social and natural science? Sokal and Bricmont define 'postmodernism' as:

"an intellectual current characterised by the more or less explicit rejection of the rationalist tradition of the Enlightenment, by theoretical discourses

disconnected from any empirical test, and by a cognitive and cultural relativism that regard science as nothing more than a 'narration', a 'myth' or a social construction among many others" (Sokal and Bricmont: 1)

It is clear that the authors are less than impressed by the idea of science as a 'narration', a 'myth' or a 'social construction'. They devote several sections of the book to examining the history of this notion in order to defend the idea of science as a process which can and does offer descriptions of a world which is independent of any individual or group. They trace the development of this form of irrationalism from Hume's scepticism through to Popper's falsifiability principle and the critique of this latter principle by, among others, Quine, Kuhn and Feyerabend. Sokal and Bricmont identify an irrationalist drift in this process which has led to the establishment of a 'strong programme' in the sociology of science. This 'strong programme' has the objective of explaining the content of scientific theories in purely sociological terms. Sokal and Bricmont argue that this ignores an element which would appear to be necessary to explain the success or otherwise of such theories; i.e. a reality which exists independently of such theories. If you take away the notion of a reality which is independent of our discourse about reality, then the notion of 'knowledge' quickly collapses into a mishmash of individual subjective impressions, group preferences and political power. 'Truth' becomes a curious mixture of what I feel like being the case, what most people would vote for and who has the most clout!

One of the many problems which this position faces is how it influences our behaviour when practical choices have to be made. Sokal and Bricmont are particularly scathing of intellectuals who advocate the equivalence of medical practices based upon magic and those based upon chemistry, but who invariably return to medicine based upon chemistry whenever they are seriously ill. In a similar vein, I once attended a seminar where a person who had spent some time in Finland described the process of Inuit holistic medicine and advocated the superiority of this approach over a Western reductivist paradigm. She had had to return to England due to an accident, but delighted the audience by praising the excellent technology available within the modern Finnish health

service. When asked whether Inuit holistic medicine had played any part in her recovery, she answered in the negative without any realisation of the import of the question. Her positive view of wholesome primitive healing practice was an irrelevance given the experience of a broken ankle. Of far more relevance were modern radiological facilities, painkillers and a schedule of physiotherapy.

Sokal has invited those of his opponents who view the laws of physics as social constructions to test their theories by stepping out of the window of his twenty first floor apartment. Many, including Sokal himself, see this as being an unfair comment, but is this the case? Presumably those who deny the ontological independence of the laws of nature will not take up the challenge because they strongly suspect that no amount of support from their communities, their political power or deconstruction of the notions of 'height', 'gravity' and 'mass' will prevent the experience from being very unpleasant. There appears to be, therefore, some understanding of the notion of 'objective causal relations' which, despite one's intellectual preferences, ought to be taken seriously. Failure to do so could hasten the decline in the number of people who hold this subjectivist view of the world.

In this book, Sokal and Bricmont do not provide any new arguments by which the radical epistemic relativist can be persuaded to change his or her mind. This is probably too much to ask given the nature of the relativist position. They do, however, provide a useful historical and theoretical framework which helps us to appreciate how certain academics could have understandably - but erroneously - arrived at a counter-intuitive view of the world and their own position in relation to that world.

### **The *Social Text* Hoax**

And then, of course, there was the hoax. Despite its general entertainment value and having provided the impetus for Sokal and Bricmont to write this book, I would argue that there are reasons for questioning whether the hoax has assisted the debate surrounding the work of the cited authors or, more interestingly, the many serious issues concerning epistemic relativism.

Epistemic relativism is the view that the truth or falsity of a factual proposition is always relative to

the individual or group who states the proposition. This contrasts with a realist position. Realism asserts that the truth or falsity of a factual proposition is dependent upon whether the world ~~is~~ as the proposition describes it, irrespective of who holds the proposition to be true or false. External reality constrains the degree to which the truth or falsity of propositions can be dependent upon individual or social factors. From the realist point of view, the dangers of an epistemic relativist position are clear. If an appeal to the characteristics of an objective world drops out of our discourse how are factual disputes to be resolved? If we are trying to solve an factual problem, what criteria will suggest that some actions will be useful and some actions useless in reaching a solution? Indeed, what does 'solving the factual problem' mean if both the 'the factual problem' and what could count as a 'solution' are dependent upon which individual or which group is doing the interpreting?

Given these serious issues how, if at all, did the *Social Text* hoax assist in teasing out the respective merits and demerits of the realist and epistemic relativist positions?

Firstly, it could be argued that there has been an implicit betrayal of trust involved in the hoax. The hoax succeeded because of the assumption that articles for journals are submitted in good faith with a view to contributing to constructive debate within a specific academic discipline. Under certain circumstances, of course, subterfuge is entirely justified. Few people would have moral qualms about an undercover operation in times of war or in order to prevent an act of mass destruction. However, it is very unlikely that the editors and readers of *Social Text* pose a threat of the same magnitude.

There are also more pragmatic reasons for arguing that the hoax may have been unwise. Having made the editors and supporters of *Social Text* look very foolish, it is going to be difficult to engage them in any constructive debate about the relative merits and demerits of their position. An effective strategist will manoeuvre opponents into a position where his or her objectives can be achieved with the least amount of opposition. It is not a good move to publicly humiliate an opponent if you then intend to try to win them over to your point of view. Having been subjected to such treatment, why should they trust either you or the

position you represent? Of course, anyone who has had to endure interminable arguments about the reality of paranormal phenomena will testify that sometimes 'one horse laugh is worth a thousand syllogisms' (H.L. Mencken; cited in Gardner 1981). However, such a response is not to engage an opponent in a rational debate or make an appeal to evidence. If we advocate argument and evidence as the mechanism whereby disputes are solved, then the hoax may have worked against this goal.

The final problem is hinted at by Sokal and Bricmont themselves. Sokal and Bricmont appear to have been sensitised by criticism following from Sokal's *Social Text* hoax. They preface the English edition of *Intellectual Impostures* with a clear statement of their aim. This is simply to identify and criticise the abuse and misunderstanding of scientific concepts and terminology within the work of the cited authors. Sokal and Bricmont are equally clear about what they are not intending to do. They are not calling into question the value of the other work of the cited authors, upon which they reserve judgement. Nor are they claiming that only logic, experiment and reason can lead to knowledge. Nor that non-rational processes never play a part in scientific enquiry. Nor that the whole of social science is an ill-conceived and futile activity. Nor, of course, that the French are mad.

However, it may not be possible to ensure that others will exercise the same restraint. The hoax may act as a signal for uncritical attacks upon those aspects of postmodernity which do not rely for their influence upon the abuse of scientific concepts or by presenting themselves in impenetrable and meaningless prose. For example, Dominic Strinati's book *An Introduction to Theories of Popular Culture* (Strinati 1995) contains a lucid and critical review of

postmodernism and popular culture. Amongst the characteristics of postmodernity in this field is a mistrust of 'meta-narratives'. A meta-narrative makes absolute, universal and all embracing claims to knowledge and truth. Examples of meta-narratives include Marxism, psychoanalysis and scientism. Whilst the terms may be unusual, the substantive point is perfectly reasonable and consistent with a scientific and critical approach to theory building. There is a danger that the undoubted success of the hoax may encourage opponents of postmodernism to get a little too excited and throw out one or two small, but very important, babies along with the ocean of useless bath water.

### Conclusion

Whatever misgivings I may have concerning the value of the hoax, there is no doubt that *Intellectual Impostures* is an excellent critique of an intellectual fashion which would dispense with the notion of an external, objective world and replace it with a curious mixture of subjectivity, group dynamics and textual analysis. And the latter appears to become irrelevant to its own advocates whenever the simplest action needs to be taken. Sokal and Bricmont are to be commended for the quality of their research, the clarity of their arguments and the audience they have drawn into this important debate.

[Editor's note: Alan Sokal was invited to reply to the criticisms of his hoax expressed in this review. No reply was received.]

### References

- Gardner, M. 1981. *Science: Good, Bad and Bogus*. Buffalo: Prometheus Books.
- Strinati, D. 1995. *An Introduction to Theories of Popular Culture*. London: Routledge.

## BOOK REVIEWS

### Eye and Brain

By Bruce Evans

Review of: Richard L Gregory. *Eye and Brain: The Psychology of Seeing*. Oxford: Oxford University Press, 1998. Hardback: 0-19-852423-4, £25.00. Paperback, 0-19-852412-9, £10.99.

*Dr Bruce J. W. Evans is Director of Research at the Institute of Optometry, London. He is also a member of ASKE.*

The "greatly re-written" fifth edition of this book takes the reader on a fascinating and enjoyable journey through the process of visual perception. The book has clearly developed a richness since its first edition some 32 years ago, and draws widely upon the authors' extensive knowledge in the field. One of the strengths of the book is the varied nature of its content, variously touching on art, anatomy and physiology, history of science, optics, and concentrating on unravelling the mystery of visual illusions.

The first chapter is a general introduction with an excellent overview of the history of theories of visual perception. Like so much of the book, the second chapter, which covers basic optics and the nature of light, is readily accessible to the lay reader. Chapter 3 is a logical progression to describe the structure and function of the eye, and provides a particularly lucid overview of comparative anatomy of human eyes with other species. It is interesting to read that, following the invention of spectacles in 1286, they were worn in secret because scholars associated weak eyes with weak brains (most optometrists still encounter this viewpoint from time to time!). It is anecdotes like this which help to make the book so readable. For example, the author tells us that the number of cone receptors is about the same as the population of Greater New York and that there are more people on earth than there are cells in the brain.

