



THE SECOND

COMING

Health

All the best from *the Skeptic*

1986 - 1990

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Health

Edited by Barry Williams
Compiled by Richard Saunders

New Cartoons by Penny Rowe (Funny Penny)
&
Richard Saunders





"AND HERE WE
HAVE MR BLOGGS,
WHO WE'RE TREATING
FOR HAEMORRHOIDS
WITH FLESH-EATING
'MPANG' BEETLES"

LUNNYPENNY

Vol 6 No 3 - 1986

A Rose By Any Other Name

Dr K J de Veaux

In recent times, it is apparent that increasing numbers of people are being lured to the so-called "alternative" practitioners of health care, such as chiropractors, herbalists, naturopaths, iridologists, faith healers, and so on. Now, I cannot believe that all these people have made conscious decisions to reject scientific principles when dealing with their most important asset, their body, so why do otherwise rational people ignore the total lack of objective proof associated with these fields?

After speaking to many people, it seems to me that in many cases, at least, the explanation is that they simply do not know that the person they are seeing is not recognised as a legitimate, scientifically trained therapist. They regard the various practitioners listed above as equally qualified and trained as doctors, nurses, physiotherapists, and others with recognised credentials. Certainly, the pseudo-science clique do all they can to promote this image, usually setting themselves up in an extremely clinical environment,

dressing the part in white coats, and awarding themselves the title "Dr". However, this does not really explain the pervasive acceptance of their credentials as legitimate.

Surely, at least part of the problem must be the language that they have skillfully persuaded the media and public to use. Consider the terms accepted to denote the type of health care being sought. How often do we hear scientifically tested treatments referred to as "conventional", or "traditional medicine", and the unproven, undocumented fields as "alternative medicine"? These terms have become the standards, yet they do not inform us of the facts they represent, as good usage should, but rather act to deceive the public into false assumptions.

To most people, "traditional" or "conventional" carry certain unspoken impressions. Usually, they denote something old-fashioned, not in accord with current knowledge or practice, something which has been abandoned or superseded by newer and superior ways. "Alternative", on the other hand, implies something of at least equal, if not superior value, a fresh and more lively approach. The ludicrous nature of this mislabeling is apparent when you consider that medicine, among all the sciences, is growing and progressing at a remarkable rate. Almost daily, we hear of new treatments, new cures, new diagnostic tests, new understanding of the disease process. The pseudo-scientific treatments, on the other hand, are usually based on unproven theories formulated many years, decades, or centuries ago, which have not been evaluated objectively, and which do not progress or become more refined.

Shouldn't it be the pseudo-scientific practitioners, then, who are referred to as "conventional". And shouldn't proven and documented science be considered the preferred "alternative"? Better yet, let's be accurate, and refer to "scientific" and "anti-scientific" medicine.

The other word much beloved by the anti-science crowd is "natural". All these nasty people trying to use science to treat illness are being "unnatural". Herbal

remedies, however, are either unsullied by any form of scientific research, or, better yet, have been branded by science as worthless and must therefore be good! The agents they use are free of purification, verification, and concentration, so they are "natural" and therefore superior, in spite of absence of evidence that they are any more than extremely costly placebos. An exception is vitamin supplements, which can be chemically synthesized, encapsulated, and administered at many times the normal and required dosage, and still remain "natural", perhaps because unqualified people can mimic doctors by "prescribing" these non-restricted substances. The fact is, though, that illness and death

are extremely natural, in the true sense of the word - they exist throughout nature. Any attempt to postpone or escape them is extremely unnatural, and the term "natural therapy" is almost a self-contradiction. This view seems to escape these people.

Language is a powerful tool, whether used or misused. Let's try not to concede important points to those who reject the power of reason by using words which concede their

contentions without offering the trace of a counter-argument.

(I have not addressed in the above, people alienated from scientific medicine by the mistakes of individual doctors or by the misreading of data leading to erroneous conclusions. These cases certainly exist, but they do not invalidate science nor justify voodoo any more than construction defects in manufactured products detract from the principles on which they are designed).



Vol 6 No 4 - 1986

The Great Sydney Uni Cancer Chase

Dr Anthony Garrett

The University of Sydney News of the 5th August 1986, carried a long article on a new theory of cancer propagation. This theory was, to say the least, unusual. The following article is a personal account of this and succeeding events.

The two scientists responsible for the theory are Dr Sergei Barsamian, a Fellow in Physics at the Royal Prince Alfred Hospital, and Dr Bevan Reid, Reader in obstetrics and Gynaecology. Dr Reid has a reputation for unorthodoxy; at least one of his past speculations, that sperm is an activator of cervical cancer, has received experimental support. A few well trained mavericks are useful to every field in generating ideas and discussions, and hitherto Dr Reid seems to have fitted this category well.

I am unable to describe the theory in detail because Dr Barsamian declined to show me a preprint on request. Before any of my critical letters had appeared, he stated over the telephone that another member of the School of Physics had given a negative reaction to the theory some three months before, and that he would only discuss the theory with me. I replied that I was not responsible for my colleague's opinions (though I certainly now share them) and that there was little point in my discussing something I hadn't seen in advance. There the matter rested, for which reason my information about the theory comes from some short conversations and from the News article written by Susan Coleby, a journalist with no scientific training.

The basic idea centres on a universal low-level energy field. This is related to a "vortex" theory of the electromagnetic field and gravitational fields, and is conjectured to involve the mysterious aether, which until this century was believed to pervade the universe. Dr Reid did not lose the opportunity of pointing out that a unification of electromagnetism and gravity was what Einstein had spent his final years seeking. Quite true. He did not, of course, mention that the stroke of imagination with which Einstein created the Theory of Relativity at once abolished the need for aether. Ever since, aether has been exclusively the refuge of cranks and those with insufficient imagination to comprehend Einstein's genius. At least one of these, Harold Aspden, has also come up with a vortex view

of electromagnetism and gravity. It doesn't work; experimental tests unanimously favour Einstein.

The new theory arose in order to explain some curious observation on the manner in which salt crystallises out of cervical smear samples. Dr Reid found that various unexpected factors were involved. These included experiments in a neighboring laboratory involving the compound silicic acid; the passage over the area of a cold front; a lead block; and even partial eclipses of the sun. The problem with this kind of thing is that it explains too much. If distant events are supposed to influence the crystals, why restrict it to one experiment going on next door? Why not the filing cabinet or the board duster? Crystallisation is a complicated phenomenon, and the final configuration can depend strongly on the early stages. Sloppy methodology is a far more plausible explanation, so it is important that attempts be made to duplicate these findings.

The usual attack on science's ruthless strategy of reductionism was wheeled out, along with statements that cancer destroys the "wholeness" of the cell. Reductionism is claimed to set overly restrictive limits on scientific thought; but it has been espoused for one outstanding reason: it works! An intelligent alien encountering a TV set for the first time would set about the task of understanding it by taking it to pieces, working out what each component does, and then examining how they function together to give the picture. A wholist alien would presumably gaze at it in the hope of becoming At One with the thing. There are no prizes for guessing which alien would be better able to export television. Science needs both the taking apart and the reconstruction; that the first has so far been more successful than the second in biochemistry in no way invalidates the entire program. Merely because a problem is difficult is no excuse for failure of nerve. On one thing I do however agree with Dr Reid: that "something other than known properties of carcinogens have to be involved as an activator". How about unknown ones?

The article showed two microphotographs, one of bacteria and the other of a sterile control after it had supposedly been influenced by the bacteria from a distance away. The two were supposed to look similar; they did not do so to me or any of my colleagues. Presumably, too, the best available example was selected for the articles.

In a footnote it was stated that Dr Barsamian's vortex theory paper, "Electromagnetic Force Fields", had been submitted to a major international journal". More of this later. A subsidiary article then followed which, for me any way went a long way towards

explaining why two professionally trained scientists had been edged into turning out such counter-culture clichés. It concerned one Robert Pope, visiting “artist-in-residence” in the Faculty of Medicine, and catalyst to Drs Reid and Barsamian. According to the article, Mr Pope has a “profound belief in the need for a creative science to be developed”, (It comes as a surprise to discover that orthodox science is not creative) is “avidly interested in philosophy and science”, and has a “passionate belief that art is one of the better ways of communicating science”. Really? I can see no evidence for this breathtaking assertion; art and science are more consistently viewed as complementary expressions of our civilisation. But the use of the words “profound”, “passionate” and “avid” are a clear attempt at proof-by-conviction. Biochemist Sir Peter Medawar has put it well: nobody thinks more highly of a scientist if he cuts off his ear. Moreover, if proof-by-conviction has any validity at all, Hitler was right! Finally came a picture of the artist and the two scientists in front of an abstract canvas called “Measuring the Field of the Aesthetison” Mr Pope believes, according to a mutual acquaintance, that science went wrong in not incorporating ethics from the start. As a mathematical physicist I have yet to see any term in an equation which can be interpreted as good or bad. The ethical consequences of a theory comprise a separate debate.

I wrote a letter of protest to the University News, and shortly had Ms Coleby on the telephone. She believed I was confusing my beliefs that the theory was poor with the article being poor. I was not. Both are poor. Although her article was double the length of a usual feature, I was given no extension of the limit on the length of my reply, and the News published a version which I had abbreviated.

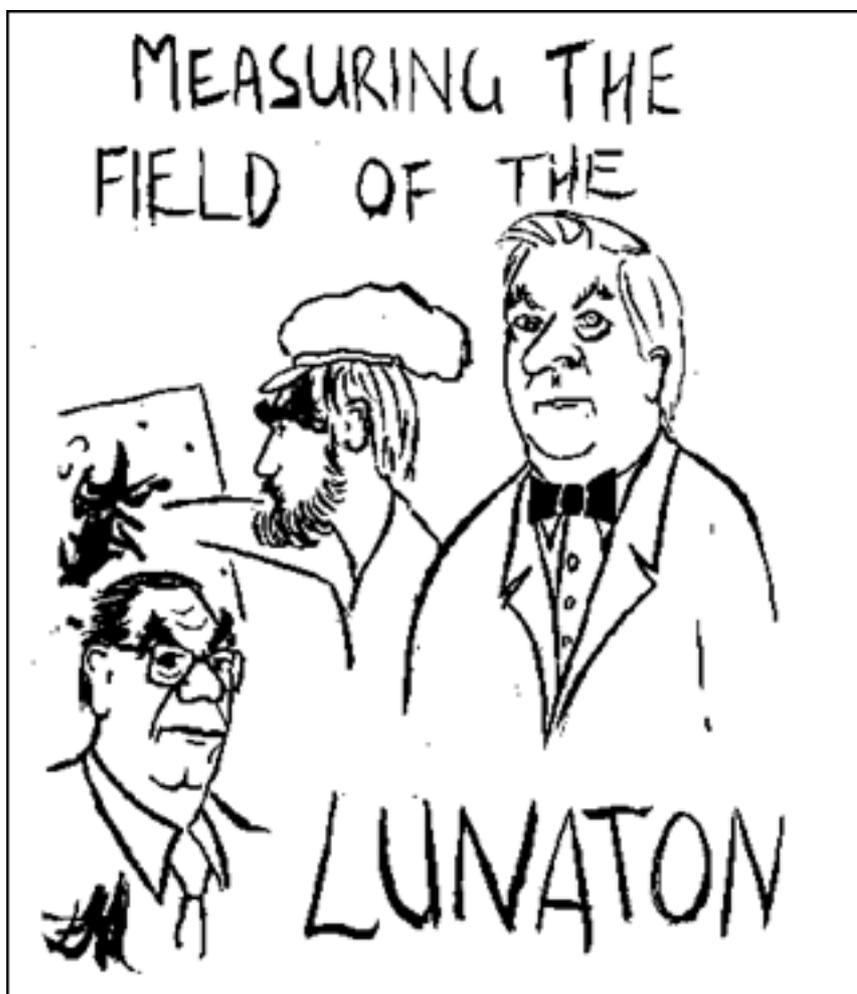
To another skeptical letter the News responded simply with Shakespeare: “There are more things in heaven and earth than are dreamed of in your philosophy”. There was also a faintly sardonic rejoinder from Dr Reid, which included the standard sensible suggestion that other laboratories should try to duplicate his findings.

