

## Newsletter no 42: July 2001

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## Claire Rayner to accept Healthwatch award

***Champion of patients' rights, author, columnist and one of the country's best-loved agony aunts, Claire Rayner has agreed to accept the 2001 HealthWatch Award for her years of dedication to supporting the public's right to reliable health information and quality health care through her various media roles.***

Mrs Rayner is currently President of the Patient's Association, through which she has been a powerful defender of the National Health Service whilst campaigning against mixed sex wards and poor hospital food. She originally trained as a nurse before going on to become a columnist and a television agony aunt. Loved by the public for her practical and down-to-earth approach combined with a rare talent for empathising with people's problems, she is also a formidable campaigner with patients' interests firmly at heart. A leading voice in the fight to find a cure for breast cancer, in May Mrs Rayner underwent emergency surgery for breast cancer herself.

The award will be presented, as usual, after the Annual General Meeting which is to take place on Thursday 1st November 2001 at The Inns of Court City Yeomanry, Lincoln's Inn, London WC2A 3TG. Further information will be available nearer the date.

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## SlimSweet: a dieter's dream or just a sugary sell?

***Products continue to sneak onto the market promising the slimmers' Holy Grail - the miracle ingredient that will melt fat away effortlessly. Meanwhile HealthWatch continues to defend the public's right to full and correct information on such products.***

The April 2001 issue of HealthWhich? included a brief note about SlimSweet, described by the manufacturers as being, "Made from natural fruit of the kiwi family, SlimSweet has been clinically proven to speed up the fat burning process without stimulating insulin production. SlimSweet is the first and only sweetener available that's great for weight loss, completely natural, and safe for diabetics, children, hypoglycemics, and anyone who wants to significantly improve their diet!" Cost? £15.99 for 80g.

HealthWatch member Dr David Bender advised Health Which? about this product. He suggested that from the information given on the US manufacturer's web-site (which he found by peeling the address label of the UK distributor from the package) he thought that the "miracle ingredient" was almost certainly the sugar tagatose, which is useful as a non-caloric sweetener, but most unlikely to "burn off fat". Astoundingly, when questioned by HealthWhich? researchers, the UK distributors "couldn't tell us if SlimSweet is tagatose, only that it's made from fruit."

HealthWhich? April 2001

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## Vitamin C megadoses linked with cancer risk

**Large vitamin C doses may raise, rather than lower, the risk of cancer, say scientists at the University of Pennsylvania, Philadelphia, who carried out tests involving the equivalent of a daily intake of 200mg Vitamin C - three times the recommended daily intake but a fraction of the "megadoses" recommended by some health food and pharmaceuticals companies. The study, published in the journal Science, shows that vitamin C can induce the production of genotoxins, agents that damage DNA. DNA mutations caused by genotoxins have been found in tumours.**

Normally vitamin C is a powerful antioxidant that helps to disarm free radicals - the highly reactive and destructive molecules created naturally in the body which are associated with many age-related ailments such as heart disease, cancer and arthritis. The new findings could help explain why previous studies have failed to find the predicted benefits of vitamin C supplements in the fight against cancer.

Science, 15 June 2001

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## **Alternative cancer treatments "ineffective"**

**Many alternative therapies promoted for treatment of cancer and related symptoms - including high-dose vitamin C, the Di Bella regimen, and laetrile (a remedy extracted from apricot stones) - have been shown not to be effective, says a recent review in Lancet Oncology. For others, such as metabolic therapy, evidence is extremely limited, say the review's authors, both doctors at New York's Sloan-Kettering Cancer Center.**

The review also discusses the evidence from randomised trials supporting the value of complementary approaches, including hypnosis and acupuncture for cancer pain and nausea and relaxation therapy, music therapy, and massage for anxiety - therapies that are increasingly provided at mainstream cancer centres. Most of these complementary therapies are, the review concludes, well studied and of proven benefit. There is evidence from randomised trials supporting the value of hypnosis for cancer pain and nausea; relaxation therapy, music therapy, and massage for anxiety; and acupuncture for nausea. A significant proportion of cancer patients try unconventional therapies and many use 'complementary' therapies, as adjuncts to mainstream care, for management of symptoms and to improve quality of life. A smaller proportion use 'alternative' therapies, which are typically invasive, biologically active, and commonly promoted as replacements for, rather than adjuncts to, mainstream therapy.