Chapter 4, "*Brain*", provides an excellent introduction to the structure and function of the brain,

noting that the Ancient Egyptians thought the brain to be a relatively unimportant organ. We soon find out that about half the cerebral cortex is involved in processing vision. There are very few "typos" in the book, but one on page 78 might confuse the reader as it suggests, incorrectly, that the "magno" pathway processes colour vision. This chapter gives an insight into the use of modern brain imaging techniques to unravel brain function, but it might have been useful if the subject of neural nets had been covered in more detail.

The next two chapters, on seeing brightness and movement are clear and both benefit from "hands on demonstrations" that the reader is encouraged to try. It is surprising that Chapter 7, "*Seeing Colours*" does not discuss in detail the principle of colour opponency. The author notes with interest that mammals up to the primates probably do not possess colour vision, although lower animals do. Chapter 8, "*Learning how to see*" includes a fairly detailed discussion of classic experiments with inverting spectacles (which make the world seem upside down) and provides a thought-provoking insight into the effect of bringing sight to people who have been blind since infancy.

Chapter 9, "*Realities of Art*", faces the difficult task of relating art to the science of visual perception and achieves this with great success. To this reviewer, who has a mainly scientific education, the brief discussion of the history of art was particularly fascinating.

Chapter 10, "Illusions", is one of the longest in the book and this reflects Gregory's own expertise in this area. A central theme of the book is that when a perception departs from the external world to disagree with physical reality then this can reveal a great deal about the mechanism of visual processing. The heuristic emphasis on illusions may also reflect Gregory's skill at knowing how to maintain readers' interest and enthusiasm in subjects which can be rather heavy going. This chapter provides a very clear description of many visual illusions and describes a classification which has both face validity and some experimental support. Here, and elsewhere in the book, Gregory is careful to note dissension and to comment on alternative viewpoints to his own. It is perhaps not surprising that some of the experiments

and explanations of the illusions are the hardest parts of the book to follow. It may be inevitable that when researchers discuss their own research it can be difficult for the non-specialist to follow. Nonetheless, this chapter still provides a fairly detailed analysis of how, and often why, the eye and brain can be fooled.

The final chapter, "Speculations" extends the classification of illusions and gives an interesting discussion of the nature of consciousness. The book is extremely well written and clearly illustrated and is informative to both the lay reader and to the vision scientist. It is not just a book about the eye, nor just about the visual part of the brain. It is really a guide to how we see the world and as such would be useful reading for any sceptical enquirer.

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## Abracadabra

By Dougie Gibbard.

Review of Nathaniel Schiffman. *Abracadabra: Secret Methods Magicians and Others Use To Deceive Their Audience*. Prometheus Books. 1997. ISBN 1-57392-163-7.

Contents: Foreword/ Preface/ The Foundation of Deception/ A Magician's Dozen/ What is Magic Made of? / The Art of Chicanery / Analyzing the Action / Things to Look for When Watching a Magic Show / Crashing the Clan / The Audience / The Stage and the People on It / Grrrrrrrowlll.'.' The Animals of Magic / Props and Gimmicks / Illusion Outside of Magic / Translating Magic into Desires / The Use of Fakery and Magicians' Psychology/ Out of the Theater / Misdirection Magic in Everyday Life / Magic in Selling and Advertising / When the Curtain Closes / Glossary: Magician Jargon / Bibliography/ Endnotes/ Index

*Dougie Gibbard is a retired college lecturer turned magician. He is also a member of ASKE.*

In his forward to this book Henry Gordon concentrates on the magical aspects. He thinks the magical hobbyist should first acquire knowledge of the basic principles of conjuring rather than learn tricks. The principles include the subtleties of misdirection, the understanding of human perception, the basics of showmanship, and the understanding of visual and psychological illusion. Gordon thinks this book satisfies that need. He goes further, 'The many examples and explanations of the art of misdirection are among the highlights of the book. They're an excellent primer for the beginner...'

However, a publisher's handout states: "This

is not a 'how to' book for aspiring magicians, but a layperson's guide to methods used to mislead or fool you".

According to the publishers, the author Nathaniel Schiffman "is a writer and magic enthusiast whose longstanding fascination with magic has compelled him to explore the nature of illusion by devouring magic literature, attending countless performances, and performing tricks". As far as this reviewer is aware he is not a professional magician. This is important as it means that most of the information in this book is, so to speak, second-hand.

The author, enthusiast allegedly, is also quite



ready to expose the secrets of his magical brothers. He takes the line that this will force magicians to hone their craft. Not much of a justification. It is certainly true that the layperson learning the secrets of magic is going to experience less pleasure from magical performances in future. That sense of wonder and mystery, the "wow" factor will be gone for ever. Even the author agrees on this.

It seems the author has dabbled in magic since he was a boy and has read some books on the subject and talked to a fair number of magicians. He also relies on information from Usenet postings. He quotes anonymous magicians from time to time as well as named persons. Overall he seems not to hold magic or magicians in too high a regard despite being an "enthusiast". Here are a few quotes: "neighbourhood magic flunkies who come in to strut and gab"; "such a great secret allows them to be lazy"; "sicko torture tricks"; "dopey little tricks"; "the typical hobbyist who buys a few stupid tricks at a magic store"; and at least twenty-four uses of the word sneaky and its variations.

He states that "ventriloquists seem related to magicians only in the sense that the two fall about on the same nerdiness level". It is almost as if he wishes to cast aspersions on magicians in order to justify his own exposure of their secrets.

In the context of dove magic he says, "How would you like to be wrapped up in simulated newspaper and shoved in a sweaty guy's pocket all day?" I hope I do not need to reassure readers that doves do not suffer such an indignity.

The whole tenor in which the book is written is one of jokey disrespect:

"(Randi) has a respect for his peers, and he understands all the persistence, thought, study and intelligence that goes into making a piece of magic into an artform."

"And he holds these talented conjurers in high esteem, wishing to enjoy their craft as a botanist enjoys the delicate scent of a flower."

"Luckily we're laypeople, so we can be as barbaric as we wanna (sic) be."

"Let's get into some no-holds-barred, let's-figure-out-how-the-trick's-done snooping."

So is it a good magic primer? It certainly contains much useful information but suffers from not being written by an experienced professional magician. There is a glossary of magician jargon, a bibliography and an index. Of the books listed in the bibliography less than a quarter would satisfy a budding magician wishing to be taught techniques or tricks. Of these I would select only five for my bookshelf. This leads one to wonder whether the author's background reading is extensive enough. I would have expected to find authors of classic magic books. Authors such as Fitzkee, Maurice, Tarbell, Wilson, Hilliard, Tamariz.

One chapter deals with "The Art of Chicanery". Although this covers "Movement", "Pantomime", Sound and Music", Patter and Padding", and other subjects, there is no real teaching on these matters. For example, the budding magician is given no instruction on movement and stage geography, technique for assistants, what to do with his or her feet etc.

In the chapter on misdirection there is no instruction on the use of the eyes and body language. As a magic primer I would not recommend it. Someone wishing to become a magician would be much better off with the cheaper "Magic and Showmanship" by Henning Neims.

So how about laypersons who wish to understand how they are being deceived by other "Magicians" such as advertisers, politicians, army commanders, spies, con-artists, faith healers, psychics etc. etc. Part four of the book deals with the hoaxes and trickery of this motley crew. Here the book is on firmer ground although there are gaps here. There is a great deal of information presented for anyone not wishing to be hoodwinked by anyone:

The author says "Figuring out how the tricks (and this applies to other deceptions of course - Reviewer) are done is a combination of knowing what to look for, where to look for it, and when to look." How true, and this of course is why you should use an experienced magician to expose any other kind of cheat. The author discusses movement, facial expressions, physical marks, noises, switching, masking, numerical methods, loads, clothes, smoke, lights, verbal sleights, technology, position, twins, touch, smell, taste and other clues. Plenty to be going on with.

It might have been better for the book to have expanded more on the means and techniques employed by various twisters, con-men, cheats, psychics and other "deceptionists". The existing explanations of various simple tricks could have been omitted as could the explanations of magician's stage illusions.

When we visit a magician we are expecting to be deceived. What we most need protection from are those who befool us in other spheres of life.

Nevertheless you are going to be much more difficult to swindle after reading this book. As the author himself concludes, "The techniques magicians use to deceive an audience are useful to know for real life, but ultimately they detract from a magical performance. Use your knowledge of them wisely, when confronted with a seedy used car salesman, or door-to-door evangelist. But when going to a magic show, I say enjoy the show." Amen.

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## The Psychic Mafia

by Tony Youens

Review of: M. Lamar Keene (as told to Allen Spraggett). *The Psychic Mafia*. Prometheus Books 1997. ISBN1-57392-161-0.

Contents: Foreword / Preface / Miracles Deluxe / The Making of a Medium: *How it all started* / High Camp among the Spirits, or *Who grabbed my ectoplasm?* / The Name of the Game: Money, or *The spirits and Swiss banks* / Secrets of the Seance, or *Giving the spirits a helping hand* / A Short History of Mediumistic Fraud, or "*Spooks-a no come*" / Sex in the Seance, or *How to lay a ghost* / The Unmasking of a Medium: *How it all ended* / The Psychic Mafia/ Bibliography

*Tony Youens works as Safety Training Officer at Nottingham Trent University and in his spare time as a psychic illusionist. He was a founding member of ASKE.*

First published in 1976, *The Psychic Mafia* tells how M. Lamar Keene rose to become a highly paid and much sought after spiritualist medium. The book is basically one long confession of how Keene and his fellow spiritualists deliberately conned, hoodwinked and otherwise cheated a trusting clientele.

Keene seems to make no attempt to justify himself or attempt to portray himself in a favourable light. From the very first chapter he makes a special effort to boast and brag about how clever he was and how easily he managed to cheat his way to the top. The picture he paints of both himself and his fellow mediums is one of total callousness. The name of the game was to extract as much money from their devotees as possible.