The original article has already led

to national publicity for the theory. Now the media were interested in what appeared to be a good row on campus. and I unaccustomedly found myself being rung up and photographed by several newspapers and being interviewed for Channel 9’s “Willesee”. This interview was never screened, though I like to think that it inspired some of the questions asked of the trio in an interview, which was transmitted. Certainly humility was not numbered among the claims made in it. The theory inspired the workers to assert experimental proof of God, and apparently backed up astrology.

Why is it fair for me to assert that the theory is almost certainly wrong without having seen it in detail? To answer this, consider a sack containing one hundred apples. Ninety-nine are pulled out, all of which turn out to be bad. What do you tend to believe about the last apple, even though you have not yet seen it? The analogy is fair, for the theory has a great deal in common with several crank theories of the past. It is essential to appreciate the difference between individual apples (theories) and the entire sack of them.

Any individual apple, or theory, may turn out to be good but if most others of similar type have been bad



it is fair to adapt an extremely skeptical stance to each in turn.

I wrote a further long letter to the News about its reply, but found I was merely repeating points from the first; therefore I cut this down to the following.

It is clear that the News regards the furor it has started over the Reid-Barsamian theory of cancer, and electromagnetic vortices in the aether as a healthy scientific debate. This attitude is, unhappily, founded on ignorance. Would you give equal time to any theory, whatever its content?

One wildly speculative theory in 14000 will turn out to be right. The News is defending the position that it should be prepared to publish 9999 incorrect speculations in order to pick up the correct one. This policy would soon turn us into a laughing stock.

Of the seven letters which appeared about the theory in that copy of the News only mine was given an editorial reply, beginning, “When is a scientific debate unhealthy? Who is ignorant - and of what?” The full reply was even longer than the letter; doth the Editor protest too much? The questions raised do however deserve a further response, so here goes. A scientific debate is unhealthy when it takes up the time of a large number of research workers with ideas very unlikely to be correct. And as for who is to judge this, the answer certainly does not lie with journalists who have no scientific background.

More interesting were letters in this and the next News editions from Dr Barsamian distancing himself first from the original News article (“I do not take responsibility for the rest of the article which did not refer to my words”) and from Dr Reid (“Regarding the ‘grand united theory’, this is Dr Reid’s statement and I leave it to him.”) There appears to be trouble in paradise.

Perhaps there are more things in some people’s philosophy than are dreamed of in heaven and earth.

School of Physics, University of Sydney

Vol 7 No 1 - 1987

More dental miracles

Mark Plummer

In *the Skeptic* of June 1986 I reported on the activities in Australia of Rev Brother Willard Fuller, a psychic dentist from America.

I reported on his claims, his techniques and the court case in Sydney, which Fuller lost and had to pay costs.

When I arrived in the United States of America, I heard further reports on Willard Fuller and obtained the latest copy of his news-sheet in which his wife reported their Australian visit:

“...we were so warmly received. The people are so dear and anxious to know about God’s healing power. ‘We heard from a homeopath in Brisbane: ‘When you were here I was suffering from repetitive strain injury from overuse of my hands in my massage work. I was becoming quite concerned about it. My hands are virtually healed now, my swollen wrist is almost right, my arms and shoulders enormously improved and the arthritis is cleared. Lifelong digestive disturbances have almost cleared too. Thank you.’ Michael Tiffing, an engineer from Brisbane, writes: ‘There is no doubt that the experience (two gold crowns) has reinforced my faith.’

“The Australia visit brought lots of media attention. A commentary about our healing work was done by a news program comparable to the “60 Minutes” program here in the States [“Willesee”] It was all very exciting, especially when we were invited to court by the Dental Board due to the way one of our sponsors advertised our work as ‘dentists’, which is an inaccurate description of the kinds of healings that happen. Of course, we are not dentists and our sponsors know that.

“Anyway, off we go to court, with lots of prayer going on for us back in the States. (We issued the order for prayer power and 150 angels to march into the courtroom with us.) All day long with an audience of barristers and court personnel, we literally gave our Seminar #1, telling of the healing power of God in the Name of Jesus, quoting scripture, giving experiences and telling the gospel story. The main witness of the day told of all the wonderful healings she had seen. The case was dropped and the judge read a two page statement as to how ‘the character of the Fullers and their ministry is beyond reproach’. As it all turned out, it was a wonderful testimony to the healing power of God, with God getting the glory.
- Margaret Fuller”

I sent this to the NSW Department of Health for their comments and Merrilyn Walton, manager of complaints unit, commented that Willard Fuller was “commanded” to attend court by way of a summons served upon him.

Ms Walton stated that while she could not comment on the presence of angels, evidence given at the hearing dealt mainly with material sent from the USA by the Fullers to sponsors in Australia. Some evidence was heard in relation to “healings” which had been claimed.

Ms Walton stated the case was not “dropped”. As is explained in the judgment, the magistrate, although finding the offence proven, decided not to record a

conviction against Willard Fuller. This decision was, in part, based upon the defendant's statement that he had not been before a court charged with any breach of the law in any country he had visited; Ms Walton further noted the words "the character of Fullers and their ministry is beyond reproach" do not appear in the transcript of the decision.

Ms Walton sent me a copy of the magistrate's "summing up" of the evidence, and his final decision, together with a copy of the relevant provisions of the "Crimes Act", 1900 (NSW).

Fuller's American newssheet also conveniently set out his itinerary, which showed he was appearing in Rochester (New York State) on October 9, 1986, in Syracuse (NY) on October 10 and Hamilton, Canada, on October 29.

All of these towns were within two hours driving time from my new residence in Buffalo (New York State).

With the assistance of CSICOP's head office staff, the Western New York Skeptics, the Ontario Skeptics and local dentists, I was able to follow Willard Fuller's traveling circus and generate massive media publicity for CSICOP and the Skeptics.

Print articles included:

- "Buffalo skeptics to Test Roots of Tooth Healers", *Democrat & Chronicle* (Rochester) October 9

- "Dental Healer uses faith to fill the cavities" *Democrat & Chronicle* October 10

- "Some may find dental healers claims hard to swallow" *Herald American* (Syracuse) October 12

- "Traveling evangelist claims to fill molars" *Spectator* (Hamilton) November 1

- "Faith Healer takes on dental troubles" *Sunday Star* (Toronto) November 2.

The second article was syndicated throughout the US, which meant that small papers like the Danville, Illinois Commercial News ran an article with the heading "Dental Heating Ministry have [*sic*] some Mouths agape".

The television media also gave it great coverage with stories on television in Rochester and Hamilton.

I was also able to talk about Fuller in radio interviews and in public meetings.

Fuller spoke to me before the Rochester meeting and seemed a little upset at my interest. By the Hamilton meeting, he had admitted our activities were decreasing attendances.

He was looking distinctly down - in the mouth!

Vol 7 No 2 - 1987

Follow up:

The Great Cancer Chase Widens

Anthony Garrett

The last *Skeptic* for 1986 (Volume 6, No 4) contained a critical assessment of a radical, new, and highly dubious theory of cancer propagation by Drs Bevan Reid and Sergei Barsamian, then of Sydney University's Queen Elizabeth II Research Institute for Mothers & Infants. Further information concerning the furore has now come to light.

The "artist", Robert Pope, who had encouraged Reid and Barsamian in their speculations during his stint as Artist in Residence at the QEII hospital, has now departed. He was the - first such at any Australian hospital. It remains to be seen whether any other hospitals will institute or accept similar positions.

I have still be unable to gain access to a preprint of Dr Barsamian's paper "Electromagnetic Force Fields", which describes the physics of the theory in full detail. Dr Barsamian is involved with Sydney University's new Centre for Human Aspects of Science & Technology (CHAST), several of whose evening seminars combined two interests of mine: statistical physics, and teaching science to the general public.

Nevertheless, I declined to attend them because I did not believe their format - 90 minutes of unstructured discussion - would be fruitful. Instead I sent CHAST a document outlining my views.

I regretted not meeting Dr Barsamian in person in order to request a copy of his preprint; but until or unless he acceded to this standard academic courtesy, I did not feel able to discuss the theory with him. How can you discuss something you haven't seen?

Dr Barsamian, for his part, was sticking to his guns in insisting that we discuss the theory first; his wife even rang me up to try and arrange a meeting. She also presumed I had written a satirical article on the theory which appeared, under the name of its author, Eugene

Seneta, in the journal of the students' Physics Society. This article suggested playfully that the unit of the new force should be called the Garrett or the Moore, after scientists who "have given the research every bit of support it deserves". (Kevin Moore is a respected colleague of mine, equally skeptical of the Reid Barsamian theory.) I am pleased to say that Eugene Seneta is alive and well and is no nom de

plume. I do not publish anything I am not prepared to sign.

Letters concerning the theory continued to appear in the University of Sydney News. Below is my own first rejoinder, omitted from the original article in *the Skeptic* :

“The Reid-Barsamian theory treads an increasingly well-worn path. Start with an important unsolved problem (cancer), denounce orthodoxy and bring in a radical idea (the energy field) and add a dash of mysticism (the ‘wholeness’ of the cell). This prescription has already bamboozled an alarming proportion of the general public into believing such untruths as Atlantis, the Bermuda Triangle and astrology.

“*A priori* two competing theories are of equal worth. But if one of them goes on to explain an enormous variety of observations with complete success while acceptance of the second involves unlearning all the wisdom of the first, that second theory deserves a thoroughly skeptical reception. The onus is therefore squarely on Dr Barsamian to propose an unambiguous test of his aetherial vortex picture of electromagnetism.

“Cellular currents and fields may indeed play a hitherto unsuspected role in cancer - if so, a genuine advance has been made - but there is not a shred of experimental evidence that they operate according to anything other than the aetherless theories of Einstein and Maxwell. These have successfully explained everything that has been thrown at them for nearly a century and the desire to appear fair to Reid and Barsamian’s theory is correspondingly (and grossly) unfair to them.

“What ever happened to objective reporting? It is of no account that the theory has been submitted to a ‘major international journal’. A newspaper for academics should not need reminding that anyone can submit anything anywhere; it is what happens next that counts.

“The departmental tea-room, not the University News, is the appropriate forum for publicising wildly speculative ideas. The national media have already picked up the theory as if it were all but fact, and we are in the damaging position of having devoted our official standard-bearer to a work which is almost certainly nonsense.

Dr Anthony Garrett School of Physics

Another letter came from Dr Alec Reishel, a CHAST colleague of Dr Barsamian. It achieved the rare feat of combining incomprehensibility with pomposity, part of it concerning the theory and its publicity reading as follows:

“Perhaps Dr Reid’s team is conducting an experiment with us, sending a slightly mismatched signal, by medium of print, towards the ‘whole’ of which all of us are part, in expectation of significant feedback. They may even have expected to induce new growth in the ‘whole’. There is nothing mystical about that.” Well there is plenty mystical about *that* !

By far the most significant letter, though, came from members of the physics department at the University of New South Wales. It suggested that Dr Barsamian had failed to take into account the electrical conductivity of a sample when measuring a further electrical property called capacitance. This would alter the result a great deal. (The same conclusion had been reached independently by Kevin Moore.)

Dr Barsamian’s reply to this brief but clear criticism was an evasive “[the matter] is impossible to discuss without more detailed information”, coupled with a comment that the UNSW team should have raised their objection at a conference attended by both sides. Perhaps their criticism was not then fully formulated; certainly any unprofessionalism in this episode stems not from the timing of the UNSW criticism, but from the implication that academics are not free to engage in open discussion at any time.

The original *Skeptic* article has already covered Dr Barsamian’s public distancing from his colleague (“Regarding the ‘grand united theory’ this is Dr Reid’s statement and I leave it to him”) and from the original News article (for which he does “not take responsibility” as it “did not refer to my words”). This distancing was emphasised further by Mrs Barsamian in her phone call.

If you thought, however, that there is not much shabby science left for Dr Barsamian to disassociate himself from, you are in for a surprise. He has now left his Fellowship and was for a time co-director of a Sydney company called BIOS, together with aeronautical engineer Hans Rex.

BIOS’ products included a “Neutralizer” which supposedly protects the body from electromagnetic radiation; a “Water Polarizer” for attachment to taps; and a “Harmatron” (derived from ‘harmony’) for attachment to cars. BIOS’ two directors have since gone their own ways, and now operate in competition.

Neutralizer

BIOS marketed a basic Neutralizer and a more expensive gold-plated version. According to science reporter Bob Beale of the *Sydney Morning Herald* (February 21, 1987), BIOS has sold 20,000 at up to \$40 each over the last two years. That’s gold in them that devices in more ways than one!