Reference: Vickers AJ and Cassileth BR. Unconventional therapies for cancer and cancer-related symptoms. Lancet Oncology 2001; 2 (4): 226.

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## **Healthy foods book mailing "unduly alarming" says ASA**

**"A doctor claims: 'Your Health is in DANGER!'" reads the promotional copy on a direct mailing from The Bristol Group Ltd for a book called "Eat and Heal". The mailing provoked a complaint to the Advertising Standards Authority, and the objection was upheld in June.**

The mailing included a brochure headed "Food poisoning: 'this year's greatest threat'" which continued with the warning, "Mutant microbes are on the attack! Even antibiotics are powerless to stop them. Painful sexual relations, sterility, decreased pleasure, breast or prostate cancer, infections: all problems that are hard to avoid these days unless you happen to know about a discovery made by a number of research teams. Arthritic, painful or deformed joints, backaches, rheumatism: the real causes - and the secret of how to treat these ailments - are being kept hidden from you. Carcinogenic vegetables you should avoid. How to get rid of a cold almost instantaneously. Are you going to become a victim of some new virus, a terrifying epidemic, a painful degenerating disease? Or are you going to protect yourself, using natural substances that help make your body invulnerable?"

The inside of the brochure included claims about the ability of foods to cure medical conditions information about which could be found in the advertised book. The advertisers did not submit substantiation to support the efficacy of the advertised treatments. The Advertising Standards Authority considered that the mailing could encourage self-diagnosis and self-treatment of serious medical conditions and therefore breached the Codes. It also considered that the mailing exaggerated both the risks to recipients from the conditions referred to in the mailing and the benefits in treating those conditions from buying the advertised product. The Authority concluded that the mailing was unduly alarming. It told the advertisers to contact the Committee of Advertising Practice Copy Advice team before advertising the product again.

Code of Advertising Practice adjudication 13th June 2001.

LINK <http://www.asa.org.uk>

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## News in brief

**Reflexology works - whether it's the real thing or a placebo, it seems.** All the participants in a 10-week controlled trial of reflexology for people with asthma felt better during the trial, and the symptoms improved by about the same amount in both groups regardless of whether the reflexology they received was real or simulated. Objective measures of lung function did not improve, though, apart from bronchial sensitivity which was down in both groups. About half the patients correctly guessed which group they were in.

Respiratory Medicine 2001; 95: 173-9 (reviewed in BMJ 2001; 322: 744.)

The University of Southampton recently announced the foundation of a research group for the critical study of astrology, funded by a grant from an astrology-promoting body called the Sophia Trust, notes Catherine Bennett in The Guardian. One project will look at an "apparent relationship" between the position of Jupiter at the time of birth and subsequent alcoholism and drug dependency. Another, led by a "professional astrologer" is already "investigating whether the success rates of fertility treatments could be improved by coinciding treatment sessions with movements in the star charts of couples hoping to conceive".

The Guardian, 22 March 2001

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## Opinion

### DOES IT WORK? IS IT SAFE?

*Leading oncologist and past Chairman of HealthWatch, [Thurstan Brewin](#) wrote this article for the HealthWatch newsletter shortly before his death in February this year. Here he applies his compassion and practical experience to the problem of risk assessment in medicine.*

On the stage, including the amateur dramatics that some of us dabbled in when we were young (in my case as a medical student at Guy's ) a particular way of performing a moment of comedy or tragedy is considered during rehearsal "to work", or "not to work". Fair enough. In the world of drama this means something. But not in medicine. "What is the success rate?" is a better question. "How much difference does it make?" is an even better one. In my own subject of cancer the answer could be that most patients (with a particular cancer at a particular stage) are permanently cured. Or it could be that only a minority benefit - though there are always a few who do far better than average. Or anything in between. One of the surprising failures of human intelligence - not just in medicine, but in such things as engineering and agriculture - is that it took so long to realise that the key to assessing the true value (advantages and disadvantages) of any procedure or intervention is to make a formal and careful comparison with the outcome after doing something else. The history of medicine shows that impressions and anecdotal evidence, though valuable in many ways, can be seriously unreliable when it comes to comparing results. This is mainly because, as with school league tables, if like is not being compared with like, any conclusions drawn as to the value of a treatment or intervention are likely to be flawed.