Operating from Camp Chesterfield, which Keene describes as "...spiritualism's answer to Disneyland", this highly organised group of fake

mediums used a sophisticated information system comprising of many thousands of indexed cards containing personal details about their clients. Some files also included various personal objects taken from the clients or their homes beforehand which could act as "apports". These would eventually be given back to their owners during a seance, and it would be suggested that they had been returned to them by the spirits. This system, primitive compared to the information processing ability of today's computers, was staggeringly effective in convincing sitters that they were witnessing genuine phenomena.

The book contains explanations of how the psychic effects were achieved, and for the most part these were fairly simple yet nonetheless effective tricks. One example was when Keene, during a service, broke a glass and proceeded to eat some of it apparently protected from harm by spirit power. The explanation? He actually ate ice from a nearby

dish. Through the microphone the sound of the ice mimicked that of the glass being crunched in his mouth.

Eventually Keene's conscience, spurred on by a woman who later became his adoptive mother, gets the better of him and he turns away from mediumship.

Despite the basic premise of the book, Keene himself does not deny the possibility of life after death or telepathy, but he does show that no matter how remarkable the information provided by

the medium, there is usually a straightforward explanation.

Many of the book's revelations are somewhat difficult to accept. Keene's constant boasting tends to make one wonder how much hyperbole is mixed in with fact. Nevertheless it is good that Prometheus have resurrected this classic work. It is written in an easy to read style that will hopefully widen its appeal beyond that of just interested sceptics.

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## Positively False

By Jamie Revell

Review of: Joan Shenton. *Positively False: Exposing the Myths Around HIV and AIDS*. London: IB Tauris. 1998. ISBN: 1-86064-333-7. £17.95. 277pp.

Contents: Foreword by Gordon Stewart / Preface / Journey into Dissidence / 'AIDS: The Unheard Voices' / Life in Backrooms and Bathhouses / Hunting the Human Retrovirus / Plague Terror / 'The AIDS Catch' / Fall Out / 'AZT: Cause for Concern' / Amsterdam and All That / 'AIDS and Africa' / 'Diary of an AIDS Dissident' / Whatever Happened to AIDS in Haiti? / Poppers and AIDS: Haemophilia and AIDS / Does HIV Exist? / Appendix / Notes

Jamie Revell is a fellow of the Institute of Biomedical Science and employed at the cellular pathology department of a general hospital in Kent. He is also a member of ASKE.

Joan Shenton has produced seven TV documentaries questioning the link between HIV and AIDS. Now she has continued her attack on medical orthodoxy in a new book. While the book is competently written, it shows a strong, emotive bias towards the small minority of AIDS researchers who deny that HIV has any role in the disease. Those who disagree with her are almost uniformly portrayed as unpleasant, ignorant, or both, while dissidents such as Peter Duesberg and Robert Root-Bernstein are far-sighted geniuses heroically struggling against an oppressive establishment. Those who defend the orthodoxy are 'stubborn', while those who defend an opposing view are instead 'tenacious'.

In order to defend her arguments, Shenton has to posit a powerful conspiracy of scientists, pharmaceutical companies and gay-rights activists determined to maintain the viral theory in the face of scientific evidence. The peer review process in

scientific journals comes in for particular criticism, as it is accused of existing primarily to suppress unwelcome evidence and stifle debate. Non-peer reviewed journals such as *Continuum* are praised for having the courage to tell the truth and for being the true home of ground-breaking scientific research. This despite the fact that papers by Duesberg and others, defending their views, have indeed been published in peer reviewed journals. That they had difficulty getting their papers accepted is seen by Shenton as evidence for an establishment conspiracy rather than evidence that the papers might not actually have been very good. (Since the book was published, an internet site has also been established to publish non-peer reviewed papers about dissident AIDS theories; you can find it at [www.virusmyth.com](http://www.virusmyth.com)).

In 1991 the Broadcasting Complaints Commission found against Shenton's documentary

*The AIDS Catch* for misrepresenting the views of orthodox AIDS researchers and for misleading viewers as to the balance of the evidence for and against HIV as a causal agent of AIDS. Shenton responds by claiming that the BCC was manipulated by the establishment conspiracy into ignoring the true facts.

But none of this removes from us the responsibility to examine the scientific claims made in the book. As skeptics, we should be willing to listen to both sides of an argument and to question orthodox views where necessary. Shenton's argument that HIV cannot be the cause of AIDS rests on three key assertions: that AIDS has not spread significantly beyond 'at risk' communities, that it is biologically impossible for a retrovirus such as HIV to cause disease in the manner that it is said to do, and that no cure for AIDS has yet been found.

Predictions about the spread of AIDS into the heterosexual community have turned out to be overestimates, and the disease has remained relatively confined to male homosexuals, intravenous drug users and haemophiliacs. Shenton makes the mistake of assuming that the viral theory of AIDS stands or falls upon particular epidemiological models, and claims that the limited spread of the disease is evidence that it is not infectious. Instances where infection appears to have occurred are labelled as misdiagnoses. In fact, all the failure of these predictions means is that the HIV virus is less infectious than first thought, in particular that it is much more difficult for it to cross the tough vaginal wall than it is for it to cross the more fragile lining of the rectum.

Shenton also correctly states that we do not yet understand the mechanism by which HIV causes disease, but then goes further in stating that no virus could act in the way that HIV is said to. To answer the first point, there are many diseases for which we do not yet understand the causal mechanism, but this has not prevented us from determining that smoking makes lung cancer more likely, or that prolonged exposure to strong sunlight can lead to skin cancer. The second point is simply false; at least two other viruses are known which act in exactly the way the same way as HIV. Both these viruses, SIV and FIV, have been shown in laboratory tests to induce AIDS-like symptoms in their respective hosts (monkeys and

cats) as well as showing the long latency periods which are claimed to be impossible by the AIDS dissidents (Kestler, Kodama and Ringler 1990). Shenton dismisses SIV as being 'believed to be analogous to HIV' and ignores its ability to cause disease; she doesn't appear to be aware of FIV at all.

In a related argument, the book makes reference to the Koch postulates of disease, devised by Robert Koch in the 19th century to determine whether a disease is infectious or not. While HIV does not fulfil these postulates in exactly the way that Koch envisaged, neither do many other infectious diseases, which is why they have been all but abandoned by modern scientists, who now favour more statistical approaches (Weiss and Jaffe 1990). Ignoring the sound reasons for abandoning the postulates as flawed, Shenton dismisses any attempt to do so as being 'risible'.

Much is made in the book of the existence of AIDS-free HIV infection and 'HIV-free AIDS'. That not all people infected with HIV develop full-blown AIDS indicates that the virus requires other co-factors to produce disease, and that the mechanism is likely more complex than was originally thought. Shenton however, attempts to argue that saying HIV interacts with other factors to produce AIDS is equivalent to saying that HIV has no causal role in the disease at all. This is a clear logical fallacy.

It is also true that many people suffer from immune suppression without being infected by the HIV virus. The vast majority of such people, who Shenton tries to claim suffer from 'HIV-free AIDS', in fact suffer from immune suppression of quite a different type to that seen in AIDS sufferers, and most importantly, have a significantly better prognosis (Salvato 1993); in short it is clear that they are suffering from different, and less deadly conditions than AIDS. A tiny minority of people who do suffer from AIDS symptoms do lack the HIV virus, indicating that a different and much rarer condition can produce similar effects to HIV infection. It is, however, worth noting that these people have generally also not been exposed to any of the factors that Shenton and other AIDS dissidents claim are the 'real' cause of the disease (Harris 1995).

Examination of those claimed causes also reveals problems. AIDS dissidents propose three primary causes for AIDS: promiscuous homosexuality

and the consequent exposure to various other sexually transmitted diseases, drug use, especially of amyl nitrite 'poppers', and the repeated injection of factor VIII clotting agent by haemophiliacs. This would imply quite separate conditions have arisen simultaneously, an unlikely circumstance, especially when a more plausible single culprit exists in the form of HIV. But in any event, the claims don't seem to sit well with the facts. Repeated use of factor VIII does indeed cause a suppression of the immune system, but not of the type seen in AIDS, and it is significant that there was a sudden rise in mortality among haemophiliacs after 1984 (when AIDS began to become common), while factor VIII has been around for rather longer than this (Cohen 1994). There does not appear to be any correlation between increased drug use and sustained irreversible loss of immune function at all (Buchbinder *et al.* 1994).

The third argument Shenton puts forward is that no cure for AIDS has yet been found, implying that one would have done had scientists only been concentrating on something other than HIV. It is implied that pharmaceutical companies are eager for a virus to be the cause so that they can sell anti-viral drugs. But it seems difficult to imagine that if the disease were due to some other cause, some kind of medical treatment could not be produced to combat it. Whichever pharmaceutical company were the first to put that treatment on the market ought to make a large profit. Pharmaceutical companies surely have an interest in finding treatments that actually work rather than minimally effective ones based on a particular erroneous theory. In any event, saying that a cure for AIDS has not yet been found is hardly the same as saying that no cure can be found based on current theories of the disease.

The last chapter is the weakest of all. Here, Shenton argues that HIV may not exist at all, and goes further even than the majority of dissident AIDS researchers. She repeats the claims of Alfred Hässig that AIDS is an inflammatory response and that all we need to do to cure the condition is to consume vegetable based antioxidants, fresh fruit and green tea. That such claims appear to be taken as seriously as other non-HIV theories presented in the book can

only cause one to wonder about the quality of the author's research.