Yet it is impossible for a passive metal device, covering only a small part of the body, to shield it from electromagnetic radiation. Wild claims concerning previously unknown “low energy force fields” are beside the point here; the electromagnetic field is well understood, and its standard properties have been utilised in research, by Dr Barsamian among others, for decades.

Even metals are insufficiently good electrical conductors to shield against radiation of sufficiently high frequency: it is often possible to listen to FM stations on personal stereos inside metal-skinned aircraft. However there is no need to panic, for the levels of such radiation experienced in everyday life are known to be harmless.

Professionals working in certain fields, such as microwave engineers, are at some risk., which is precisely the reason why stringent safety standards exist in the microwave industry. (Microwaves are a form of electromagnetic radiation.) It would be a great boon if these people could be protected merely by wearing a \$40 device; we invite Dr Barsamian to test one by wearing it and placing his head in a microwave oven for a few minutes. We also invite him to state whether the Neutralizer outdates sun creams, sunglasses and welding goggles, since light is also electromagnetic radiation.

With a little marketing ingenuity, particularly from a physicist rehearsed in technical terms, a device which fails to protect against electromagnetic radiation could easily be adapted to fail to protect against radioactivity. Public concern over radioactivity far exceeds that over electromagnetic radiation, and a far larger market world-wide could be tapped.

Water Polarizer

The Water Polarizer is a passive device, containing no battery, which when attached to a tap is supposed to change the structure of water passing through it.

But water, being a liquid, has no large scale structure!

The device is claimed to align the molecules of water using “low energy fields” (sound familiar?). Certainly the electromagnetic field could not do this in the vicinity of such a device - even if it were a powerful permanent magnet - other than weakly, and then only extremely close to the field. And, once again, these “low energy fields” have yet to manifest themselves anywhere other than in the laboratory or the claims of Dr Barsamian and his colleagues.

Most absurdly, the Water Polarizer is supposed to render chlorine in water undetectable, by chelating it. (A chelated molecule is one whose reactive parts are physically surrounded, preventing it from reacting with

anything else.) Tests on the similar devices marketed by Hans Rex after the BIOS split are currently underway, and the results will be reported in *the Skeptic*.

Harmatron

The BIOS Harmatron, for improving car performance, retailed at \$80, and over 3000 were reportedly sold. It involves magnets, quartz crystals, and specially tuned electrical circuits. It sounds very much like Peter Brock’s notorious “Energy Polarizer” [see story this issue], and in fact the marketing manager of BIOS’ marketing company, Bernard Walker, has agreed that the two devices are similar - though it is never difficult to magnify small differences should it become expedient. We restrict ourselves here to quoting General Motors Holdens’ comment that the Energy Polarizer has “no technical merit”.

One may speculate as to why writs alleging patent infringements are not flying between Brock, the BIOS duo, and the Hornsby, Sydney, based inventor of yet another related device, the “Dipole” (these names are invariably borrowed and distorted from the realm of physics, in the hope of befuddling the public). Of course, the lodging and contesting of patents involves close scrutiny of the claims made therein.

Conclusion

The fact that none of BIOS’ devices operates within the current scientific framework does not, of course, prove their invalidity. To adopt that stance would be to deny the possibility of scientific progress.

Nevertheless it constitutes first rate corroborative evidence against them. Orthodox science, for all its detractors love presenting it as authoritarian, is founded on a solid mass of painstaking observations which are confirmed at every moment in everyday life and in laboratories around the world.

Scientific revolutions do happen, but rather less frequently than some would like to think. There is no evidence that Dr Barsamian’s will follow in the line of succession after Einstein.

We inhabit an age of gullibility, which, in the long term, only education can eradicate. For Dr Barsamian, a trained physicist in possession of that education, voluntarily to espouse these causes is a great cause for concern.

Vol 8 No 1 - 1988

National medical research council to test acupuncture claims

At its 104th session in Canberra the National Health and Medical Research Council (NHMRC) created several new investigative working sessions. The Council is responsible for administration and co-ordination of much of Australia's medical research activities.

The Health Care committee of the NHMRC has established a working party to investigate the level of training of people currently practicing acupuncture in Australia and advise on the need for the establishment and maintenance of standards practice.

The group will also prepare report on the value of acupuncture for the alleviation of pain, the treatment of disease and disability and its uses in anesthesia.

One of the members of the working party, Dr Nik Bogduk of Newcastle University, will speak on acupuncture at the Fourth Australia Skeptics Convention in Sydney, April 2-3.

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Alternative Medicine: Romance, Magic, the Dollar and Truth

Nik Bogduk

Ultimately the issues I will address are the alternative medical fields of chiropractic and to a greater extent acupuncture. But I entitled my paper "Romance, Magic, the Dollar and Truth" as I think this is the common matrix into which all of these fields gravitate.

On the issue of Romance, I would put it to you that looked at basically or coldly, life is essentially horrible. We are a group of protoplasmic complex organisms just floating around with nothing else to do. And there are a lot of threats in that wide, outside world. And with all of these threats and life being basically nasty, we generate disenchantment with the way things are. And it is this disenchantment which leads to recourse to

alternatives - whether philosophical, religious or medical.

On the notion of romance, what we have is the sensation of "Wouldn't it be wonderful if ...". You could substitute any form of belief system to conclude that statement. And the fact that we make musicals, such as "Camelot", out of this notion which is also throughout literature demonstrates how pervading this concept is among human beings.

On the issue of Magic, when confronted with problems, be they terrestrial such as the forces of nature or disease, the individual feels helpless. This helplessness is borne out of ignorance, and various invocations are made to explain this. We see this in the history of the plague, where it was blamed on another race rather than on the transference of an organism from North Africa into Italy.

In the face of ignorance, human beings turn to models of the way things are that carry belief systems. Out of these belief systems, the individuals that portray them gain two things. One can be a sense of personal security or superiority, because they know, they understand, and carrying with that is a sense of power. Another way to turn for the individual is actually to express good intentions, and it is difficult when discussing these issues of alternative medicine to distinguish whether the practitioner is being paranoid or whether this is really misdirected good intention. I will err to the kindly that largely these are well-intentioned people who are trying to help the helpless with their biological problems.

This notion of help comes under the general heading of "aid" - the aid of the helpless by way of the belief system or model. And this aid requires the transmission of services. But when services are being offered, enters the problem of morality. For despite good intentions, there is always the capacity for unscrupulousness.

To test whether someone is well intentioned and doing something genuine and worthwhile, versus someone who is unscrupulous, requires veracity, and that is where we all eventually need to turn to truth. But our problem in the meantime is, whereas aid given freely with no strings attached cannot be criticised in a moral sense, it transpires that all this sort of aid carries with it the reverse transfer of dollars - there is always a fee attached. Historically it would have been the woman down the street who knew the magic herbs, perhaps it was the professed witch or witchdoctor, or the local barber, but there was always a fee for service. And that is the greatest problem, perhaps the triggering factor, for unscrupulousness.

Definitions

The only way we can tell whether something is genuine is to establish its veracity. But we get into a philosophical problem when we turn to “truth”. How do we define truth, how do we know that something is true. Many definitions can be canvassed and have been used.

Where we have come to, largely, in informed society in the quest for truth is to turn to science. In the field of alternative medicine, sometimes “scientific” means there is a physiological basis, that somebody has a theory in terms of physics, chemistry or other aspects of medicine that explains what is going on, and if it can be explained therefore it’s okay.

But that is not necessary. Scientific method can still be applied to a situation without having to pass to the realms of physiology. The key point of scientific method and of science is reproducibility - if it can be seen again and again, and whenever challenged the same result keeps cropping up, then we believe that the observation has scientific foundation.

But in the evaluation of alternative medicine, we need to ask, the reproducibility of what? And again a second wave of definitions occurs -what is a cure? Most cynically, a cure should be that at one time a complaint or disease exists, and that after treatment, that complaint or disease no longer exists. But then another definition - what is the disease you’re talking about? The same word, colloquially, refers to many conditions. A headache may be caused by some 42 problems. A backache may be caused by perhaps 27 different problems. And to use the colloquial word is not a proper definition when a claim about a cure is to be made.

Cure, itself, has a time parameter associated with it. You can feel good now, but will you feel good tomorrow. For how long after the treatment do you need to feel good for it to be declared a cure.

Medicine has its own policemen in this regard that dictate the semantics that should be used. “Cure” means the condition never occurs, and we can cure appendicitis because we can cut the appendix out and it never comes back.

But when we are dealing with cancer, we don’t claim cure; we use words like “remission”. We stop it being an aggressive, violent disease at the moment, and then we can institute therapy to maintain that condition of remission, but we never cure - we remit and maintain.

Sometimes we have to use a word like “palliative” - we’re not going to cure you but we’re going to suppress the expression of this disease and its symptoms. We will attempt to make you feel better,

but we’re not going to cure you.

Then there are the definitions of the procedure. It may not be what it seems when an acupuncturist says, “I am going to give you acupuncture”. Literally, that means that the skin is being punctured by a needle. But beware of what else is happening. How does the acupuncturist talk to you, how does this alternative therapist deal with you overall, do you have eye contact, is there mesmerism involved, are there other techniques going on? Thus we have the risk of misrepresentation of a particular alternative medicine technique as being something that it actually is not. The active ingredient may be elsewhere than in the professed technique. The cure may occur but it may not be in the needle. The cure may occur but it’s not in the manipulation.

Then there are the patients themselves. Research into the patient in the fields of alternative medicine, and even within orthodox medicine, has revealed quite a variety and a fascination with the psychology of the individual. There are the believers and there are non-believers - if you believe in acupuncture, a group of you will score better in response to treatment than a group of skeptics. Non-believers will not have the same response rate. This is quite aside from the issue of placebos.

Placebo

The placebo response, with respect to pain, has now been shown to be the capacity of the body itself to abort the pain signal. The pain is still being generated by a disease, but the mind does not perceive it.

Remember that when you are dealing with another human being, or when a doctor deals with a patient, we have access through our words only to the patient’s mind. We do not talk to the cancer, we do not talk to the arthritis, we talk to the patient and how the patient is perceiving that condition.

There are physiological mechanisms which can temporarily operate to suppress the perception of information from the joint, from the cancer, by the patient’s brain. And quite honestly the patient is not feeling anything about the disease.

Similarly, with the appropriate personality, the appropriate education, the appropriate mind manipulation, be it hypnosis, mesmerism or just a good talking to, the patient can change their perceptions on other aspects.

Patients can be convinced about side effects. You can design experiments to make patients have side effects even though there is no reason to do so.

Testing effectiveness

When we are addressing the veracity of alternative

health techniques, the approach that we use is to control the many variables; to try to control the variables in the patient, the variables in the procedure, and the variables in measuring the outcome - the variables in the disease itself.

In the first instance, we compare our results against random distributions and the easiest way to do this is to use a control group. Two large groups of people are compared, one having the active treatment and one having an inactive treatment, hoping that all the other variables other than the treatment will even out; if there is a difference, it can only be ascribed to the treatment. How do the various components of alternative medicine measure up in this context?

Chiropractic

With respect to chiropractic, we have a poor physiological basis. We don't understand exactly how it works. There may be an explanation - some of us are still looking to see if there is an explanation. This does not prevent the biologists, the do-gooders and the well intended, and the unscrupulous to continue to offer a service for dollars.

Personally, as an academic, I think the legitimate moral way of addressing any of these issues is to do it for free, and evaluate it. If there is a response, then market it. I would apply the same criteria, not only to alternative medicine, but also to orthodox medicine whenever we have a new breakthrough.

As far as it has been measured - and conspicuously, chiropractic doesn't measure its own outcomes, it doesn't come up with its own justifications - chiropractic or manipulation in general, but particularly manipulation used by non-chiropractors in physiotherapy or orthodox medicine, has been found to have a limited efficacy. It works for some conditions but not the vast number of causes of a complaint. Some headaches are amenable to manipulation, some back pains are amenable, but most will not.

This results in the odd dramatic cure upon which alternative medicine rests its global reputation.

So the nine out of ten, or the 99 out of 100, who do not get a benefit are paying because of the reputation of the one that did succeed.

There is also a limitation in longevity - you can feel good when you walk out of the surgery, but the pain will be back tomorrow. This has certainly been my experience in evaluating osteopathy clinics around Sydney in my undergraduate days. It was conspicuous that the same patients kept coming back, week after week, month after month. They were getting good service, but never cured.