For example, in the first half of the 20th century the personal convictions of nearly all surgeons resulted in needlessly drastic surgery for two common cancers, breast cancer and rectal cancer. Proper comparisons from the start would have prevented this. We now know that something less drastic is just as good. For prostate cancer large doses of oestrogen hormone therapy used to be given. And with great enthusiasm, because the patients felt better, many lived on for years, and the treatment fitted current theory. Only when a proper statistical randomised comparison was done was this treatment found to be actually shortening life, not lengthening it, the cause being unforeseen effects on the heart. Much smaller doses turned out to be just as beneficial and a lot safer.

In medicine it is increasingly recognised that, along with all the other things that make a good doctor, we need more comparing, less theorising and less jumping to conclusions as to which treatment is getting the best results with the least harm. To avoid bias we need two groups that are broadly the same apart from how they are treated. The most reliable way is for as many suitable patients as possible to agree to have one treatment or the other according to chance randomisation. This is the main basis of so called evidence based medicine.

Such patients are no more "guinea pigs" than when a new treatment is tried without any proper comparison being made. In both cases nobody knows if the new treatment will turn out better, or worse, or about the same. Hospital ethical committees check all proposals. And when doctors and nurses are patients they should set a good example by agreeing to their own treatment being randomised in this way. When doctors try to figure out the best option for an individual patient, the overall results of randomised comparisons between two large groups are never more than part of the picture. But they are a very important part, because - other things being equal - they spell out for the individual a better chance of doing well with one policy than with the other.

Turning to safety, the attitude of most of the media (and, it seems, of most of the population) makes it necessary for any politician who wants to survive, to say things like "there will be no compromise with safety". Which is never true. How can it be? In medicine, as in everything else, safety measures are always a compromise. There

comes a point when it makes no sense to add on more and more checks and regulations, thus reducing the amount of work that gets done and increasing waiting lists - or to shift more and more resources away from other needs - in order to make something slightly safer than it is already.

"Reasonably safe" makes sense. But strictly speaking "completely safe" is never true and "not completely safe" is always true. What we need to discuss is how safe, giving comparisons with other situations, in order to reach a rough idea of the degree of risk. And at the same time allowing for double standards and illogical fears. Not long ago, in one year, when more than 3,000 died on the roads, there was not a single death on the railways. In the cancer field, occasional deaths from major surgery are considered sad but acceptable, at least in the elderly. A single death from radiotherapy, on the other hand, at any age would be considered shocking and unacceptable. With cancer chemotherapy or with radiotherapy it's usually true that the higher the dose the greater the effect on the cancer - and at the same time the greater the risk and the greater the chance of side effects. Once again the name of the game is balance and compromise and it may make good sense to be less drastic with an elderly patient if he or she prefers to avoid side effects and accept a slightly reduced chance of benefit. If every dose is regarded as either the "correct" dose, or an overdose, or an inadequate dose, then everyone gets the same dose and fewer people are helped (or helped less) because we are making the old mistake of treating the disease without sufficiently taking into consideration the patient.

"Medics admit risk doubled" makes a good headline, but what if this means that the risk has gone up from one in a thousand to two in a thousand? For the individual the risk is so small anyway that the difference means little or nothing. With more complex differences, "is this increased risk something I need to worry about?" is a sensible question. And a helpful answer from the doctor might be - or used to be when there was more trust and less demand for specialised detail - "it's up to you, but if it's any help, it wouldn't worry me if I was in your position".

When difficult decisions have to be made, the maxim, "above all do no harm" - often wheeled out as a vital principle - is not usually any help. Surgeon or submarine commander, prime minister or plumber, they all know that when the situation is serious, anything that stands any chance of doing any good nearly always carries at least a small risk of doing harm. We have to ask, "what is likely to happen if we don't carry out this risky or unpleasant intervention?" Then in medicine it may be true to say to anyone seeking help or advice, "there are risks, but in my view you are safer having this treatment than you are not having it"

Thurstan Brewin

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## Forum

### St John's wort: questioning the answers

***People taking the herb St. John's Wort for serious depression are no better off than if they were to take a sugar pill instead, claimed a study reported recently in the Journal of the American Medical Association. The report has sparked a debate about the possible influence of drug company sponsorship upon the effects of trials. Jerome Burne, editor of the newsletter [Medicine Today](#), was outspoken in [The Guardian](#) (3rd May 2001)***

What a gullible lot depressed people are, writes Jerome Burne. In America they spend \$400m a year on the anti-depressant herb St John's wort that has as much effect as a sugar pill. So says a study published in the prestigious Journal of the American Medical Association (JAMA) last month. A trial, involving 200 people who'd suffered from a "major depression" for at least four weeks, found the herb was no better than a placebo. Time magazine's follow up last week devoted two pages to the news, including an interview with a self-appointed "quack-buster" who declared that he wasn't surprised.