However, despite all of the above, the book does make a number of points that seem sound and may well give cause for concern. Shenton presents a reasonable case that the size of the AIDS epidemic in Africa may have been exaggerated due to misreporting by the severely underfunded health authorities there. Her arguments about the toxicity of AZT also seem to provide good reasons why the drug should not be given to symptom-free HIV-positive people, a position which is in fact taken by many mainstream doctors. Her criticism of the accuracy of HIV testing kits also seems to be justified, and it is encouraging to note that the Public Health Laboratory Service here in the UK is looking into the matter in an attempt to ensure greater uniformity and quality of results across the country, as Shenton herself concedes.

But these points are overshadowed by the faults of the rest of the book. There may well be a balanced, considered and non-partisan account of the disputes between orthodox and dissident AIDS researchers somewhere in print. But *Positively False* is most certainly not it, and its title seem apposite for entirely the wrong reasons.

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- Kestler, H., T. Kodama, D. Ringler *et al.* 1990. Induction of AIDS in rhesus monkeys by molecularly cloned simian immunodeficiency virus. *Science*; 248: 1109-1112.
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## SOME ARTICLES OF NOTE

By Wayne Spencer

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### Alternative medicine

- Angell, M. and J. P. Kassirer. Alternative medicine - the risks of untested and unregulated remedies [editorial].** *New England Journal of Medicine*, 1998; 339(12): 839-841. Outlines the potential dangers of unproven remedies and argues that "It is time for the scientific community to stop giving alternative medicine a free ride".
- Bandolier. Mindstretcher.** *Bandolier*, 1998; 5(9): 8. Article comments on a recent systematic review of clinical trials of acupuncture for dental pain (see entry for Ernst and Pittler below). It points out that only three of the 16 trials considered were randomised and double-blind and contends that "not one of these studies would get into a review with the standards of experimentation that we expect for a new analgesic".
- Beigel, Y., I. Ostfeld and N. Schoenfeld. A leading question.** *New England Journal of Medicine*, 1998; 339(12): 827-830. Case report of a patient who suffered lead poisoning after taking a herbal preparation.
- Borins, M. The dangers of using herbs. What your patients need to know.** *Postgraduate Medicine*, 1998; 104(1): 91-95. Discusses the potential side effects of a number of herbs and the lack of standardization and quality control that can lead to contamination and toxicity in herbal products.
- Botting, D. Review of literature on the effectiveness of reflexology.** *Complementary Therapies in Nursing and Midwifery*, 1997; 3(5): 123-130. Critical review of the available literature relating to reflexology. Calls for properly conducted research to evaluate the effectiveness of this technique.
- Bullough, V. L. and B. Bullough. Should nurses practice therapeutic touch? Should nursing schools teach therapeutic touch?** *Journal of Professional Nursing*, 1998; 14(4): 254-257. The authors argue that therapeutic touch should be regarded as a religious practice. They discuss the changes in the practice and teaching of therapeutic touch in nursing that should follow.
- Coppes, M. J., R. A. Anderson, R. M. Egeler and J. E. A. Wolff. Alternative therapies for the treatment of childhood cancer [letter].** *New England Journal of Medicine*, 1998; 339(12): 846. Documents two cases involving children suffering from cancer in which a tumour growth occurred after the parents decided to rely exclusively on alternative medicine. One of the children subsequently died.
- Davis P. A., E. B. Gold, R. M. Hackman, J. S. Stern, and M. E. Gershwin. The use of complementary/alternative medicine for the treatment of asthma in the United States.** *J Investig Allergol Clin Immunol*, 1998; 8(2): 73-77. Based on 564 returns from 10,000 inserts included in the May 1996 issue of the periodical *Alternative Therapies in Health and Medicine*, this survey addresses the characteristics of those who use alternative medicine in the treatment of asthma, and the differences between practitioners who are medical doctors (MDs) and those who are not (non-MDs). The respondents were 46% male and 43% female (11% did not specify their gender). Their ages ranged from under 31 to over 70 years old. 37% held degrees as medical doctors; 27% had doctorates in alternative medicine related disciplines; 11% had registered nursing degrees; 4% were acupuncturists and 18% did not specify what training they had undertaken. 75% of the subjects had general practices and saw all ages of patients. Although there were some differences between MDs and non-MDs, both said that dietary and nutritional approaches were the treatment options they used most often and regarded as most effective. Use of botanicals, meditation and homeopathy were frequently cited. Both groups reported statistically significant increases

in their levels of patient inquiries compared to 2 years previously (9% for MDs and 8% for non-MDs). MDs were less likely than non-MDs to use alternative medicine techniques for asthma.

**DiPaola, R. S et al. Clinical and biologic activity of an estrogenic herbal combination (PC-SPES) in prostate cancer.** *New England Journal of Medicine*, 1998; 339(12): 785-791. Details tests on a herbal mixture. The authors conclude that the mixture has potent estrogenic effects, including side effects. They also suggest that their results indicate that the mixture may prove of use in the treatment of prostate cancers that are hormonally sensitive, but may also confound the results of conventional treatments.

**Ernst, E. Harmless herbs? A review of the recent literature.** *American Journal of Medicine*, 1998; 104(2): 170-178. Reviews the recent literature on the adverse effects of herbal remedies.

**Ernst, E. and W. J. J. Assendelft. Chiropractic for low back pain [editorial].** *British Medical Journal*, 1998; 317: 160. Suggests that the currently available evidence does not demonstrate that chiropractic for low back pain is effective, safe and cost-effective.

**Ernst, E. and B. R. Cassileth. The prevalence of complementary/alternative medicine in cancer: a systematic review.** *Cancer*, 1998; 83(4): 777-782. This examination of 26 surveys from 13 countries found that the use of complementary and alternative medicine in adult cancer patients ranged from 7-64%, with the average prevalence being 31.4%. The authors suggest that the variance in the results of the studies examined may be the result of differing definitions of complementary and alternative medicine in the studies.

**Ernst E. and M. H. Pittler. The effectiveness of acupuncture in treating acute dental pain: a systematic review.** *British Dental Journal*, 1998; 184(9):443-447. A search using four databases located 16 controlled clinical trials. The majority of these trials suggest that acupuncture is effective in dental analgesia, and the authors conclude that although important questions remain unanswered, acupuncture can alleviate dental pain. (cf. entry for Bandolier above).

**Fahie, V. P. Utilization of folk/family remedies by community-residing African American elders.** 1998. *Journal of Cultural Diversity*. 1998; 5(1): 19-22. Based on a convenience sample of 200 African American elders in metropolitan Baltimore, this study identifies fifteen categories of folk/family remedies used routinely by African American elders and sixteen purposes for which the remedies are used.

**Gray, R. E. Four perspectives on unconventional therapies.** *Health*, 1998; 2(1): 55-74. The author distinguishes between the "biomedical", "alternative", "progressive" and "postmodern" perspectives. After discussing the implications of each perspective for patient choice, she concludes that a temperate postmodern perspective that recognises "the contribution of empiricism within biomedicine" is the best option. "Postmodernists argue that all perspectives are value-based and socially constructed, and that no one perspective will have all the truth about health practices, or anything else. They encourage the articulation of multiple perspectives as a basis for fully informed decision-making, with the individual ill person as final arbiter."

**Heiligenstein, E. and G. Guenther. Over-the-counter psychotropics: a review of melatonin, St. John's wort, valerian, and Kava-Kava.** *JACH*, 1998; 46: 271-276. Reviews the evidence relating to four alternative medicine psychotropics. Describes each remedy and its purported uses, discusses its possible mechanism of action, and examines the evidence of efficacy and adverse effects.

**Hudson, J. I., E. A. Chase, and H. G. Pope HG. Eye movement desensitization and reprocessing in eating disorders: caution against premature acceptance.** *International Journal of Eating Disorders*, 1998; 23(1): 1-5. This literature review located no methodologically sound studies showing the efficacy for EMDR for eating disorders or any other psychiatric disorder.

**Ko, R. J. Adulterants in Asian patent medicine [letter].** *New England Journal of Medicine*, 1998; 339(12). Of 260 Asian patent medicines collected from California retail herbal stores, "at least 83 (32 percent) contained undeclared pharmaceuticals or heavy metals, and 23 had more than one adulterant". The author adds: "The remaining products, which

contained no detectable adulterants, cannot be assumed to be safe and free of toxic ingredients, in view of their batch-to-batch inconsistency, as well as limitations in our detection methods".

**LoVecchio, F., S. C. Curry and T. Bagnasco. Butyrolactone-induced central nervous system depression after ingestion of RenewTrient a "dietary supplement" [letter].** *New England Journal of Medicine*, 1998; 339(12): 847-8. Case report followed by a reply from the manufacturer of the "dietary supplement" concerned.

**Meehan, T. C. Therapeutic touch as a nursing intervention.** *Journal of Advanced Nursing*, 1998; 28(1): 117-125. The author is a researcher sympathetic toward therapeutic touch. After a description of the history, theory and practice of therapeutic touch, she critically examines a number of the available trials, concluding that "any claims beyond a placebo effect would not be warranted, and further research is needed". She further suggests that "TT is intrinsically related to the powerful placebo effect and offers nurses a natural opportunity to better understand and use this phenomenal function of human interaction to facilitate patient healing and well-being".

**Miles, A. Science, nature, and tradition: the mass-marketing of natural medicine in urban Ecuador.** *Medical Anthropology Quarterly*, 1998, 12(2): 206-225. Based on field research, this article uses an interpretative framework that regards medical products as carrying symbolic messages and suggests that important themes of modern life in Ecuador are played out in the packaging and marketing of natural medicine products in that country.

**Molé, P. Deepak's dangerous dogmas.** *Skeptic [USA]*, 1998; 6(2): 38-45. Critique of the ideas of alternative medicine proponent Deepak Chopra.