Acupuncture

With respect to acupuncture, there is a contrast here because there is a good physiology. We understand the physiology of acupuncture - it works by way of nerves, by way of chemicals transmitting between nerves.

The mechanism of its pain relief is virtually the same as used by morphine and other narcotics. They are one and the same thing. There is no need for the invention of meridians, and Yin and Yang, and other mystical explanations. It is just that it is very mundane to have explanations in terms of nerves and whatever because doctors understand that, but when we talk about Yin and Yang "they don't understand that, for I have power, I have magic, I know something which orthodox medicine doesn't know and you don't know. Only the faithful are given the secrets of all these mystical techniques".

Acupuncture does have a short term analgesic effect with respect to pain, probably equivalent in power to 10mg of morphine injected intramuscularly. It works reasonably well for mild conditions but nobody has bothered to test acupuncture against the natural response rate.

If you have a mild condition, it is bound statistically to get better by itself, even if you did nothing. Nobody has dared to test acupuncture against spontaneous remission in mild conditions, and I add parenthetically, for fear that it will show to be no different.

Acupuncture is said to be useful in anesthesia. People having operations under acupuncture - why have expensive anesthetists, why have big operating theatres with gas machines? If you were brave enough, and if I coached you for a short while, most of the operations that you need to have done can be done without any anesthetic. I have myself operated on patients, deep into their bodies, where the anesthetic was only in the skin. It's the skin that hurts - the muscles don't hurt. You can probe around in muscles and the patient won't know what's going on.

You can move the viscera of the abdomen around; they don't hurt. It just looks ugly and dramatic when there's guts spewing out all over the Technicolor screen. There's drama but it doesn't hurt.

You can do operations with minimal analgesic, and indeed it's not as if it's mystical and only the acupuncturist can do it. Anesthetists can arrange so that you have a non-general anesthetic if so required. You can have local infiltration of the skin and just around the wound. You can have an intravenous dose of morphine and a sedative, and we use that to set fractures. You don't need a general anesthetic - if you just have a quick dose of a narcotic agent, you feel

dopey, the fracture can be set, the plaster can be put on and the whole thing is quite tolerable.

If you are gutsy and can grit your teeth, then you can go through most of these procedures without suffering pain, it's just that we're not accustomed to doing so. You're all a bunch of sooks! But if we had to - if we ran out of halothane, if we ran out of drugs - we could go back to it, for it was done that way in the past.

There is a degree of benefit that can be obtained from acupuncture, but it is limited in its duration and power. Acupuncture for the pain of bone cancer does not work; it is not powerful enough. And that is why instead of 10mg of morphine, these patients may require 100 or 1000mg in cancer therapy.

Acupuncture was reintroduced into western society in the 70s. I emphasise reintroduced, for it was around before. Pre1900s there was another wave of acupuncture interest - somebody went to China and came back with the revelation. In the 70s it came first, not in the "Medical Journal of Australia", but in "The Australian Women's Weekly".

Why was it reintroduced? Because we are disenchanted with our plight, we still have all these diseases that medicine hasn't cured. We go to doctors who don't bother to look after me, they don't talk to me for more than three minutes, they give me a prescription that did not work - they're getting their dollar just as much as the acupuncturist. The fault is in the comprehensive capacity of medicine and the way it is discharged. With the 70s it was the tailend of the "flower power" era and anything that was oriental was mystical and wonderful and therefore had to be better. Anything has to be better than what we have at the moment for life is horrible! Disenchantment opens up these fields of alternatives - the mysticism and especially if it's oriental.

The worst situation with acupuncture, where there is no evidence for and overtly damning evidence against, is the control of disease. Pain I will buy, and there is a place for having acupuncture as one of the options on the shelf of the doctor dealing with pain. But in disease, some acupuncturists claim you can cure short-sightedness with acupuncture, that you can reverse quadraplegia with acupuncture, and I have read the papers out of China that report all of this. Acupuncturists in this country quote this literature in defense -

"Look, the Chinese professor said that it cures spinal cord injury, that it cures myopia".

It does have a temporary benefit on vision. When you're dealing with 1000 million people in the country, there aren't enough spectacles in China for the rural

population, and if you can't get spectacles then acupuncture is the next best thing. But if the Chinese all had access to spectacles, we wouldn't be using this oriental romantic notion of acupuncture as the substitute.

When there is nothing else to do for a spinal cord injury patient, when there aren't any paraplegic units, or institutions to care for the quadriplegics and paraplegics, and you're left in a hut in a rural community, acupuncture is some consolation. But the lame have not walked again. They have felt better, but not walked.

The distinction between alternative medicine and orthodox medicine is vague when it comes to the service field. There are a lot of shoddy practices in medicine, and people like the Skeptics can be a consumer advocate group for there are people out there who need their bums kicked.

But residing within that despised ivory tower of academia, there are people who take responsibility for the standards of knowledge. We do evaluate how we use drugs for headache, we do know the foibles and limitations. We do know that if you tell the patient the brand of the drug - if we say "This is Dispirin" - they will get a better response than if we say "Just take this". We have measured these variables; we have bothered to think about it and measure our own limitations. Alternative medicine does not, because it threatens the dollar transfer and the practitioners' own sense of magic and superiority.

Dr Bogduk is a lecturer in anatomy at the University of Newcastle, and a member of a National Health & Medical Research Council subcommittee on acupuncture. This paper is a transcript of a talk presented at the Fourth Annual Skeptics Convention, Sydney, last April.



Alternative Medicine: Quackery

Richard Gordon

"The first charlatan was made when the first knave met the first fool"

- Voltaire

There are four interesting questions to pose concerning quackery:

1. What is quackery?
2. Why do quack remedies seem to work?

3. Why do people go to quacks?
4. What is the harm in quackery?

What is quackery?

A quack is a person who deliberately misrepresents himself as possessing medical or other healing skills which he lacks. A quack remedy is one which is promised to offer a cure, although there is no scientific evidence for this claim. The term quack originally meant “to prattle or brag”.

Quackery thrives in alternative medicine and is also present in orthodox medicine. In orthodox medicine, the cynical use of placebos is an example of quackery. Vitamins are a popular vehicle for quackery. While vitamins are necessary for good health, an excess does not “stimulate” the system to greater heights, nor can an excess increase the sense of well-being. The reasoning that says “If a little is good then large amounts must be better” is clearly flawed, as food and alcohol so easily illustrate.

Quacks often mix good advice with totally unfounded claims. Chiropractic is a good example of this mixture. On one hand it uses spinal manipulation to treat muscular disorders and on the other hand it uses spinal manipulation to treat asthma.

Why do quack remedies seem to work?

The reasons for the apparent success of quack remedies are:

- a) the patient’s belief that the cure will work, often coupled with a financial commitment and a desire not to feel cheated.
- b) the power of the quack’s personality; many famous quacks were and are outstanding showmen; many have paranoid delusional beliefs in their own powers, a case of the psychotic leading the neurotic.
- c) spontaneous recovery, which characterises most minor illnesses, many major illnesses and a few very serious illnesses such as cancer. In the last case, spontaneous remission occurs rarely, probably in one in every 70,000 untreated cases. Most quacks add what is basically good advice on diet, exercise, etc to their quack remedies. It is the good advice (if anything) that benefits the patient but it is often the quack remedy that carries the mystique and receives the credit.

When a person feels better after using a quack remedy, the cure can have two explanations. Either the remedy exerts a real effect or it exerts what is known as the placebo effect. If the effect is real, then it will be possible to reliably demonstrate this effect to unbiased observers. If the effect is a placebo, it can be explained by the patient’s desire to believe in the cure. The word “Placebo” is Latin meaning “I shall

be pleasing”. In certain conditions such as arthritis and gastritis, over 50% of sufferers may report improvement when given quack remedies. The best placebos are substances such as vitamins or antibiotics, because people know that they also have genuine value in treating certain health problems. Every doctor will be familiar with the fact that many patients will report immediate improvement with antibiotic treatment, even though a real effect on the infection could not have occurred so quickly.

It is obviously important to know whether a drug is exerting a real or a placebo effect or a mixture of the two. This is why placebos are used in the evaluation of new drugs. During the evaluation, one group of subjects is treated with the real drug and another group treated with a placebo, making sure that both types of drug look and taste the same. It is then usual to swap the real and the placebo drug for the second half of the evaluation. In this way, it is possible to make allowances for any placebo effect.

Why do people go to quacks?

Ill-defined symptoms such as chronic tiredness, headaches, depression and vague pains are extremely common. They may result from worry, overwork and poor relationships with others. People often hesitate to take such problems to doctors, but quacks can trade heavily on these “trivial” complaints. Because these symptoms can be an expression of problems that are difficult to solve, it is much easier to focus on bogus diagnoses and follow mysterious cures than to face the real issues.

When people do take ill-defined symptoms to doctors, they are understandably dissatisfied when the doctor merely excludes serious illnesses and reassures them that there is nothing serious to worry about. The patient still has the problem and may continue to look for an explanation and some relief. This narrow perspective, called the “medical model” of illness, is an important failing of the medical profession. Quacks often trade on a display of “caring”, which contrasts with the more detached behavior of some doctors.

Patients who face a diagnosis of an illness such as cancer or AIDS, which may be incurable and/or terminal, can turn away from orthodox medicine in the desperate hope of a cure.

Some people are attracted by a mystical approach such as astrological diagnosis, hair analysis, iridology or pyramid power.

Laymen have difficulty in distinguishing between obtuse language in orthodox medicine and obtuse language in alternative medicine.

What is the harm in quackery?

Many alternative approaches seem harmless enough, but the dangers are:

- a) the possibility of delaying diagnosis of serious disease
- b) the possibility of interfering with effective therapy
- c) the likely cost, both of the quack cure itself and of delayed treatment with orthodox cures
- d) the raising of false hopes, especially when an individual is in the process of coming to terms with a serious illness
- e) the possibility that some quack cures are actually harmful - laetrile contains cyanide, vitamins A and D can be toxic in high doses.

It should not be forgotten that alternative medicine represents a multi-million dollar industry, with interest groups ready to lobby for its expansion. The vitamin industry is a good example. Putting it all into perspective, the laetrile industry in the United States was estimated to be worth two billion dollars in California alone in 1981, rivaling the heroin trade in that state. Little wonder that the modern-day knave pursues the modern-day fool with such enthusiasm!

Dr Gordon is a family doctor and member of the Australian Skeptics national committee. This article is a version of a talk delivered at the Fourth Annual Skeptics Convention held in Sydney during April 1988.



Alternative Medicine: Quacks and the Law

Nick Cowdery

At the Fourth Annual Australian Skeptics Convention on April 3, 1988, I spoke on the legal relationship between quack medical practitioners and their patients. It occurred to me then that it might be of benefit to Skeptics and others to attempt the impossible - to try to state shortly and clearly some of the guiding principles that might be relied upon by a patient seeking a remedy at law. It should be remembered, however, that every case is unique.

Introduction

The question of the availability of legal action will usually arise when something goes wrong. Part of the reason for that is that the law leaves people free to

make their own bargains (or agreements or contracts) between themselves. While it intrudes to some extent (depending on current political perceptions) to seek to protect people from their ignorance, it does not attempt to protect them from their own voluntary stupidity. It would probably be impossible to do so in any event; and any attempt would certainly unreasonably restrict legitimate commerce.

In this field things usually go wrong in one or more of three main ways:

1. The quack doesn't do what he says he will and the patient wants a refund.
2. The quack causes harm and the patient wants compensation.
3. The quack commits a criminal offence and the patient (and ultimately society) wants retribution.

The Law

Relevantly, the law may be divided into two broad divisions:

1. The civil law - which governs relations between individuals.
2. The criminal law - which governs the conduct of an individual as a member of society: criminal offences are charges against individuals not by other individuals but by the state itself.

The circumstances number 1 and 2 above fall into the civil law. No 1 invokes principles of contract law; No 2 invokes principles of tort law, usually the cause of action known as negligence.

The circumstances numbered 3 above fall into the criminal law.

Contract

If it is agreed between a quack and a patient that the quack will do certain things for payment by the patient then a contract is formed. It need not be in writing; it need not be witnessed. Precisely what is agreed - the terms of the contract - will be crucial in each case.

If the quack does not do what is promised, then a patient may be able to sue for a refund. The damages recoverable will be such as to compensate him for the breach of contract - to put him, as far as possible, in the same position he would have been in had the breach not occurred. A refund of fees will do this in most cases (perhaps with the addition of any consequent expenses, costs, etc).