The journal [The Lancet] made this damning comment: "The efforts by the drug companies to suppress, spin and obfuscate findings that do not support their commercial purposes was first revealed to their full lethal extent during the thalidomide tragedy. [Since then]... the insidious tactics of the big pharma have changed very little."

What has changed is that many more researchers have drug company links. A study published last December found that only one of the top 10 medical schools in the US has clear regulations forbidding researchers from having a financial involvement in the companies they are supposedly impartially testing.

Jerome Burne  
Editor, [Medicine Today](#)

**The full text of his article can be found on [The Guardian web-site](#) by choosing 'Content distribution' from the drop down menu.**

Richard Shelton, key author of the original study, defends his trial in the following article. HealthWatch members are invited to add their views to the debate: e-mail the editor at [newsletter@healthwatch-uk.org](mailto:newsletter@healthwatch-uk.org)

## JAMA study author responds

The letter "Threatened by a herb" by Jerome Burne criticizes our study comparing St. Johns Wort extract against placebo in persons with a moderate level of major depression, writes Dr Richard Shelton. The arguments made by the writer essentially state, "A pharmaceutical company funded the study, pharmaceutical companies are bad, therefore the results must be faulty." It is curious that the writer does not take the same position vis-a-vis studies on St. John's Wort funded by herbal manufacturers.

Furthermore, there is no evidence whatsoever that the person who wrote this piece even read the article. There are a number of misstatements and distortions:

The funding was received from Pfizer, a maker of an antidepressant (Zoloft) and a St. John's Wort product. There has been an enormous amount of speculation in the press and on the internet about why Pfizer funded the project. However, as far as I am aware, no one has spoken with representatives from Pfizer or with me about it. No such speculation occurred when positive results were published in the past with St. John's Wort. From my perspective, it seems as though these critics can't make an argument based on the design, conduct, analysis, or reporting of the study.

I can't speak for Pfizer's intention with this study, unlike the commentary by Burne. The company agreed to provide their antidepressant, Zoloft, for free to the National Institutes of Mental Health trial (currently under analysis). However, there is always the potential of a "failed trial" in the NIMH study - that is, a study in which all treatments, placebo, Zoloft, and SJW were found to be equal (this occurs in about 25% of these types of studies). This would be a worst case scenario for Pfizer since the herbal manufacturers (and their supporters) could claim that SJW was equal to the antidepressant. Simultaneously, the antidepressant would be shown in a very public study to be no more effective than placebo (which clearly is not true). However, my reasoning is only speculative. Furthermore, my motivations for conducting the study have nothing to do with the goals of Pfizer for funding it. It was, and remains, my position that the field needs at least two large scale, well-designed research studies with St. John's Wort before any conclusions can be made.

In fact, the source of the funding really doesn't matter. What does matter is the way the study was designed and conducted. I have yet to see any substantive criticism of it in the popular press.

The author of this piece goes on to make claims about the prior studies with St. John's Wort. As we noted in detail in our paper, the prior research was significantly flawed and, therefore, does not support the use of St. John's Wort. This is not just our claim, but that of two "impartial" reviewers<sup>1,2</sup>. Please note that the Linde review acknowledges the relatively poor quality of prior research, even though Klaus Linde works at the Centre for Complementary Medicine Research, Technische Universitat, in Munich. He, therefore, could be considered favorably inclined toward herbal and other alternative treatments. A review of a few of his recent publications include the following [3,4,5].

This Burne commentary also misrepresents pharmaceuticals in a way that reflects extreme prejudice. In fact, antidepressant drugs have saved and improved millions of lives worldwide. No such evidence exists for St. John's Wort.

I will not get into the safety issues with St. John's Wort, including interactions with pharmaceuticals. Depression is the number one most disabling condition in industrialized countries according to the WHO. Furthermore, it is fatal in about 5% of persons with the illness who are untreated or inadequately treated. Suffice it to say that the most dangerous treatment for this serious and life-threatening condition is the one that doesn't work.