**Moody, G. A., J. A. Eaden, P. Bhakta, K. Sher and J. F. Mayberry. Medicinal herb use and the renal patient.** *Public Health*; 112(4): 269-271. Questionnaires were sent to 382 patients with inflammatory bowel disease (IBD) (190 European and 192 Asians) and 190 patients with coeliac disease. 158 questionnaires were returned by European patients with IBD, 81 by Asian patients with

IBD, and 145 by patients with coeliac disease. Amongst other things, it was found that 47 European and Asian patients with IBD had sought advice or treatment from an alternative practitioner, compared with only 11 with coeliac disease. There was no difference in consultation rates between Asian and European patients with IBD. The most common practitioners consulted were homeopaths (n = 23) and herbalists (n = 27); however 20 patients consulted more than one practitioner at a time. Two patients had been advised to stop taking their conventional medications, and another 10 advised to reduce the dose of such medications.

**O'Mathúna, D. Therapeutic touch and wound healing.** *Alternative Medicine Alert*, 1998; 1(5): 49-52. Experiments on the effect of therapeutic touch on wound healing conducted by Daniel Wirth and his associates are sometimes cited as convincing evidence in favour of that healing modality. This review points out that overall Wirth et al's results were mixed and do not provide replicable evidence on an effect.

**Poloma, M. M. and L. F. Hoelter. The 'Toronto Blessing': a holistic model of healing.** *Journal for the Scientific Study of Religion*, 1998; 37(2): 257-272. Based on a survey of 918 individuals who responded to a questionnaire, this article proposes a model of "the meaning of healing and the process through which healing is believed to occur for a group of Spirit-filled Christians who have immersed themselves in an ongoing revival frequently called the Toronto Blessing".

**Premik, M. Alternative medicine in Slovenia: some social-medical views.** *Health Care Analysis*, 1998; 6: 59-64. Examines the views of doctors, patients and the state in Slovenia towards alternative medicine. Using a 'social medicine' perspective, the author criticises the opposition of doctors to scientifically unvalidated alternative medicine.

**Proctor, S. Linking philosophy and method in the research process: the case for realism.** *Nurse Researcher*, 1998; 5(4): 73-90. Argues that an approach informed by the philosophy of realism assists in the conduct of adequate research.

**Rosted P. The use of acupuncture in dentistry: a review of the scientific validity of published**



**papers.** *Oral Dis*, 1998; 4(2): 100-104. 15 published papers were reviewed for methodological quality. One study was rated as excellent, five as good, three as fair, and six as poor. The author concludes that the value of acupuncture as an analgesic is questionable. However, he also suggests that the effect of acupuncture in treating temporomandibular dysfunction and facial pain seems real.

**Sarner, L. The 'Emily Event': Emily Rosa and the therapeutic touch wars.** *Skeptic* [USA], 1998; 6(2): 32-37. Reply to some of the criticisms levelled against a recent test of therapeutic touch published in the *Journal of the American Medical Association (JAMA)*. Written by one of the authors of the JAMA paper.

**Shekelle P. G., I. Coulter, E. L. Hurwitz, B. Genovese, A. H. Adams, S. A. Mior, R. H. Brook. Congruence between decisions to initiate chiropractic spinal manipulation for low back pain and appropriateness criteria in North America.** *Annals of Internal Medicine*, 1988; 129(1): 9-17. 10 patients presenting with low back pain were randomly selected from 131 of 185 (71%) chiropractic offices sampled at random from sites in the United States and Canada. 83% of the sample of 1310 had received spinal manipulation. For 859 of these patients (79%), records contained sufficient data to determine whether the care given was appropriate. The care provided by the chiropractor was classified as appropriate in 46% of cases; uncertain in 25% of cases; and inappropriate in 29% of cases. Patients who did not undergo spinal manipulation were found to be less likely to have appropriate treatment and were more likely to have inappropriate treatment than were patients who did undergo spinal manipulation. The proportion of chiropractic spinal manipulation judged to be appropriate was similar to those proportions previously found for medical procedures. However, the authors call a reduction in the number of inappropriate decisions to use chiropractic spinal manipulation.

**Slifman, N. R. et al. Combination of botanical dietary supplements by DIGITALIS LANATA.** *New England Journal of Medicine*, 1998; 339(12): 806-810. Report of investigations into the cases of two

patients affected by contaminated botanical dietary supplements.

**Simpson, N., A. Pearce, F. Finlay and S. Lenton. The use of complementary medicine in paediatric outpatient clinics.** *Ambulatory Child Health*, 1998; 3: 351-6. This survey is based on 521 questionnaires returned out of 850 distributed to the parents of patients. It looks at the proportion of patients that use alternative medicine; what alternative therapies are used; what conditions alternative therapies are used for; and whether alternative therapies were felt by the parents to help. Amongst other things, 20.5% of the child patients were said to have used alternative medicine, and 73% of parents considered that alternative therapy had helped their child's condition.

**Turp J.C., C.J. Kowalski, and C.S. Stohler. Treatment-seeking patterns of facial pain patients: many possibilities, limited satisfaction.** *J Orofac Pain*, 1998; 12(1): 61-66. This study was based on 206 consecutive patients referred to a university-based tertiary care clinic in connection with persistent facial pain. Amongst other things, it was found that more than 60% of patients had had at least one nondental treatment therapy (e.g., chiropractic, osteopathic, relaxation training), and the majority of these patients had experience of two or more different types of such therapy (e.g., chiropractic, osteopathic, relaxation training).

**Wainapel S. F., A. D. Thomas and B. S. Kahan. Use of alternative therapies by rehabilitation outpatients.** *Arch Phys Med Rehabil*, 1998; 79(8): 1003-1005. The subjects in this study were a random sample of 103 patients referred for rehabilitation outpatient care. 29.1% were found to have used one or more alternative medical therapies of subjects in the previous 12 months for their presenting problem, and 53% of these subjects considered them to have been effective to some degree. Massage, chiropractic, acupuncture and vitamin/mineral supplementation were the most common therapies used. Musculoskeletal pain syndromes involving the spine and extremities were the most common conditions that promoted patients to seek both conventional and alternative care.

**Watt D., S. Verma and L. Flynn. Wellness programs: a review of the evidence.** *CMAJ*, 1998;

158(2): 224-230. Examines 11 randomized controlled trials or prospective studies conducted between 1980 and 1996. All 11 reported some positive results, but most were found to have limitations. The authors conclude that the evidence for the benefits that have been associated with wellness programs is inconclusive.

**Wetzel, M. S., D. M. Eisenberg, and T. J. Kaptchuk. Courses involving Complementary and Alternative Medicine at US Medical Schools.** *Journal of the American Medical Association*, 1998; 280: 784-787. A mail survey and follow-up letter and telephone survey conducted in 1997-1998 produced responses from 117 (94%) of the 125 medical schools in the USA. Amongst the schools that responded, 75 (64%) either offered elective courses in alternative medicine or included alternative medicine topics in mandatory courses. Common topics included chiropractic, acupuncture, homeopathy, herbal therapies, and mind-body techniques. The content, format and requirements differed greatly. Common topics taught included chiropractic, acupuncture, homeopathy, herbal remedies and mind-body techniques.

**Woollam, C. H. and A. O. Jackson. Acupuncture in the management of chronic pain.** *Anaesthesia*, 1998; 53(6): 593-595. This survey found that acupuncture is used in the treatment of chronic pain in 84% of the chronic pain clinics in the United Kingdom that responded. Most of the people who perform acupuncture in such clinics had attended a course at a acupuncture schools. However, in around one fifth of the clinics surveyed the practitioner had received no formal training.

### Archaeology

**Richards, J. C. and M. Whitby. The engineering of Stonehenge.** *Proceedings of the British Academy*, 1997; 92: 231-256. Discussion of how Stonehenge may have been built

**Ruggles, C. Astronomy and Stonehenge.** *Proceedings of the British Academy*, 1997; 92: 203-229. This article by a leading archaeoastronomer provides a cautious and critical discussion of possible astronomical alignments in the layout of Stonehenge.

He dismisses the view that Stonehenge was an astronomical observatory or computer, and suggests that "Concerning astronomy and Stonehenge it will be clear that on the basis of the evidence currently available very little can be said with any great degree of confidence". Nonetheless, he considers that there is evidence that tentatively supports the view that Stonehenge contains lunar symbolism.

### Astrology

**Owen, C, C. Tarantello, M. Jones and C. Tennant. Lunar cycles and violent behaviour.** *Australian and New Zealand Journal of Psychiatry*, 1998; 32: 496-499. Data from five inpatient psychiatric settings in the Northern Sydney area were examined for correlations between lunar phase and violent behaviour. None were found.

**Clark, D., T. Gabriels and J. Barnes. Astrological signs as determinants of extroversion and emotionality: an empirical study.** *Journal of Psychology*, 1996; 130(2): 131-140. Overall, this test of 190 first-year university students provided no convincing evidence to support the astrological hypotheses under examination

### Creationism and/or evolution

**Edis. T. Taking creationism seriously: are skeptics answering creationists effectively.** *Skeptic [USA]*, 1998; 6(2): 56-65. Suggests that some standard skeptical critiques of creationist positions are not adequate and proposes ways in which they could be improved.

**Langdon, J. H. Umbrella hypotheses and parsimony in human evolution: a critique of the Aquatic Ape Hypothesis.** *Journal of Human Evolution*, 1997; 33(4): 479-494. Argues that the Aquatic Ape Hypothesis contains internal inconsistencies; has not been reconciled with the fossil record; and is not parsimonious.

**Lenton, T. M. Gaia and natural selection.** *Nature*, 1998; 394: 439-447. Discusses a naturalistic Gaia hypothesis and its relationship to natural selection.