There seem to be remarkably few such actions. Perhaps that is because such patients are embarrassed to admit they've been duped or perhaps (unfortunately) it is because the cost of pursuing a remedy is

disproportionate to the loss suffered.

Negligence

Any practitioner, qualified or not, who holds himself out as having some special skill or competence (and this applies in all walks of life), must act in accordance with the standard of skill and competence of the ordinary skilled person exercising and professing to have that special skill.

Despite appearances, the test is not really circuitous. It means simply that a person practicing as a general medical practitioner must exercise the degree of skill and care of an ordinary prudent general medical practitioner of equivalent standing. A specialist will be judged by the standard of similar specialists.

A “gnat’s blood therapist”, who professes to be nothing more, will be judged by the standard of an ordinary prudent gnat’s blood therapist. A difficulty might arise in proving what that standard is, but it will be a question of evidence. With orthodox disciplines, the standard is easier to prove - by reference to the body of knowledge which underlies that discipline.

For gnat’s blood therapist, substitute any form of quackery you like, the test will be the same.

Thus if a chiropractor manipulates a neck and kills the patient, his actions must be judged against the standard of competence to be observed by chiropractors. That in itself may be difficult to determine if the procedure involved is regarded differently by competing schools of thought within chiropractic. It will be a matter for evidence.

If a gnat’s blood therapist manipulates a neck and the patient dies, he will be judged by the standard of an ordinary person unqualified in medicine or any manipulative science; clearly he would be liable, as would any unqualified person be, for any damage caused by such action.

If a doctor manipulates a neck and the patient dies, he will be judged by the standards of the medical profession. He will be liable if a hypothetical ordinary prudent practitioner of equivalent seniority and specialty would not have done what he did.

Crime

Any application of force by one person against another without consent may be unlawful. Consent may be express or implied from the circumstances.

Any sexual interference without consent is also unlawful. The consent must be real and freely given. There have been cases where quacks have had sexual intercourse with (usually young and ignorant) patients in order to cure their epilepsy or improve their singing voice. It was held in each case that true consent had

not been given because it had been obtained by fraud. Offences of dishonesty may be charged where money has been paid in reliance upon knowingly false representations.

In cases of death or injury, the criminal law may overlap the civil law and if negligence can be proved then charges of manslaughter or causing injury by a negligent act (or other offences) may be available.

Summary

What to do if the chiropractor acupuncturist iridologist homeopath gnat’s blood therapist kills maims injures rapes your wife husband child mother?

1. See a solicitor. This is not an advertisement for the legal profession. Lawyers know what the rules are. They are trained to apply existing principles to established facts, and to help in establishing the facts in the first place. They also know what to do next.

2. Take written statements as soon as possible after the event - or during “treatment”, if you have the chance - from everyone who has some relevant information about it. Conversations should be recorded in direct speech (ie in quotation marks, like the script of a play).

3. Obtain copies of relevant documents (pamphlets, advertisements, fee statements, other written material supplied by practitioner, etc).

4. If a criminal offence (including a breach of the Medical Practitioners Act) is suspected, inform the police.

5. Demand a refund.

6. Consider exposure to the news media, subject to the solicitor’s advice, or reporting to the relevant regulatory body if one exists.

7. Take advice from lay friends with a deal of circumspection.

Nick Cowdery QC is a Sydney barrister who is also a consultant to Australian Skeptics.

Vol 8 No 3 - 1988

Evidence for homeopathy fails

The controversy surrounding a recent claim of proof for the validity of homeopathy centres as much on the presentation of that proof and the attitude of science as it does on the proof itself.

Dr Jacques Benveniste, of the French Institute of

Health & Medical Research (INSERM) at the South Paris University, put forward experimental results, which apparently supported the homeopathic notion that smaller and smaller dilutions of a substance (down to levels where the substance should supposedly no longer exist) would still have an effect.

Dr Benveniste found that human white blood cells respond to a solution of antibodies, even when the solution is so dilute that it can no longer contain a single molecule of the antibody.

White blood cells called basophiles, that form part of the immune system, carry certain antibodies (of the IgE type) on their surface. When these cells are exposed to antibodies directed against the IgE molecules, they release the chemical histamine stored in granules within the cells and become “deregulated”.

Benveniste and his colleagues diluted the solutions containing the anti-IgE antibodies over and over again in a serial fashion, exactly as homeopathy recommends. They espoused these increasingly dilute solutions to the basophiles and recorded the proportion that became deregulated. They continued this procedure until the dilution reached 1×10^{12} . They estimate that less than one molecule of antibody remains present when the solution is diluted to 1×10^{14} , so at the greater dilution there should be none of the antibody left, but still there was an appeared effect.

Even more curiously, the effect was periodic - it increased and then decreased with subsequent dilutions. And to add further curiosity to the claim, the dilutions lost their impact unless they were shaken vigorously for at least ten seconds.

The claim was immediately taken up as proof of homeopathy and its “law of infinitesimals” principle. The scientific community responded with surprise and incredulity; Nobel Prize winner Dr Jean-Marie Lahn said, “These results are very disturbing. If these results are confirmed - it’s not impossible but the probability is very weak - they would question the entire basis upon which molecular scientists work.”

Nature & Randi

However, others questioned the motives of *Nature* magazine, which decided to publish the French team’s results, but with an “editorial reserve” statement saying the work was highly controversial. This was similar to the slant taken when it published results of Targ and Puthoff’s mind experiments”.

Nature also instigated an investigation of Benvenistets work with skeptical investigator James

Randi, Walter Stewart of the US National Institutes of Health and John Maddox, editor of *Nature*. There is some confusion about this investigation, with one report suggesting it was a condition of publication of Benvenistets results, and another saying the doctor was unhappy about publishing when the causes of the chemical reaction were still unknown.

Two weeks after publishing the original paper, *Nature* published the results of its investigations saying that the experiments were “a delusion”. The investigating team suggested that the apparently prohomeopathy results were due more to wishful thinking than any real effect. Researchers at Benveniste’s laboratory had assessed the effect by counting the number of intact basophiles (non-deregulated, dyed red for convenience) under a microscope to calculate the proportion of reacting, deregulated cells.

In a test largely under the direction of Randi, dilutions were code numbered, so that the researchers did not know what sample was what level of dilution, and then counted as before. This time there was no amazing sustained effect, no periodic fluctuation and no evidence for homeopathy. The implication is that the researchers were keen to endorse their expectations through the counting process. Stewart also checked the laboratory’s results books, and found that “repeat results were better than allowed by mathematical theory. It is a well known phenomenon in counting; we are seeing subjective effects on recounts.”

Benveniste called the investigation a witch hunt, and others have criticised *Nature* for its “publish then verify” actions. Suggestions have been made for independent bodies to be established to assess scientific discoveries, with inspectors dropping in on laboratories for spot-checking, rather than relying on the often emotional trial by media and its concomitant emphasis on the individual rather than the system.

Even the scientific media, it has been suggested, can become overly excited when faced with anomalous results, and the result is often acrimonious, leading to less cooperation between the proponents of unusual phenomena and their critics.

Vol 8 No 4 - 1988

NHMRC report on acupuncture

Readers of this magazine and those who attended the 4th Skeptics Conference in Sydney were given a sneak preview of the National Health & Medical Research Council's investigation of the efficacy of acupuncture when Dr Nik Bogduk gave a talk (reprinted in Vol 8 No 2) on that subject.

Mr Bogduk was a member of the NHMRC's working party, which investigated the alternative medical treatment.

The party's report found that acupuncture was effective for the relief of pain, although it warned that there was no evidence that it could help cure chronic illnesses such as asthma or diabetes.

It also condemned the lack of agreed standards for training or the practice of acupuncture, and said its use should always be on the basis of "buyer beware". Dr Diana Horvath, head of the council's public health care committee, said, "If used properly, acupuncture can be very helpful in controlling pain. If used improperly, it can be disastrous."

It was reported that there had been at least one death in Australia because of improperly placed needles and it was suspected that diseases, including Hepatitis B, were being transmitted where unsafe acupuncture was used.

The report said the safest option for future practice of acupuncture was to restrict it to medical practitioners.

"The only likely risk then would be the risk that the treatment was ineffective," it said.

Dr Horvath was quoted as saying: "If I'm going to have someone sticking things in me, I want that person to know as much about what's under the surface as possible."

The report warns that the only legal redress available in cases of mishap is that provided by common law.

"It is unlikely that a court of law would expect the same standard of care from an occasional acupuncturist or one with intern training as it would from a frequent acupuncturist and/or one with medical training," it says.

"There have been court actions against acupuncturists in Australia, but none has been successful."

Australia is reported to have 2800 practitioners of acupuncture and the number is growing.

Vol 9 No 1 - 1989

Student Essay Acupuncture: a Review

Liliana C. Caycho

The following article was awarded third prize (\$200) in the 1988 Australian Skeptics Student Essay competition. The judges considered the entry an interesting personal example of someone coming to grips with a sceptical topic as much as an examination of that topic. At the time of writing the essay, the author was 22 years old and enrolled at the University of Queensland for a post-graduate diploma in psychology.

Early in the semester, I enrolled in a Psychology class entitled "Psychology and Pseudoscience". I have to admit that the title itself was attractive and was perhaps the major reason for enrolling in the course. On the first day, I received a Paranormal questionnaire in which 32, and I quote, "unusual phenomena" were listed starting at the top of the list with acupuncture and ending off with unusual life forms such as Bigfoot and the Tibetan Snowman.

Initially I rated acupuncture on Strength of Evidence Scale as having strong evidence for it. Yet, I myself had never experienced acupuncture and I can only hypothesise that I rated it so highly on the scale because via the media or because I had heard "things" about it from somewhere, I had a preconceived notion that acupuncture was an effective method for relieving pain.

I decided to research acupuncture and naturally since I had no knowledge of the area, other than that it had an Oriental background and that it involved needles, I sought information on the topic under the title of Pseudoscience and came up with nothing. Following this, I shifted my focus of attention onto Parapsychology and once again I drew a blank. Funnily enough I found information under the titles Acupuncture and Alternative Medicines.

Is this ground breaking evidence to suggest that acupuncture does not belong in parapsychology; that it is not paranormal as the questionnaire suggests? Perhaps more importantly, one should ask why acupuncture was included as an unusual phenomenon in a Paranormal questionnaire.

Before such questions can be answered, I feel it is necessary to delineate what we mean by paranormal. Unfortunately, finding a definite definition to the paranormal is not easy, because the term has been

used or for that matter misused so many times.

Literally, the term paranormal means that which is “besides” or “beyond” the normal range of data or experience (Kurtz, 1981). This on its own seems simple enough. However, the picture gets complicated when we also discover that the term paranormal is used as an equivalent of “the bizarre”, “the mysterious” or “the unexpected”.

Kurtz suggests that any phenomenon which has no natural causes and transcends normal experience and logic is a suitable candidate for the paranormal.

The term is also used for things which happen infrequently or rarely, but of course there are many events, such as freak thunderstorms, that we would not normally call paranormal.

Then again, in Parapsychology, the term paranormal has been used where something seems to contradict some of the most basic assumptions and principles of the physical, biological or social sciences and a body of expectations based on ordinary life and common use (Kurtz).

The last definition of the term paranormal is perhaps the most complete and the most accurate, and indeed unusual phenomena such as levitation, unusual life forms and for that matter acupuncture do seem to contradict the basic assumptions of the physical, biological or social sciences. Therefore, it is reasonable to include acupuncture in a Paranormal questionnaire, and it is also understandable to assume that acupuncture belongs to the paranormal.

However, the question remains, is acupuncture a reality? The present paper aims to answer this burning question. In order to do so, the history behind acupuncture will be investigated, factors which led to the emergence of acupuncture will also be examined, reasons why acupuncture is accepted and why it is rejected will also be investigated, and research in the area will also be considered.

History

The oldest records of acupuncture are to be found on bone etchings of 1600 BC. The first book of acupuncture is the *Hung di Neiging Suwen*, written about 200 BC (Shulin, 1986). However, against popular belief, acupuncture is not exclusive to the Chinese.

The papyrus Ebers of 1550 BC is the most important of the ancient Egyptian medical treatises; in it, it refers to a book on the subject of vessels which could correspond to the 12 meridians of acupuncture (in due time I will explain what meridians are).