In closing, I will point out that this piece was written by Jerome Burne, the editor of the newsletter Medicine Today. A scan of recent articles from the website for this magazine yields these titles:

- Worth a Try? ... Padma 28 (Ancient Tibetan medicine) (August 2000)
- Worth a try? Reflexology (October 2000)
- Worth a try? Acupuncture (November 2000)
- Should We Be Worried by Alien Oestrogen? (March 2001)
- Worth a Try? ... St John's Wort (March 2001)

I also notice that their webpage does not list their sources of funding (unlike our paper which went into exquisite detail). I stand by the results of our study.

Richard C. Shelton, M.D  
Vanderbilt University, Nashville, Tennessee

### References

1. Linde K, Ramirez G, Mulrow CD, Pauls A, Weldenhammer W, Melchart D. St. John's wort for depression: an overview and meta-analysis of randomized clinical trials. *BMJ* 1996; 313: 253-258.
2. Gaster B, Holroyd J. St John's wort for depression. *Archives of Internal Medicine* 2000; 160: 152-156.
3. Melchart D, Linde K, Fischer P, Berman B, White A, Vickers A, Allais G. Acupuncture for idiopathic headache.

Cochrane Database of Systematic Reviews 2001; 1: CD001218

4. Linde K, Jobst KA. Homeopathy for chronic asthma. Cochrane Database of Systematic Reviews 2000; 2: CD000353
5. Jonas WB, Linde K, Ramirez G. Homeopathy and rheumatic disease. Rheumatic Diseases Clinics of North America 2000; 26(1): 117-123.

## The JAMA study: results in brief

Earlier studies had suggested that results from taking the popular herbal remedy, also known as *Hypericum perforatum*, were comparable to those from medicines commonly prescribed in the treatment of depression. But those studies were smaller and less rigorous than the latest project. Here, Dr. Richard Shelton of Vanderbilt University in Nashville, Tennessee, and colleagues at 10 other US medical centres compared the herbal extract with dummy pills in 200 adults with major depression. Half the participants took an initial dose of 900 milligrams of St. John's wort, increased to 1,200 milligrams in people who didn't respond. The rest received placebos. Some people in each group improved over time, the researchers say. But after eight weeks, the symptoms of depression were no different, on average, in those who took the herbal remedy than in the untreated group, the study says.

Although St. John's wort appears to be safe, 41 percent of study participants who took it reported headaches, compared with 25 percent of the people taking dummy pills, the researchers say.

However, the study doesn't say St. John's wort isn't effective for very mild depression, and it doesn't show that maybe other dosages and other forms of the supplement might not work better.

The pharmaceutical company Pfizer, which makes a St. John's wort product and the prescription antidepressant Zoloft, funded the study.

Reference: Shelton RC, Keller MB, Gelenberg A, Dunner DL et al. Effectiveness of St John's Wort in Major Depression: A Randomized Controlled Trial. JAMA 2001; 285: 1978-1986.

**See also Truth and Hype in the Drugs Business in [Newsletter no 42](#)**

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## Nutrition: Towards regulation of dietary supplements?

***In the US - and the same may well be true in the UK - most adverse events resulting from use of dietary supplements go unreported, and the public are thus deprived of any reason to doubt the safety of their so-called "health supplements". David Bender reports on the American authorities' attempts to improve the situation.***

In April 2001 the US Department of Health and Human Services published a report entitled "Adverse event reporting for dietary supplements: an inadequate safety valve". It highlights the problems in gathering information about dietary supplements, and the lack of a formal adverse event reporting system. Among other recommendations the report suggests that manufacturers of products should be required to register with the Food and Drug Administration (FDA). Is this the beginning of a long-overdue system for regulating the supplement market?

The report notes that 60% of Americans take some form of dietary supplement every day, and while some of these are beneficial, there are risks associated with others. Unlike prescription and over-the-counter medicines, FDA does not have any authority to require supplements to undergo premarket approval for safety and efficacy, but relies on wholly voluntary reporting of adverse events. In response to such reports, FDA then assesses whether there is a potential public health problem that requires attention. The first problem is that FDA estimates that it receives reports of only 1% of adverse events associated with supplements - this may be because supplements are sold without medical supervision, most people believe them to be safe, and few people know that FDA has a regulatory role anyway. More seriously, FDA cannot always get the information it needs to investigate potential problems:

- They did not receive the medical reports for 58% of the reports for which it requested them.
- They were unable to determine the ingredients for 32% of the products mentioned in adverse event reports.
- They were not supplied with samples of the products in 69% of the cases in which they were requested (the report notes that samples are especially important because dietary supplement ingredients, unlike pharmaceutical products) are not standardised.
- They were unable to determine the manufacturers of 32% of the products mentioned in reports, and unable to determine the city and State where 71% of the manufacturers concerned were based. (It is a common problem in UK that a case is brought, successfully, by a Trading Standards Officer, and the company involved simply moves to another town and starts again).
- They were unable to follow up 27% of the cases they identified as needing follow-up because there was inadequate information to identify the alleged injured person.