**Sonleitner, F. J. *Pandas Update* - 1997.** *Reports of the National Centre for Science Education*, 1997; 17(6): 8-24. Detailed update of scientific thinking on the origin of life; genetics and evolution; the origin of species; the fossil record; homology; and biochemical similarities (these being the chapter subjects of the creationist book *Of Pandas and People*. Although this update is extensive, it is based on a limited number of publications and hence is not comprehensive.

### Critical thinking

**Halpern, D. F. Teaching critical thinking for transfer across domains. Dispositions, skills, structure training, and metacognitive monitoring.** *American Psychologist*, 1998; 53(4): 449-455. Proposes a four-part empirically based model to guide the teaching and learning of critical thinking.

**Niaz, M. How early can children understand some form of 'scientific reasoning'?** *Perceptual and Motor Skills*, 1997; 85: 1272-4. Discusses some recent studies on children's understanding of scientific reasoning around the age of 6. The author seems to regard the results as problematic and suggests that "generation and testing of hypotheses and the differentiation between observations, hypotheses and predictions are fairly complex processes which require considerable cognitive development before children start to understand them".

### Philosophy

**Leahy, M. The Religious Right: would-be censors of the state school curriculum.** *Educational Philosophy and Theory*, 1998; 30(1): 51-68. Argues that "Neither liberal theory nor [Alasdair] MacIntyre's critique of that theory provides a justification for censoring the curriculum of a state school by the standards of a particular religious or ideological group"

**Loughlin, M. and A. Pritchard. The defeat of reason.** *Health Care Analysis*, 1997; 5(4): 315-325. Argues against the postmodern eschewal of reason said to be prevalent in the social sciences, focusing in part on an alleged valorisation of lay opinion in the report *Understanding and Promoting Mental Health*.

The authors of that report subsequently replied. They disputed Loughlin and Pritchard's characterisation of their report and their views on lay opinion (Pilgrim, D. and A. Rogers. The wisdom of lay knowledge: a reply to Loughlin and Pritchard. *Health Care Analysis*, 1998; 6: 65-71).

**Weinberg, S. The revolution that didn't happen.** *New York Review of Books*, 1998; XLV(15): 48-52. Critique of Thomas Kuhn's views about scientific progress, written by a physicist.

### Paranormal and extraordinary claims and beliefs

**Bierman, D. J. and D. I. Radin. Anomalous anticipatory response on randomized future conditions.** *Perceptual and Motor Skills*, 1997; 84: 689-690. Contains a graph and discussion of the results from 5 experiments. These results appear to show that measures of electrodermal activity *before* subjects are presented with an "extreme" picture is different from that seen *before* the presentation of a calm picture. The authors suggest that this pattern of results is as yet unexplained.

**Bloch, J. P. Individualism and community in alternative spiritual magic.** *Journal for the Scientific study of Religion*, 1998; 37(2): 286-302. Based on detailed interviews with 22 subjects, this article suggests that alternative spiritualists both emphasize self-autonomy and feel a strong sense of shared community. It then relates this finding to "larger social tensions regarding simultaneous needs for social solidarity and a tolerance for diversity that permits individual self-autonomy" and other sociological hypotheses.

**Bose, R. Psychiatry and the popular conception of possession among the Bangladeshis in London.** *International Journal of Social Psychiatry*, 1997; 43(1): 1-15. Two detailed case histories of young people possessed by spirits. The author uses these to argue that expressions of distress are shaped by cultural beliefs.

**Brugger, P. Variables that influence the generation of random sequences: an update.** *Perceptual and Motor Skills*, 1997; 84: 627-661. An extensive review of the results from studies published

since an important 1964 review. Includes some discussion of paranormal beliefs.

**Fassbender, P.** **Parapsychology and the neurosciences: a computer-based content analysis of abstracts in the database 'Medline' from 1975 to 1995.** *Perceptual and Motor Skills*, 1997; 84: 452-454. This analysis found that neuropsychological terms were mentioned more often in parapsychology-related abstracts examined from the years since the mid-1980s. The author suggests that this is consistent with the view that parapsychology is being redefined "in terms of neuropsychology and neurosciences" and is moving in the direction of "a kind of neuroscientific reductionism". However, he notes that the database he utilised may contain only a fraction of the papers published on parapsychology.

**Friedman T., W. B. Slayton, L. S. Allen, B. H. Pollock, M. Dumont-Driscoll, P. Mehta and J. Graham-Pole.** **Use of alternative therapies for children with cancer.** *Pediatrics*, 1997; 100(6): E1. 81 parents of children with cancer attending a paediatric haematology/oncology clinic and 80 parents of children without cancer attending a continuity care clinic were interviewed. 65% of the cancer patients and 51% of the control group were found to use alternative therapies (this difference was not statistically significant). The alternative remedies used most often by the cancer patients were prayer, exercise, and spiritual healing, while the remedies used most often by the control group were prayer, massage, and spiritual healing. The survey also examined whether the use of alternative remedies had been discussed with the patient's physician.

**Garven, S., J. M. Wood, R. S. Malpass and J. S. Shaw, III.** **More Than Suggestion: The Effect of Interviewing Techniques From the McMartin Preschool Case.** *Journal of Applied Psychology*, 1998; 83(3): 347-359. In the early 1980s children who attended the McMartin Preschool in the USA made a series of accusations of sexual abuse and sadism against the school's staff, which led to a series of notorious trials. In this study, child interviewing techniques derived from transcripts of the McMartin Preschool case were found to be substantially more effective than simple suggestive

questions at inducing preschool children to make false allegations against a classroom visitor.

**Goodyear-Smith, F., A. T. M. Laidlaw and R. G. Large.** **Memory recovery and repression: what is the evidence?** *Health Care Analysis*, 1997; 5(2): 99-111. Critical review of recovered memory techniques and the concept of repression. Followed by a series of commentaries: Loughlin, M., 'Memory repression and recovery: a postmodern problem?' (pp: 112-113); Bryant, R. A., 'Memories of trauma: we need more research' (pp: 113-117); Hacking, I. 'Repression and Dissociation: a comment on 'Memory recovery and repression'' (pp: 117-120); Gavey, N. In the name of science - commentary on 'Memory recovery and repression: what is the evidence' (pp: 120-125); McConkey, K. M. and A. J. Barnier, 'The recovery of memory: does it help?' (pp: 125-128); Middleton, W. and J. Butler, 'Dichotomies which ignore complexities' (pp: 128-132); and Merskey, H., 'Evaluating memory' (pp: 132-135).

**Hines, T. M.** **Comprehensive review of biorhythm theory.** *Psychological Reports*, 1998; 83: 19-64. Reviews of 134 studies of hypotheses derived from biorhythm theory. 99 of these studies were negative and 35 positive. The author identifies statistical, methodological and reporting shortcomings in many of the supposedly supportive studies and concludes that there is no convincing evidence in favour of biorhythm theory.

**Hofstadter, D. R.** **Popular culture and the threat to rational inquiry.** *Science*, 1998; 281: 512-3. Laments "sugar-coated" popular science and the contemporary fascination with alleged paranormal phenomena.

**Hopkins, B., D. M. Jacobs, D. F. Maier, T. L. Dumm and F. Crews.** **'When words collide: An exchange.** *New York Review of Books*, 1998, XLV(15): 53-56. A series of replies to a review by Crews of three UFO books, followed by Crews' rejoinder.

**Houran, J.** **Tolerance of ambiguity and the perception of UFOs.** *Perceptual and Motor Skills*, 1997; 85: 973-4. 39 subjects who had seen a UFO scored lower on a measure of tolerance of ambiguity than 43 subjects who had never seen a UFO. This difference could not be accounted for by age or sex

differences. The author concludes the results of the study are consistent with the hypothesis that at least some UFO sightings are misperceptions of natural aerial phenomena.

**Houran, J. Preliminary study of tolerance of ambiguity of individuals reporting paranormal experiences.** *Psychological Reports*, 1998; 82: 183-187. Results from 30 subjects who reported that they perceived poltergeist-like phenomena and 30 who reported that they had had no such experiences showed that the former group had lower scores on a measure of tolerance of ambiguity than the latter.

**Houran, J. and S. Porter. Statement validity analysis of "The Jim Ragsdale Story": Implications for the Roswell Incident.** *Journal for Scientific Exploration*, 1998; 12(1): 57-71. Examines the testimony about the crash of a UFO at Roswell, New Mexico offered by Jim Ragsdale. The authors examine Ragsdale's statements against a number of criteria said to be able to evaluate witness accounts. They conclude that the Ragsdale story is either a deliberate fabrication or a sincerely reported imaginary experience.

**Huebner, R. A. and L. J. Emery. Social psychological analysis of facilitated communication: implications for education.** *Ment Retard*, 1998; 36(4): 259-268. Social psychological analysis of the factors that conduced to the acceptance of 'facilitated communication' despite its lack of evidential support.

**Karlin, R. A and M. T. Orne. Commentary on Borawick v. Shay: hypnosis, social influence, incestuous child abuse, and satanic ritual abuse: the iatrogenic creation of horrific memories for the remote past.** *Cultic Studies Journal*, 1996; 42-93. Argues that hypnotically influenced testimony should be excluded from courtrooms; that memories of instances of satanic ritual abuse and child abuse recovered after decades of amnesia under therapy or through the use of hypnosis or hypnosis-like procedures are likely to be false; that 70% or more of diagnoses of hidden incestuous abuse are likely to be incorrect; and that the current wave of diagnoses of dissociative identity disorder (multiple personality disorder) has been created by therapists.

**Kebbell, M. R. and G. F. Wagstaff. Hypnotic interviewing: the best way to interview eyewitnesses?** *Behavioral Sciences and the Law*, 1998; 16: 115-129. Reviews the literature on whether hypnosis enhances eyewitness recall, finding little compelling evidence for such an effect. Recommends the use of the "cognitive interview" technique in preference to hypnosis.