The Bantu of South Africa sometimes scratch certain parts of the body to cure disease, some Eskimos practice crude and simple acupuncture with sharp

stones, and even an isolated cannibalistic tribe in Brazil shoot tiny arrows with blow pipes at strategic parts of the body (Mann, 1978).

Nonetheless, China is regarded as the birthplace of acupuncture. From here, acupuncture spread to Korea and Japan in the sixth century, and to Europe in the seventeenth century (Zequan, 1987). Electro-acupuncture, which is very popular today, was first practiced by Sarlandiere, a French physician, before 1825.

France and Germany were the principle European countries that were under the spell of acupuncture. Yet, while Europe relished in their fascination for acupuncture, Chinese medicine declined greatly after the mid-1800s (Shulin). Ironically, the Chinese banned acupuncture in 1822 and then a number of times later, with the last rejection issued by the Kuomintang government.

Acupuncture in Japan also had a similar fate, ending with its practice officially prohibited in 1876. However, acupuncture began to regain its vitality after the New China was established in 1949 (Shulin).

Acupuncture was also introduced into America through physicians training in France. In general, Western acupuncturists kept a low profile until after President Nixon’s visit to China in 1972. But earnestly the Western acupuncture explosion began in July 1971 when James Reston of the New York Times was rushed to the Anti-Imperialist Hospital in Peking. His appendix was removed by a surgical team using conventional anaesthesia, but at night Reston experienced considerable abdominal discomfort.

Li Changyuan, the hospital acupuncturist, relieved his distress by inserting three needles into Reston’s right elbow and below his knee. Relief was immediate and lasting and the rest is history (Wolpe, 1985).

Acupuncture is now officially practised in over 100 countries (Shulin; Zequan, 1987) and over 60 journals in a dozen languages are published (Zulin). Today, acupuncture is the word most people think of when traditional Chinese medicine is mentioned. To the Chinese, it is their most precious heritage of Chinese traditional medicine (Lafontaine & Leger, 1980).

The Anatomy of Traditional Acupuncture

In traditional Chinese medicine, the humoral concept was replaced by the concept of vital energy; the Qi as the Chinese call it. Qi is said to flow in channels beneath the surface of the body. The surface markings of the channels are known as meridians, but they do not correspond to the course of blood vessels or the nerves. The acupuncture points, or acupoints, are located along these meridians in sites where the Qi channels can be directly tapped by the needles. The number of

acupuncture points along each of these meridians varies. For example, there is a famous acupuncturist called Doctor Zhang, or Magic-Needle Zhang as people in Hong Kong and Macao call him, who when training students discovered that one of his pupils in trying to treat an insomnia sufferer had instead made the patient very excited, to the state that he could not sleep for 24 hours. Through examination, Zhang discovered that the pupil had not inserted the needle in exactly the right point. Hence, through an accident, a new acupuncture point was discovered (Nanchang, 1984).

According to the Chinese, there are 12 meridians, with an organ associated with each meridian. The 12 organs and their associated meridians encompass all parts of the body, with the exception of the head and sense organs, the endocrine glands, the reproductive system and others. The meridians on one side of the body are duplicated by those on the other, with the exception of the Governing vessel and the Conception vessel which are two extra meridians that run up the middle of the body.

Although the acupoints that lie on a specific meridian are separate entities on their own, one can intuitively think of two points as being joined by the meridian. The Chinese would say that the acupoints are joined by means of a passage called Jing. Each acupoint is directly connected to an internal organ. By inserting silver needles (having self-cleansing properties) into the Qi channel, disease may be cured and the acupoint disappears once the illness vanishes.

Originally, 365 acupoints (corresponding to the days of the year) were known to exist. But with time there has been a gradual increase and the latest records indicate that there are about 2000 acupoints (Nanchang).

Stimulation of acupoints may release an excess of Qi or it may correct a deficiency. Either way, stimulating the acupoints maintains the harmony between the opposing metaphysical principles of Yin and Yang (Aakster, 1986).

The Yin and Yang are both distinctive but inseparable poles of the life energy. They are involved in an on-going dance, they presuppose the existence of each other, neither of them better or more valuable than the other (Aakster). Yin is viewed as the negative force while Yang is regarded as the positive force. Yin meridians are associated with such organs as the liver, kidneys and spleen, while Yang meridians are associated with such organs as the stomach, gall bladder and intestines (Chaves & Barber, 2976).

The principle of a dynamic balance between two poles of the same underlying phenomenon has been

described as a characteristic feature of the Old Chinese way of thinking, and contains a fundamental difference compared with Western thinking. Western thinking usually holds one of the poles to be the better one: masculinity is better than femininity, quantity is better than quality, material is better than immaterial, objective is better than subjective, and the body is better than mind. To the Chinese, the perpetual interplay of the Yin and the Yang is the very keystone of their thinking (Aakster).

Reasons Acupuncture is Not Accepted

Acupuncture has been around for a long time and acupuncture apologists often use this as evidence for its intrinsic value. But simply because it has been around for 5000 years does not mean that there is something to it; just think about astrology (Skrabanek, 1984).

There are many things about acupuncture that trouble me. Earlier I said that acupuncture began to regain its vitality after the New China was established in 1949. However, it was not a natural revival. Acupuncture, together with other forms of traditional Chinese medicine, were revived on Mao's orders. The Maoists used acupuncture as a pragmatic, political device to provide cheap medical care for a population of over half a billion, when there were only 20 to 30,000 doctors who had been trained in Western medicine and who were mainly looking after the rich and foreign clientele (Skrabanek).

Another thing that troubles me is the type of development that has taken place in acupuncture. There has been a gradual increase in acupoints which now exceed 2000. This must make acupuncture a very complicated therapy to learn, let alone remember each specific point and its location and what organ it is connected to. And then I also question this gradual increase in acupoints. The Chinese say that disease is cured via the insertion of needles into acupoints - once the illness is gone the acupoint also disappears; so why are there now 2000 acupoints?

Allowing for new illnesses that have been discovered through time, it would seem that people are getting better for a certain period of time but then are ill again and in addition come down with something else. This indicates to me that acupuncture is not doing what it is supposed to do.

Perhaps the greatest opposition to acupuncture comes from the scientific and medical world. Even while acupuncture reigned in Europe, many physicians were sceptical. There were many physicians who had been trained in the traditional Chinese method of acupuncture who later rejected acupuncture altogether or simply denied the Yin and Yang and Qi principles

and retained only the therapy of inserting needles into the human body. One such person was Felix Mann (1977), who had been trained in the traditional Chinese method of acupuncture but with time grew disillusioned. Mann says “it was only then that I seriously examined the validity of all I had learnt, only to discover that most of it was phantasy (1977, p.1).

Mann asserts that acupuncture points do not exist, and that most of the laws of acupuncture are laws about non-existent entities. In China, there are many Chinese surgeons who are still devoted to the ancient theory of acupuncture, but it is also true that there are many Chinese surgeons who have totally disregarded the recognised spots on the meridians and use almost any spot to produce surgical analgesia (Chaves & Barber).

Some French research tends to indicate that acupoints may exist. Rabischong and his colleagues studied the physical and histological reality of the acupoint, and found proof of a specific structure at the acupuncture point (Lafontaine & Leger, 1980). But on the whole there is not one scrap of evidence for the existence of meridians (Wall, 1972; Chaves & Barber).

There seems to be a great rush in separating acupuncture from its philosophy. This great need to segregate the therapy of inserting needles into the human body from its ancient theory is one that mainly stems from the medical and scientific society. Acupuncture was, and still is, considered backward and unscientific - a mere superstition (Shulin). It is a source of great frustration for the Western doctor since their precise scientific parameters are not applicable in describing acupuncture (MacGiegor, 1982)

Acupuncture is looked upon as a dramatic and mystical therapy (Lewith & Kenyon, 1984), and the term acupuncture has many magic connotations (Skrabanek). There seems to be a mystique surrounding this ancient Oriental ritual, and a magic of model mannikins and golden needles. The notion of Qi resembles the discredited notions of animal magnetism, and similar universal explanatory concepts that have a strong flavour of mysticism, occultism and the supernatural.

Perhaps if the term “acupuncture” were to be replaced by another less provocative term, then maybe names such as hocus pocus with knitting needles, quackupuncturist and quick quacks might lessen.

Even when confronted with controlled trials that have shown that acupuncture has no scientific validity, advocates of acupuncture systematically ignore such evidence. To protect their belief, advocates of traditional acupuncture assert that acupuncture does

not lend itself to Western scientific study, for the biomedical research model assumes that people react similarly to similar stimuli and that statistical generalisations can be based on their reactions. This mechanistic assumption is antithetical to traditional acupuncture and its philosophy of etiology, diagnosis and treatment - all of which are extremely individualistic (Wolpe, 1985).

Maybe the fact that the Western medical profession (and many of the Chinese) has detached acupuncture from its philosophy and have called it a less provocative term such as transcutaneous electrical stimulation, in the hope of severing the invisible cord that attaches acupuncture to the mystical, hocus pocus illusions of the East, perhaps in doing this an integral part of the understanding of the therapy may be forever lost. Then it is only natural that when Western medicine seeks efficacy for transcutaneous electrical stimulation using its methods of scientific proof which have methodological, theoretical, practical and ethical shortcomings, that it comes out with such statements as “no scientific validity”.

For a long time, from the first days when acupuncture first impacted upon Western society, it was heralded as a miracle cure for everything from baldness to frigidity (Wolpe). Papers from various Chinese institutions confirm the great success of acupuncture in treatment of viral hepatitis, malaria, hereditary ataxia, infantile paralysis, hydrocephalus, mammary hyperplasia (though in Australia acupuncture is used for breast augmentation) and deafness (Skrabanek). Nowadays, acupuncture reports a 72% improvement in schizophrenia patients (Skrabanek), and acupuncture treatments are now used in drug and smoke addiction (MacGiegor; Nanchang).

Lee et al (1975) report that a substantial number of patients stated a relief in chronic pain immediately following a series of four acupuncture treatments. Acupuncture advocates are delighted at such news, but when negative results come out and they do not choose to ignore them, then their arguments are as follows.

Their argument can be as before, that is, that acupuncture did not work because the practice of inserting the needles on its own, detached from its philosophy is inadequate. Their other line of reasoning shifts the blame away from acupuncture and places it on the individual receiving the therapy. It is not that the acupuncture effect is unpredictable and unreliable, rather it is that negative findings reflect negative attitudes on the part of the patient.

Therefore, it would seem that from a study that was

conducted, out of 72 chronic pain patients who underwent 606 acupuncture treatments in one year, only 15% of the patients showed marked improvements four months after treatment (Hendler, 1981) because they were faithful. Sixty-one patients reflected negative attitudes and therefore acupuncture did not work for them. This line of argument best supports Mann's (1977) hypothesis that the ancients had good results with acupuncture for the wrong reasons.

Why People are Turning to Acupuncture and Why Acupuncture Works

What Mann and others are alluding to is not that the meridians, acupoints, Yin and Yang, Qi and silver needles work in therapy, but rather it is more of a placebo effect, a mass conditioning factor (which is much more prominent in Eastern societies), a distraction, a belief factor, that brings about positive results.

There is also a second factor, which in reality precedes the first, that is helping to popularise acupuncture and to turn patients (and even the medical profession) to this unorthodox practice, at an increasing rate of about 11% a year (Taylor-Reilly, 1983).

Acupuncture is recognised as an alternative medicine (Salmon, 1984). This alternative approach is much more directed toward maintaining health (Lewith & Kenyon, 1984). From the point of view of Western medicine, disease ensues when the biochemical process of the body are disturbed. If for example there is a deficiency in potassium, the body chemistry is altered and the patient has, amongst other symptoms, little energy. The energy cannot be measured directly, only its secondary effects, such as reduction in muscular activity, are recorded. On the other hand, the Oriental doctor considers energy as something real whose deficiency causes secondary disease.

Much of Chinese medical theory describes what the patient feels; the Western doctor often excludes the patient's feelings and measures the serum electrolytes, haemoglobin and faecal fat instead (Mann, 1977).

Acupuncture has also been called holistic therapy in which there is an integral unity of the body, the mind and the spirit (Salmon).

The focal reason behind the shift to alternative approaches is basically a dissatisfaction with the relationship that exists between the patient and the doctor.