As a result of these problems, the report states that there was evidence of only 32 safety actions taken in response to adverse events concerning supplements between January 1994 and June 2000 - a time when 100 million people in USA were taking supplements. Of course, optimists might respond by saying that this shows the safety of most supplements, but this seems unlikely.

### The report makes a number of recommendations:

- FDA should do more to make the public and health professionals aware of its reporting system for adverse events.
- Manufacturers should be required to report adverse events to FDA (at least for some classes of products)
- Supplement manufacturers should be required to register themselves and their products with FDA.
- Registration of products should include a full list of ingredients. There should be a requirement for manufacturers to provide safety information before marketing a new product or ingredient.
- There should be enforced standardisation of ingredients (especially herb extracts), and manufacturers should be required to follow good manufacturing practices, as is the case for pharmaceuticals.

The ethical manufacturers of supplements should have no problems with these recommendations, since we have to assume that most of them do know what ingredients they are using and their source, and many presumably have analytical facilities so that they can control the quality of their ingredients and products. Manufacturers who cannot provide FDA (or any other regulatory authority) with the sort of information suggested (perhaps in confidence to protect "secret formulae") surely should not be marketing their products.

David A Bender  
Dept of Biochemistry and Molecular Biology  
University College London

The full report is available to download from <http://www.hhs.gov/oig/oei/reports/a519.pdf>

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## Book review

### Voodoo science by Robert Park

Published by Oxford University Press, Oxford, 2000  
ISBN No. 0-19-850745-3, price £18.99

*I know you can dedicate a book but can you dedicate a book review? asks Professor Michael Baum. If so, I dedicate this book review to the beloved memory of [Thurstan Brewin and John Diamond](#). Both these wonderful men died in the same week that I received this book for review and the highest compliment I could pay to this book is to state emphatically that they would have loved it.*

Thurstan Brewin the great humanist, some time Chairman of HealthWatch, war hero and one of the most distinguished clinical oncologists of his generation shared much in common with John Diamond. Diamond, another great humanist who died of cancer at the tragically young age of 46, produced the finest narrative of a life with cancer that I have ever read<sup>1</sup>. What both these men shared - apart from a lucid style of writing and a delightful wit - was a healthy scepticism for alternative medicine and a distaste for the intellectual dishonesty and shallowness of its proponents. Thurstan Brewin and John Diamond would have stood up and applauded after the coda at the end of the book, which I wish to quote in full:

"For a million years, our species was confronted with a world we could not hope to understand, now almost within the span of a single human lifetime the book of nature has been opened wide. On its pages we are finding, if not a simple world at least an orderly world in which everything from the birth of stars to falling in love is governed by the same natural laws. Those laws cannot be circumvented by any amount of piety or cleverness but they can be understood. Uncovering them should be the highest goal of a civilised Society. Not as we have seen because scientists have any claim to greater intellectual virtue but because the scientific method transcends the flaws of individual scientists. Science is the only way we have of separating the truth from ideology or fraud or mere foolishness."

For those reasons I would like to make this book compulsory reading for medical students in their first year, before their brain becomes softened by the claims of alternative practitioners, pseudo science and the natural desire for miracles. I would also like to make it compulsory reading in the post-graduate continuing education of our new age general practitioners. These are a strange breed, and one that I frequently bump into. They enjoy two types of PC, firstly a personal computer to organise their work, made possible by our understanding of quantum mechanics and the other PC standing for political correctness in an age of post-modern relativism which somehow allows them to believe in homoeopathy whilst accepting in an unquestioning way the real benefits of quantum mechanics.