**Kezuka, E. The role of touch in facilitated communication.** *J Autism Dev Disord*, 1997; 27(5): 571-593. In this experiment a "telepathic game" involving a rod with an attached strain gauge was used to determine whether the person who is supposed to be merely facilitating the communication of an autistic person actually controls the spelling out of the messages. It was found that the facilitator exerted a physical force such as could be responsible for the messages being typed.

**Krippner, S., I. Wickramasekera, J. Wickramasekera and C. W. Winstead. The Ramtha phenomena: psychological, phenomenological, and geomagnetic data.** *Journal of the American Society for Psychical Research*, 1998; 92(1): 1-24. Amongst other things, psychological tests administered to seven adherents of the channeller J. Z. Knight suggested that they had "thin boundaries", high absorption capacities, and high dissociative capacities. An attempt to link the appearance of Knight's channelled entity Ramtha to geomagnetic fluctuations proved inconclusive.

**Ohayon, M. M., R. G. Priest, M. Caulet M and C. Guilleminault. Hypnagogic and hypnopompic hallucinations: pathological phenomena?** *British Journal of Psychiatry*, 1996; 169(4): 459-467. Hypnagogic and hypnopompic hallucinations have been suggested as explanations for a number of experiences of alien abduction, visitations by ghosts etc. In this representative community sample interviewed by telephone, 37% per reported having experienced hypnagogic hallucinations and 12.5% reported hypnopompic hallucinations.

**Palmirota R., F. Verginelli, A. Cama, R. Mariani-Costantini, L. Frati and P. Battista. Origin and gender determination of dried blood on a statue of the Virgin Mary.** *Journal of Forensic Science*, 1998; 43(2): 431-434. DNA tests conducted on dried

blood of found on a statuette of the Virgin Mary strongly suggested the blood came from a human female.

**Randall, T. M. Paranormal short inventory.** *Perceptual and Motor Skills*, 1997; 84: 1265-6. Discusses a new scale for measuring paranormal beliefs. Mentions that an analysis of data from 1719 subjects showed higher scores for women than men.

**Randall, T. M. Supernatural belief and political alienation.** *Perceptual and Motor Skills*, 1997; 84: 1394. In this survey 948 subjects were asked to choose the description that best matched their political leanings from the following: very conservative, leaning towards conservatism, moderate, leaning towards liberal, and very liberal. They were also asked how they typically voted: Republican, Democratic, Independent, third party conservative or third party radical. In the case of voting preferences, it was found that third party conservatives had the highest scores for supernatural beliefs and Republicans the lowest. In terms of political leanings, the subjects who described themselves as very conservative had the lowest scores, while those who categorised themselves as very liberal had the highest scores (the third party conservatives did not consistently describe themselves as conservative). The author concludes that "being against conventional politics apparently goes along with endorsing some extreme views concerning the supernatural as well".

**Roe, C. Belief in the paranormal and attendance at psychic readings.** *Journal of the American Society for Psychical Research*, 1998; 92(1): 25-51. In this survey, 31.34% of a representative sample of 1,000 Edinburgh residents returned questionnaires of professional psychics. 29.5% of respondents had attended a reading with a medium, palm reader, astrologer, clairvoyant, tarot reader or other reader at some time. The most common reason for visiting a reader was curiosity (39%), and relatively few respondents reported that their attitudes (12%) or decisions (10% in the case of health) had been effected "very much" by the reading. Nonetheless, respondents were generally impressed by the reading they were given (e.g. 57% found their reading either very accurate or quite accurate).

**Roig, M., K. R. Bridges, C. H. Renner and C. R. Jackson. Belief in the paranormal and its association with irrational thinking controlled for context effects.** *Person. individ. Differences*, 1998; 24(2): 229-236. Some statistically significant but no strong associations were found between measures of paranormal belief and irrational thinking in this study involving 814 university students.

**Rosenthal, G. T., R. S. Tabony, B. Soper, R. S. Tabony and A. Rosenthal. Ability to detect covert observation.** *Perceptual and Motor Skills*, 1997; 85: 75-80. Test involving 140 college students which tested whether subjects could detect whether they were being watched (1) through a video camera or (2) through a mirror. The results were negative in both cases.

**Snel F.W. and van der Sijde, P. C. Perceived control by "powerful others" in paranormal healers.** *Psychological Reports*, 1997; 81(2): 543-546. In this test of: (1) 49 paranormal healers who use the laying-on of hands and healing at a distance; (2) 56 nurses; and (3) a control group of 73 randomly-selected subjects it was found that the paranormal healers had an external in locus of control. That is, they regard their lives as being the product of external forces and events. The paranormal healers differed significantly from the other two groups in their results on a "Powerful Others" test subscale.

**Takata K., Y. Inoue, H. Hazama and E. Fukuma. Night-time hypnopompic visual hallucinations related to REM sleep disorder.** *Psychiatry Clin Neurosci*, 1998; 52(2): 207-209. Abnormal REM findings were found in three patients who had experienced hypnopompic visual night-time hallucinations. The authors suggest that dysfunction of the REM sleep mechanism might contribute to such hallucinations. They also suggest that the visual experiences may be related to dream content.

**Thalbourne, M. A. Testing the McBeath hypothesis: relation of sexual orientation and belief in the paranormal.** *Psychological Reports*, 1997; 81(3 Pt 1): 890. In this test involving 50 homosexual men and 50 heterosexual men, no differences were found in belief in and alleged

experience of the paranormal between the two groups.

**Tobacyk, J. J., D. H. Wells, and M. M. Miller. Out-of-body experience and personality functioning.** *Psychological Reports*, 1998; 82(2): 481-482. In this study, subjects who reported having had of out-of-body experiences (n = 21) and subjects who reported never having such an experience (n = 159) showed no significant differences on the Spheres of Control Scale, Self-efficacy Scale, and Purpose in Life Scale. However, reporters of out-of-body experiences showed significantly greater belief in Psi, Spiritualism, and Extraordinary Life Forms than nonreporters.

**Vitulli, W. F. Beliefs in parapsychological events or experiences among college students in a course in experimental parapsychology.** *Perceptual and Motor Skills*, 1997, 85: 273-4. A course on experimental parapsychology produced no changes in the levels of students' paranormal beliefs or the experiences they interpreted as paranormal. This was despite the fact that the course included participation in laboratory experiments that produced "little if any reliable nonchance scores on [...] psi tasks".

**Wells, G. L., and A. L. Bradfield "Good, You Identified the Suspect": Feedback to Eyewitnesses Distorts Their Reports of the Witnessing Experience.** *Journal of Applied Psychology*, 1998; 83(3): 360-376. In this experiment subjects who had watched a security video of a crime were asked to identify a gunman from a photospread that did not include the actual gunman. All the subjects made false identifications. Subjects were subsequently given confirming feedback ("Good, you identified the actual suspect"), disconfirming feedback ("Actually, the suspect is number X") or no feedback. The feedback was found to have strong effects on subjects' reports of their certainty, the clarity of their memory, a number of other measures. The size of the effect was equally strong for those who denied that the feedback influenced them and those who admitted to the influence.

**Willing, B. T. and D. Lester. Paranormal beliefs and personality scores of high school students.** *Perceptual and Motor Skills*, 1997; 85 (3 Part 1):

938. In this study of 94 boys and girls of high school age, belief in the paranormal was not positively associated with scores on a measure of psychological disturbance or Eysenk personality scores. However, they were associated with childhood experiences of paranormal phenomena.

### Superstition

**Bleak, J. L. and C. M. Frederick. Superstitious behavior in sport: levels of effectiveness and determinants of use in three collegiate sports.** *Journal of Sport Behavior*, 1998; 21(1): 1-15. This survey of 107 athletes from football, gymnastics and track teams found that the use of superstitious rituals varied across sports and that the most-used rituals are not necessarily those regarded as most effective in influencing sports performance. Anxiety, locus of control, importance of success and religiosity did not much influence the total usage of superstitious rituals. However, religiosity, anxiety and locus of control were related to greater use of specific rituals.

**Cibowski, T. 'Superstition' in the collegiate baseball player.** *Sports Psychologist*, 1997; 11(3): 305-317. Discusses the high level of superstitious activities in baseball players and finds it unremarkable.

**Campbell, C. Half-belief and the paradox of ritual instrumental activism: a theory of modern superstition.** *British Journal of Sociology*, 1996; 47(1): 151-166. The author argues that an active and optimistic orientation toward the world around one ("instrument activism") is an important aspect of contemporary western values. He proposes that superstitious acts allow one to mimic an active response in situations where one cannot actually affect a situation and thus ritualistically affirm one's commitment to instrumental activism. The superstitious acts are not seriously regarded as objectively effective and are rather merely half-believed.

**Kemmann E., C. Cheron C and G. Bachmann. Good luck rites in contemporary infertility.** *Journal of Reproductive Medicine*, 1998; 43(3): 196-198. In this study 40% of 438 infertile women who attended a tertiary infertility centre were found to

have performed a good luck act (e.g. prayer, the wearing of objects or fantasies) on the day intrauterine insemination or embryo transfer was

carried out. There was no significant difference in pregnancy rates between the women who used fertility rituals and those who did not.

## COMMENT

### Religion, Science & Skepticism - A Response

By Stuart Campbell

*Stuart Campbell is a science writer and a member of ASKE.*

Dónal O'Mathúna's article (O'Mathúna 1998) would make more sense if, instead of the word 'faith', he used the word 'belief'. Then there might have been less controversy among your editorial team.

As Dorothy Rowe pointed out (Rowe 1998) we cannot perceive reality directly. Consequently we construct models in our minds and behave as if the models *are* reality. This is no less true for science; it also cannot perceive reality and constructs models.