The ideal patient of conventional medicine is one who does not ask questions and follows orders. In alternative medicine, the position of the patient is different. In traditional China as in traditional India,

the doctor served the patient and not the other way round. The patient is basically seen as more mature than when disease is mainly a matter of experts versus lay people who know nothing (Lewith & Kenyon). For example, Doctor Huang, who claims a 98% cure rate, spends an impressive amount of time with each patient at consultation to explain the treatment and recovery (MacGiegog). How acupuncture is actively practised, children are instructed in its use with considerable description of both procedure and resultant beneficial effects (Craig, 1978).

Acupuncture has also been regarded as having a placebo effect. It is clear that a placebo acquires its power through the subject's belief that it is an active medicine. It has been shown that expectancy or belief in the efficacy of acupuncture leads to positive results (Norton, Goszer, Strub & Man, 1984). The belief itself does not convert the placebo into a drug. The chemistry of the placebo involves a very recently discovered substance that is manufactured by the organism which can suppress pain.

Chaves & Barber suggest that acupuncture works because of the distraction produced by the needles. Placing a sharp needle in the skin for a few minutes could well be impressive psychosomatic therapy (Wolpe). Other factors such as preoperative education and the gate-control theory (Meizack & Wall, 1965) have also been suggested, but I feel that there is one factor in particular that really has not received a great deal of attention, and yet I feel that it is by far the strongest suggestion as to why acupuncture works.

Before acupuncture, patients feel that their pain is in control of them and also that their pain is under the control of their doctor who can alleviate pain. For example, Margo, a mature, attractive woman has for the last two years tried giving up smoking cigarettes - this has become a major personal trial (MacGiegog). Her smoking problems have been controlling Margo for the past two years. Margo had tried everything, from solo attempts to attending lectures and films designed to shock smokers into giving up smoking. Margo then came to Doctor Huang who asserted that her addiction could be corrected by acupuncture treatments.

Doctor Huang inserted fine, two-inch long needles into each outer ear and then connected coiled positive and negative electric wires from an acupuncture stimulator to the protruding needles' ends. Margo herself twiddled the controls, adjusting pulse frequency and intensity. Margo was finally in control of her smoking addiction and she had an active participation. This, I propose, is the strongest advantage of the alternative medicines.

Conclusion

In summary, I would tend to agree with Mann's hypothesis. Acupuncture did work and still does, not because there is any substance to the ancient philosophy but rather it is the belief of the patient, a much more adequate relationship between the therapist and patient, and most importantly, it is the control that patients feel they have over their pain that works and not the therapy itself.

As for its future, I feel that the gap between traditional acupuncture and conventional medicine will be an ever widening one. However, conventional medicine can learn a lot from the alternative medicines, in particular it can learn about treating the patient as an equal, with sympathy and respect.

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The Bondi Healing Festival

Subscriber Murray Finch looks at the alternative health scene.

The 1989 Skeptics conference was a great success, but I felt it was time to balance my yin with my yang and experience another point of view. When the Sydney College of Natural Therapies and Traditional Chinese Medicine conducted a weekend "Festival of Healing" at the Sydney beach-side Bondi Pavilion on August 26-27 this year, I took a cosmic plunge and attended.

The Pavilion was turned into a New Age sideshow alley. If you were recovering from a dose of the flu, or perhaps your karma was playing up, this was the place to be. Aura readings, crystal balancing, foot reflexology, homoeopathy, iridology, it was all here.

At one table a woman dangled a "radionic pendulum" over a chart; as it swayed to and fro it indicated which flower essences were to be prescribed. Another woman demonstrated electronic gadgets that picked up vibrations from saliva samples and "re-aligned" organs. "It's a sort of gravity," she said.

A series of lectures gave us a sample of what was being taught at the College. A Naturopath Diploma takes four years of full time study, costing over \$3000 a year. Despite the fees the college is having financial trouble and the festival was primarily fund raiser.

Students at the college are told they are being taught university level science. I can only assume the college is referring to the University of Atlantis. Sadly, most

of the students and the therapists are women, whose basic science education failed them long before university.

Margaret Spicer began the lectures with an introduction to natural therapies. We were told they involve phenomena known since ancient times but strangely modern science is having trouble coping with this. The journal *Nature* did publish proof of homoeopathy but “people have been trying to discredit it ever since”. But science has its limitations: “How can you use the same test on a group of people because everyone is different,” Margaret explained.

Science doesn't matter, anyway; “knowing” is more important. We know crystals work because “everyone knows silicon chips and crystal radios are amazing powerful things”. A modern laboratory may not be able to find anything in a homoeopathic medicine but anyone who has taken such medicine “knows it works”.

Eva Star gave the next lecture which was “Esoteric Aspects of Egypt”. No one was sure what that had to do with health but it sounded good. Eva told us the pyramids were really built by the “wise ones” from Atlantis (where else?!) who came to teach the backward Egyptians how to use both sides of their brain. They taught how the organs in the body correspond with the planets and their knowledge is still in the pyramids not yet ready to be released.

From pyramid energy we moved on to crystal energy. Clifton Harrison presented “Crystal Healing - a practical approach”. We started in a very practical way - with a crystal massage. This is done by rubbing a crystal in small circular motions over your partner's back. When it was time to swap, Clifton had to cleanse the crystal with a spray bottle containing a mixture of essential oils and flower essences. This removed the bad vibes so they were not passed on to the next person.

Clifton was a hands-on therapist. He did not want to dwell on “crystal theory” but he did say crystals work through electricity, picking it up from our aura, transforming it and amplifying it back out. He described this as “an electrical loop between us and the rock”.

A “body lay-out” was performed, someone lay down and had obsidian, which Clifton described as a “very Scorpionic rock”, placed above their liver to draw out the bitterness and above their spleen to draw out the anger. After 10-15 minutes, the rock was removed

but a “hole” had been left behind. Pink quartz was then placed on the patient to fill the hole with love. “There's so much power in good rocks,” Clifton said.

Shirley Darby, a former interior decorator who also does astrology and numerology charts, gave a talk on “colour psychology”. Shirley informed us colour is a nutrient and if we look into the sky we can sometimes see “molecules of colour floating around”. Of course, there are also “higher levels of colour” but only clairvoyant people can see them.

One may think it was time for the men in white coats to arrive, but Shirley told us it was just these sorts of people who are prone to madness. White “absorbs everything” and offers no protection from “good” or “bad” energy.

Dentists, we were told, have the highest suicide and heart attack rate of any profession because they are “constantly absorbing their patients' negative energy right through the solar plexus, which is the chakra energy centre.”

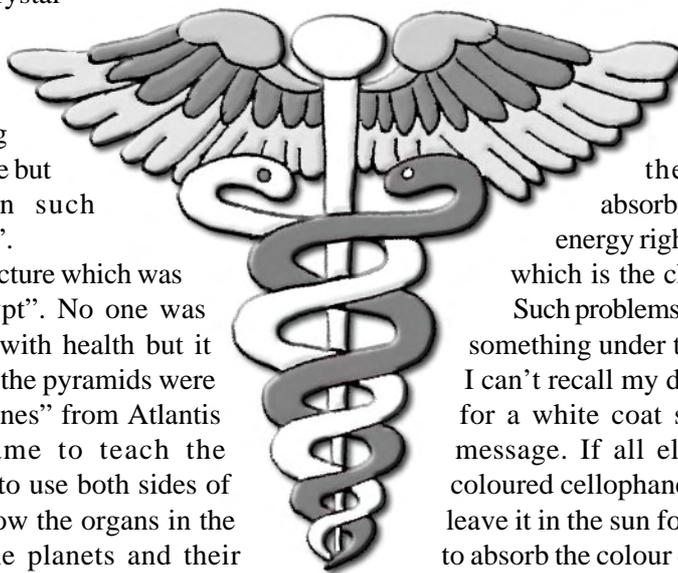
Such problems can be avoided by wearing something under the coat to act as a barrier. I can't recall my dentist being naked except for a white coat so he must have got the message. If all else fails, you can “wrap coloured cellophane around a bottle of water, leave it in the sun for a while and then drink it to absorb the colour energy” (different colours having different effects).

There are many who will laugh this off as harmless nonsense, however the dangerous side of alternative “medicine” was about to be exposed. Peter Tomanello, a practicing homoeopath, illustrated this when he gave a lecture on homoeopathy.

Samuel Hahnemann, the founder of homoeopathy, was made to sound like a messiah. It is only now the world is catching up with him, according to Peter. “We are on the verge of a revolution,” he exclaimed. “There is a consciousness change away from tablets.”

Peter was a true believer; he had no doubt. “Many experiments have been done, there is no need to repeat them. It's just that the scientific community has trouble getting their mind around them,” he lamented.

We were told Hahnemann discovered $E=mc^2$ one hundred and fifty years before Einstein. When homoeopathic substances are diluted (1 in 100, 30 times over) they are shaken each time and this “transforms the matter into energy”. Even if not one molecule of the medicine is present in the final dilution, it is still potent because “the energy is there”.



Peter recommended homoeopathic immunisation for children and those traveling abroad. The full range of childhood diseases can be catered for homoeopathically: polio, tetanus, diphtheria, he does them all. When going overseas, Peter can treat you against typhoid, cholera and anything else you care to mention. The homoeopathic energy will be enough to send these diseases running.

If you ever get knocked down by a bus make sure you have your homoeopathic first aid kit. It consists of a brown paper bag containing five small bottles of powdered herbs and Peter was selling them for \$5 each. The accompanying instructions recommend their use for all manner of misfortunes, including constipation, puncture wounds, tetanus prevention, animal bites, burns, concussions and spinal injury.

There is a fine line between loony tunes and public menace and it had certainly been crossed by now. If, one day, I'm wedged halfway down a cliff, I hope the rescue helicopter does a little more than deliver a charitan with an eye dropper.

Addendum: Homoeopathic Immunisation

According to a story in the *Melbourne Sun*, Nov 19, 1989, natural health advocate Jeni Edgley has been criticised by doctors for producing a "Good Health" video which denounces vaccination for children and promotes fasting and natural remedies.

AMA Queensland chairman, Dr Warwick Carter, is quoted as describing Ms Edgley as "grossly irresponsible". "We vaccinate against whooping cough, tetanus, diphtheria, measles, mumps, rubella and polio. Any one of these diseases can be fatal and all can have serious consequences. The risk is infinitesimal compare with the risks of contracting the diseases."

Ms Edgley said that modern immunisation programs were alarming more people. "There are alternatives. We promote homoeopathic vaccination modeled on 200-yearold remedies from Germany. I don't say don't vaccinate, but I want people to be informed and to make a n informed decision. It is frightening what vaccinations are made of and the effects they can have: fever, convulsions, epileptic fits, AIDS, leukemia and arthritis."

She said her four children have not been vaccinated. "The kids are all in the video talking about their diets and New Age camps they have been to."

The video also covers such subjects as 'power foods': "foods that heal the body and strengthen the organs and rejuvenate body systems."

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Faith healing hits the headlines

Tim Mendham

The subject of faith healing really hit the headlines in Sydney during February, with the *Daily Mirror* being the most exultant, featuring on February 27 the front page story and picture: "... A MIRACLE Crippled girl walks"

The coverage concerned the visit by Emilien Tardif, a Sacred Heart missionary from the Dominican Republic. In a series of "healing" seminars and eucharists, he spoke to crowds numbering in their thousands at Sydney Town Hall and some suburban centres.

His visit was sponsored by the Catholic Charismatic Renewal. While the Catholic Church officially maintains a stance of "healthy skepticism" towards such healings, the church's Cardinal Clancy was the principal celebrant at the Town Hall meeting on February 24, which attracted 4000 people.

At this meeting, 100 people were supposedly cured of such complaints as cancer, heart problems, a brain tumour, arthritis, varicose veins, alcoholism and deafness. An unborn baby was also claimed to have been cured of a sickness.

However, a large number of people in wheelchairs in the front of the meeting went home unhealed.

It was this image which was accentuated on an ABC "7.30 Report" item. The ABC interviewed a number of those in wheelchairs before the beginning of the healing session, asking them what brought them to the meeting.

One woman, with a great deal of difficulty and obvious pain, said simply "Hope". Their agonised and despairing faces after the meeting, having failed to be cured, demonstrated the tragedy of unfulfilled hope. One woman, taking hesitant steps, claimed that she could not walk three weeks prior to the meeting, but did admit that she had done so in the interim. Another who claimed a cure was discreetly contradicted by her partner, although this didn't affect her enthusiasm. The "miracle" reported in the *Mirror* concerned a girl who had been crippled in a bus accident three years previously. While helped out of her wheelchair by her father, she walked unaided to Tardif, apparently for the first time.