In fact there is a lovely section in this book Voodoo Science describing how the modern homoeopath, recognising that a homoeopathic remedy cannot possibly contain a single molecule of the original active ingredient, falls back on an impressionistic understanding of quantum mechanics and Heisenberg's uncertainty principle or, failing that, invokes the mathematics of complex systems, known as chaos theory. Robert Park with his incisive logic and wit dismisses both these claims mercilessly or, as he puts it, ". if someone says he understands quantum mechanics it means he hasn't thought about it deeply enough".

Furthermore Heisenberg was certain and brought the greatest possible precision to the measurement of both the position and motion of an electron. The "uncertainty principle" was merely that these variables are complementary, so the greater the precision of knowing the position of an electron, the less the certainty of its speed and vice versa. He then goes on to state ". not only does chaos theory fail to provide support for homoeopathy. Chaos offers proof that homoeopathy cannot possibly work any more than tornados can be prevented by eradicating butterflies!" The strangeness and mystery that remains in the universe is the irreconcilable nature of the theories of general relativity and quantum mechanics. For practical purposes, it doesn't matter that these theories are irreconcilable but Robert Park is confident that they will be one day. In the meantime it is the privilege of the junk scientist to fall between the gaps.

Much of this book is dedicated to the fact that it never pays to underestimate the human capacity for self-deception and this is illustrated throughout by descriptions of variations on Pascal's wager. Blaise Pascal was a 17th century mathematician and cleric. His wager consisted of betting on the existence of God. He felt that on balance it was a good bet because quite a modest investment was linked to an almost infinite return. So large is the human capacity for self-deception, the need for miracles and the wish for massive returns following modest investment that in addition to having a flutter on alternative medicine the individuals, and for that matter government agencies will invest on miraculous machines that disregard the laws of thermo-dynamics promising perpetual motion and free energy. Of course for primitive man, the brain as a "belief engine" had a survival advantage but in the post-industrial age unrestrained belief can lead to both comic/tragic and very expensive mistakes. With brilliant insight and clarity of prose he describes the inevitable consequences of a debate between the true believer and sceptics such as ourselves, "Belief in that which reason denies is associated with steadfastness and courage, whilst scepticism is often identified with cynicism and weak character. The more persuasive the evidence against the belief the more virtuous it is deemed to persist in it."

There is so much good stuff in this book, it is difficult to know where to stop the review. The power line scare and its relationship to leukaemia - a subject that should have been closed down years ago - reappeared in the Sunday Times this week with protesters outside the Vatican waving banners that spreading God's word via electromagnetic waves was causing leukaemia amongst innocent children. This was very droll indeed although I hasten to mention that the date on the newspaper was April 1st but then anything is possible. This book was a joy and an entertainment. I read it like a good novel coupled with the sense of self-improvement, most books I am sent to review appear endless and the reviewer's job a chore. This book I didn't want to end and its review was a labour of love. Buy it while stocks last!

Michael Baum  
Emeritus Professor of Surgery (Breast Care Specialist)  
University College London

Reference Diamond J. C: Because Cowards get Cancer too. Vermilion, London (£6.99).

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## Internet: Sites to see

### [Pink Unicorns](#)

Harriett Moore, a HealthWatch member in Northern Ireland, lost her husband to cancer after a disastrous succession of alternative treatments failed to live up to his hopes of a cure. Now dedicated to alerting the public to the darker side of unorthodox medicines, she has launched a website cataloguing her personal experiences with a range of alternative therapies. Many of these have been as part of research for TV programmes - Moore frequently appears as a sceptical "guinea pig" on investigative features or argues against untested treatments on chat shows and studio audience discussions. The site index lists subjects ranging from aromatherapy, colon cleansing and psychic surgery to ghost sightings and UFO's. "A kind of journey through the the wilder reaches of the fringe by someone who appears to have gone into everything with an open and enquiring mind and emerged sadder but a lot wiser," said Dr Geoff Watts, broadcaster and HealthWatch Committee member. Journalists looking for sources and anecdotes should find the site particularly useful, sceptical browsers will be entertained, alternative therapists possibly enraged.

Find it at <http://www.pink-unicorns.co.uk>

### [Guy's King's and St Thomas's Medical Ethics Group](#)

Aimed mainly at medical students, the site includes detailed reports of the group's debates, held informally every

two weeks in the bar at St Thomas's. A recent meeting debated organ retention for medical research. This site's resources page contains essays and notes for the philosophically, ethically or legally minded medical student. Find it at <http://www.1js.com/ethics>

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