Science's models are no less *beliefs* than those of religion: they are all hypotheses as to how the universe works. So both science and religion have their beliefs. But where Dr. O'Mathúna is mistaken is in believing that religious beliefs are, in Dorothy Rowe's words, 'equivalent modes of thought'. As she pointed out, religious beliefs are fantasies: ideas floated without reason and without limit. In science, ideas are disciplined and required to submit themselves to various tests. The distinction is between ideas that are justified and ideas that are not justified. Science is an example (perhaps the only example) of the former; religion is an example of the latter.

O'Mathúna appears to believe that both science and religion employ critical thinking. If by that term, he means questioning of claims (criticism), then he is again mistaken. The essence of a religion is that its adherents uncritically accept and believe what they

are told. There is no religion in the world that allows its followers to question its teaching. Where such questioning has occurred, the result has been a schism, as in the Reformation. No, critical thinking is not 'a step of faith'; it is a step *on* faith--a test of its strength. Yes, Christians may 'defend their beliefs', but that is hardly the same as subjecting them to critical thinking. As a former Christian, I know that critical thinking is impossible without destroying faith. It is only possible to declare and expand on the belief, making no concession whatsoever.

I doubt that O'Mathúna has really put his faith to 'critical thinking'; to do that he would have to think the impossible--that his faith is false. He asks why critical thinking leads 'to truth' if it is just an evolved ability which gives us an advantage. This is merely a subtle attack on the theory of evolution. But why should an evolved ability which gives us an advantage *not* lead to 'truth'? It is this evolved ability to think critically that has led to the rise of science. Religion arose in the absence of critical thinking.

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## Religion, Science & Skepticism - Another Response

By Doug Bramwell

*Doug Bramwell is a mechanical engineer turned technical journalist. He is also a member of ASKE.*

In his response to recent articles on religion and science in the *Skeptical Intelligencer*, Dr. Dónal O'Mathúna (1988) discusses 'faith' in religion and science and, specifically, refers to a book review of mine in the double issue (Bramwell 1998).

In the review I had written that "...the strong anthropic principle, states that the universe must have the properties which allow the development of observers within it. Although not always made clear by its advocates, the 'must' is intended in the strong sense that implies that the universe has a purpose, and this seems, to many, to be merely a restatement of the argument from design. Possible escape routes are provided by science; firstly, some versions of the inflationary big-bang theory allow for the existence of multiple universes with differing physical constants and, secondly, an as-yet-to-be-discovered theory-of-everything may provide an ultimate explanation."

O'Mathúna writes that "Doug Bramwell wonders if multiple universes or theories of everything will help resolve arguments about God's existence. But there too he goes a little beyond the evidence and reveals his faith in science."

I have little hope that any cosmological theory could contribute any positive 'resolution' to arguments about the existence of God. My point was the weaker one that cosmological theory may provide an escape route from the temptation, obviously felt by many physicists and cosmologists, to deploy the strong anthropic principle to the problem of cosmic origins. Whatever the outcome, the design argument, in any of its many disguises, cannot settle the question of the existence of God, or gods, or some other, less conventional, creative entity. It will, undoubtedly, continue to be a temptation to those - and I sympathise - who seek an ultimate answer to the question of cosmic origins.

Which brings me to the matter of 'faith'. O'Mathúna says: "I view faith as the acceptance of certain propositions as true even though the evidence supporting them is not completely verifiable. Here, I

take issue with some of my religious friends who view faith as that which replaces or supplants evidence". And also, "...faith is what takes us a little beyond our accumulated evidence, though should [sic] always be in accord with our evidence."

But neither does science 'completely verify' evidence. Scientific hypotheses take us 'a little beyond our accumulated evidence' to make predictions which can be tested. I cannot agree that such activities reveal a 'faith' in science; they are merely an extension of the basic human expectation that, tomorrow, the world will behave in more or less the same way that it did today. (Sit down, Mr Hume! Don't complicate things!)

It would seem that the position adopted by O'Mathúna is an example of that view which Dr. Trevor Jordan argued was now rejected by modern theological thinking. According to Jordan, "While there are still some individuals who equate scientific discourse and religious discourse, this is no longer the norm". Certainly, in conversations with Christians I usually find them not willing to regard their beliefs as "...amenable to rational and critical investigation", as O'Mathúna puts it. Faith, it seems, is not usually up for analysis.

The difficulty is that the word 'faith', like 'love' and 'spiritual', is used so vaguely and carelessly, that it can mean whatever suits the occasion. Remember Humpty Dumpty's words to Alice, in 'Through the Looking Glass', "When I use a word, it means just what I choose it to mean - neither more nor less". I do not know whether Humpty would agree, but I would certainly not choose the word 'faith' to describe the process of going "...a little beyond our accumulated evidence", when a non-emotive word such as 'hypothesis' seems more appropriate.

In my experience, 'faith', for many religious people, signifies far more than 'going a little beyond'. Rather, it seems to signify a huge leap from accumulated experience to some improbable metaphysical entity for which no objective evidence

seems to be available. No greater leap, it seems to me, is needed to accept channelling, therapeutic touch, 'bouncing' gurus or out-of-body travels. Where does one draw the line?

While agreeing totally with O'Mathúna's comment on post-modern criticism, I see little reason for bundling scientists and theologians together because of their common commitment to 'critical thinking'. As Trevor Jordan comments, "...religion and science are not equivalent modes of thought, and religious writings do not claim for themselves the status of scientific fact".

Critical thinking must begin from premises, and there is little in common between the premises of a working physicist and those of a theologian (or some physicists when they are not working). Again, Jordan makes the point that "The commonly quoted 'proofs of the existence of God' attributed to Augustine and to Aquinas are not proofs at all: both start with the assumption of the existence of God and then discuss what the nature of that God might be.

Augustine and Aquinas begin with a statement of faith - there is a God - and then attempt to understand the implications of that faith".

Surely, one function of critical thinking is to eliminate, as far as science can help us, premises that are based on 'faith'?

Finally, O'Mathúna asks, "Why would critical thinking lead to truth if it is just an evolved ability which gives us survival value?" Presumably, because survival requires an organism to 'know', in the sense of modelling and adapting to, the harsh realities of the world. Otherwise, we would not be here to write to the 'Skeptical Intelligencer'.

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## A Reply to Campbell and Bramwell

By Dónal O'Mathúna

*Dr. Dónal O'Mathúna is a Professor of Bioethics and Chemistry at Mount Carmel College of Nursing, Columbus, Ohio, USA.*

Steuart Campbell asserts that religious beliefs are "fantasies: ideas floated without reason and without limit" and "ideas that are not justified"; and he implies that they require no submission to various tests. In contrast, scientific ideas are the only ones that are justified. He claims, without supporting evidence, that there is no religion in the world that allows its followers to question its teaching. Here is some evidence that biblical religion demands a critical examination. Regardless of whether you accept these views as accurate, please bear with me. I realize you may not accept that the following stories actually occurred. That is a separate issue. My point is just that the Bible itself calls on people to critically examine events and teachings. It gives people the

opportunity to "think the impossible," using Campbell's words: that their faith is false.

The ancient Israelites were told to evaluate the claims of those who taught them (*Deuteronomy* 18:21-22). If a prophet foretold something in the name of Yahweh, they were to test that claim. If it did not come about or was not true, they were to reject the prophet. The New Testament similarly calls on Christians to "pass judgment" on what they hear at church meetings (*1 Corinthians* 14:29). Paul insists that there were hundreds of eye-witnesses to the resurrected Jesus (*1 Corinthians* 15). What is further, he says that if what he claims is not true, his preaching is a lie, and Christian faith is "worthless" and "in vain." The Bible itself seems able to "think the

impossible", as Campbell put it, and calls for its claims to be put to the test of critical thinking, in this case the test of historical reliability.

Campbell tells us that critical thinking destroyed his own faith, and turns that into a sweeping generalization which implies that I could not have thought critically about my own faith. He seems to know this because I still have faith in Jesus Christ. That sounds circular. Does this thereby imply that C. S. Lewis did not think critically about his faith? Does Alvin Plantinga not think critically even though he is an acclaimed philosopher? Plantinga is the source of my claim that a naturalistically evolved ability may confer survival value, but does not necessarily lead to truth (Plantinga 1993). Campbell himself questions whether science leads to truth when early in his letter he stated that science "also cannot perceive reality." Darwin himself thought about this when he wondered:

"With me, the horrid doubt always arises whether the convictions of man's mind, which has been developed from the mind of the lower animals, are of any value or at all trustworthy. Would any one trust in the convictions of a monkey's mind, if there are any convictions in such a mind?" (Darwin 1881: 255).

Turning now to Doug Bramwell's letter, I agree that the cosmological theories he mentioned offer alternatives to the design argument. But why do we need an alternative? I would hold that it is because of faith in certain beliefs. My faith in God makes the design argument more appealing; others' faith in there being no God makes other theories attractive to them. I too am inclined to think that the design argument will not settle the question of God's

existence. For myself and the others I know who have converted to Christianity, it has been for other reasons. Given my premise of God's existence, the design argument makes sense of a lot of findings.

When Bramwell discusses faith, he again notes that in his experience Christians have not been open to critical investigation of their faith. I hope the above examples will show that while this may be true of some Christians, it is not the way they are supposed to be. I also agree that it is difficult to define words like faith, but we must struggle on to make them as clear as possible.

Finally, I did not mean to equate science and theology, and agree completely that they are based on different premises. They deal with different subject matters, and have different methodologies. But I still think they have important similarities inasmuch as they both have fundamental premises and both propose various hypotheses that should be evaluated and critically thought through. Finding scientists who have never thought about why rationality is better than postmodern irrationality does not diminish the importance of critical thinking in science. In the same way, finding Christians who have never thought critically about their faith does not diminish the importance of critical thinking in Christianity.

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