Father Tardif was quoted as saying "It's a great mystery. We cannot choose who is healed. Jesus is

the only one who can choose.” One woman with multiple sclerosis who was not cured at the Town Hall meeting, commented on another with the same ailment who did claim a cure, said “Perhaps the healing is in his mind.”

The media coverage - press reports, TV and radio interviews - caused concern to the organisers of the sessions, who barred reporters and crews from the last meeting of the series as it approached the healing mass. A spokesman for the CCR said “People are reluctant to claim the word of knowledge if they know they are going to be on camera.”

A spokesman for the Catholic Church said in a TV interview that the church did not endorse the healing sessions, although it was noted that at the same time it did not actively condemn them either.



Crystal Healing A danger to Logic and Health?

Ian Plimer

Crystals and gems have been used since antiquity not only for personal adornment but were considered a safeguard against evil spirits, sickness and injury. Like many ancient myths, the alleged healing powers of crystals is enjoying a revival.

The ancient Greeks believed that quartz crystals (Kristallos) were a type of ice and believed that amethyst (a coloured form of quartz) prevented drunkenness. The Roman author, Pliny, wrote that not only did amethyst protect one from the intoxicating effects of wine but protected the wearer against lunacy. Therefore, by wearing amethyst, the pleasures of life such as drunkenness and lunacy were prevented.

Numerous books have recently appeared on the healing properties of crystals, snake oil merchants are now experts in crystals, and many famous mineral collecting localities (which represent part of our national heritage) have been destroyed by rapacious crystal collectors.

Minerals are naturally occurring substances with a chemical composition defined by certain boundaries and a specific arrangement of atoms. This arrangement of atoms is the basis of the crystal structure. The properties of crystals can be explained in terms of the chemical composition (e.g., colour, magnetism, radioactivity, specific gravity, etc) and the arrangement of the atoms in the crystal (e.g., lustre, specific gravity, hardness, etc). Before a substance can be called a mineral, all the properties must be documented and

checked by the International Mineralogical Association. Not one naturally-occurring crystal has displayed properties previously unknown to man and all unusual properties can be explained in terms of physics and chemistry.

Minerals are naturally occurring chemicals and every year some 200 new mineral species are defined, and there are now a total of some 6000 known mineral species. Despite the reams of textbooks on crystallography and mineralogy, the myth of the mystical powers of crystals is promoted by purveyors of fraud and blindly accepted by those searching the cosmos for delusion.

Recommended treatments

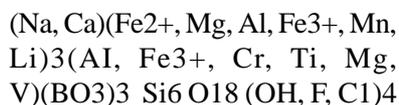
There are daunting lists of natural crystals (i.e. minerals) provided by the New Age authors which they claim can be used for the treatment of illnesses. For example, the most abundant mineral in nature (quartz) can be used to cure kennel cough in dogs. As quartz is ubiquitous, one wonders why kennel cough exists at all. Furthermore, no advice is given on how to administer quartz to dogs suffering from this particular ailment. In the case of kennel cough it is obvious - quartz crystals are normally tapering trigonal crystals and so, as soon as the dog coughs, the crystal should be rammed down the dog's throat. This will stop the dog ever coughing again.

Dioptase, the unusual copper silicate from Tsumeb in Namibia, is recommended for the treatment of animals' illnesses, heart burn, weak heart, mental burdens and sleeping sickness. I have had specimens for over a decade, during which time I have been to the sleeping sickness areas of Africa a number of times. I have not suffered from sleeping sickness, so clearly, according to the simplistic logic of the New Age, diopase has done a good job. Conversely, the extremely rare calcium chromium silicate (uvarovite garnet) is recommended for the treatment of flatulence. This mineral is a relatively recent discovery, hence flatulence must have been an epidemic before this mineral was first described from the Urals. I have four crystals of uvarovite in my collection, and can categorically state that there must be some mistake.

The crystals in the minetite-pyromorphite mineral group can be used for treatment of marital problems. In this case, the treatment is lovingly administered by dissolution of some of the hexagonal barrel-shaped crystals in the partner's drink or food. As these minerals are lead arsenic compounds, successful treatment can be guaranteed.

Crystals of tourmaline can be coloured pink (due to

lithium), green (due to magnesium), blue or black (due to iron) or red (due to manganese). The tourmaline family is a very complicated mineral group with a chemical formula of:

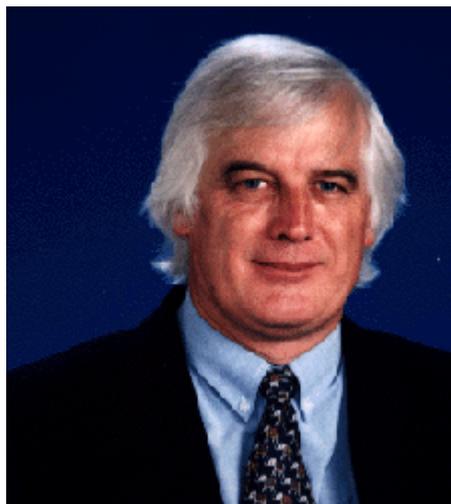


With such a complex chemistry, it is little wonder that this mineral is claimed to cure unhealthy hair, indigestion, ear trouble, bladder problems, brain problems, epilepsy, laryngitis, melancholy, ulcers, obesity, tonsillitis, weak muscles, loss of smell, weak vocal chords, multiple sclerosis and forgetfulness. I doubt if anyone can remember the general formula for tourmaline, hence its ability to cure forgetfulness must be questioned.

The gem ruby (hexagonal aluminum oxide with a trace of chromium) is recommended by New Age authors for the treatment of anaemia, low blood pressure, poor blood circulation, constipation, envy, bleeding, wounds, weak physical and mental willpower and plague. It is also recommended for increasing strength, for encouraging faithfulness and for cauterising in surgery. While the references to blood related conditions are obviously linked to ruby's colour, one New Age author also recommends ruby for enhancing ESP, thus fulfilling the New Age criterion of using one myth to substantiate another - believe one and you must believe the other, regardless of any lack of proof for either.

However, a number of the fundamental properties of minerals have been ignored by the New Age, clearly demonstrating their ignorance of school child science. For example, the most abundant element on Earth is oxygen, followed by silicon. These elements bond as silicate tetrahedra to form the basic building blocks of common minerals. These silicate tetrahedra are pyramids and join in chains which provides a wonderful opportunity for heliolinguistic rantings about pyramids, the power of sharing, inner union, etc.

Many of these minerals with alleged wonderful curative properties are rare, hence treatment cannot be administered by touching, stroking, ingesting or humming to the crystal. Never fear, the New Age authors write that possession of the crystal is not necessary - one has only to deeply concentrate on this mineral and build a mental picture for treatment. This



Prof. Ian Plimer

is possibly why flatulence is still rife - how many readers have either a specimen or can conjure up a good mental picture of uvarovite from Outokumpu?

One wonders, therefore, why you would need to ever own a crystal in the first place, thus doing irreparable damage to the profitability of crystal mongers, but as the above would indicate, logic has never been a strong point of New Age proponents.

Dangerous practices

As one who has had a great scientific interest in minerals and crystals for 25 years, it is pleasing that a large segment of the community is becoming aware that crystals of minerals are beautiful, should be treasured and can be used for adornment.

Unfortunately, our New Age promoters have published that venomous bites can be treated with sulphur or emerald, malaria can be treated with turquoise, venereal disease with zircon, cancer with amethyst and multiple sclerosis with tourmaline.

It is criminally irresponsible to publish that crystals of sulphur or emerald can be used for the treatment of venomous bites because the deluded might attempt to administer crystals in a life-threatening situation when time and a hospital visit are imperative. The contraction and treatment of malaria is extremely well documented, yet to publish that turquoise might in any way help malaria can only be dangerous.

The recent case of crystals being used to assist in a home birth which went wrong is indicative of something which is more than just a trivial aberration.

Not only do crystal proponents lack much basic scientific knowledge of crystals, but their conclusions lack any sense of rationality and logic. Their preference for ignorant faith (wishful thinking) instead of reasoned argument is not only destructive to our national heritage, it is also potentially dangerous to the health of crystal healing's adherents.

Ian Plimer is professor of geology at the University of Newcastle. He first started studying crystals at Broken Hill in 1968. He says that since then he has been degenerating - proof that crystals have no powers. Such degeneration is unrelated to the 32 hotels and 16 licensed clubs in Broken Hill.



Can cancer be cured by meditation and “natural therapy”?

Raymond M. Lowenthal

ABSTRACT: There is a widespread belief that cancer is caused, at least in part, by aberrant mental processes. A corollary of this belief is that cancer may be cured by the application of the mind. These ideas are fostered in Australia by a popular book “You can conquer cancer” by Ian Gawler, a veterinary surgeon who attributes, at least in part, the development and subsequent cure of his own cancer to such processes. Critical examination of these beliefs finds evidence in their support to be lacking. None the less, many patients with cancer in this country follow the book’s advice, often on the basis that it “at least can do no harm”. While some patients may be aided to come to terms with their disease and to lead more fulfilling lives by taking up meditation and the positive approach to living that is described in the book, it also contains recommendations about orthodox treatments, life-style and diet which, if adopted uncritically, could be quite detrimental. The potentially harmful effects of accepting such unproved ideas about cancer need to be known more widely. Furthermore, because his ideas are making such an impact on the day-to-day treatment of cancer in this country, Gawler owes it to the community to justify, with evidence, his claims that by meditation patients with cancer may be enabled to achieve a cure of their disease in a way that is unattainable with orthodox medical treatment alone.

In many ways the achievements of medical science in treating advanced cancer are not well-enough known. They include the cure of the majority of children with acute leukaemia¹; the cure of 80% or more of patients with cancer of the testis² (the most common cancer in young men) and of Hodgkin’s disease³; the cure of about half the cases of high-grade malignant lymphomas⁴; and the achievement of prolonged remissions and possibly cures in 20-30% of adults with acute leukaemia⁵.

Patients with advanced malignancies of several other types, including prostatic, breast and ovarian cancers, small-cell carcinoma of the lung, the chronic leukaemias and multiple myeloma, all can achieve improvements in the quality of life as well as the prolongation of survival.

In some cases, such as with the use of hormonal agents for breast and prostatic cancers, the treatment that is required to effect these results has little toxicity.

As a consequence of these advances, any visitor to a haematology or oncology clinic in a large teaching hospital today would be able to see a number of patients for whom a diagnosis of advanced cancer was made

in the 1970s.

None the less, taken over all, science has made only a modest impact on the problem of cancer. Cancer remains the second most common cause of death in our community, and no effective specific treatment is available yet for a number of common malignancies such as cancer of the pancreas, non-small cell carcinoma of the lung and advanced adenocarcinoma of the bowel. Even where effective treatment can be offered, to many patients the potential side-effects of surgery, radiotherapy and chemotherapy are perceived as unacceptable relative to their possible benefits. Furthermore, doctors often are criticised for their inability to discuss bad news sympathetically and for their failure to impart hope.

Therefore, it should be no surprise that some patients are inclined to seek solutions outside the medical profession. Currently, a widely held belief is that the solution lies in alterations to mental attitudes and a return to “natural” living. It is postulated that mental attitudes determine the body’s immune status and that this, in turn, determines the risk of the development of cancer. Thus, the hypothesis runs, if mental attitudes may lead to cancer, changing those attitudes may cure cancer⁶.

Interest and belief in this approach among the general public in Australia is so strong that a popular book on the subject - beguilingly entitled “You Can Conquer Cancer” - by Ian Gawler, a veterinary surgeon, has sold many thousands of copies and, in fewer than six years, already is into its seventh printing⁷. It is the most readily available book on cancer to be found in bookshops and health food stores throughout the nation. In contrast, books which provide broadly based information about cancer in a popular form and in a manner which the medical profession could recommend confidently (for example, those by Glucksberg and Singer⁸, Baum⁹, Clyne¹⁰, and Bryan and Lyall¹¹) generally are displayed much less prominently, if at all.

The situation now has been reached in some parts of the country that almost every patient with a newly diagnosed cancer either buys the book or is given it by a well-meaning relative or friend.

Furthermore, thousands of patients, as well as their friends and relatives, have joined support groups around the nation that actively promote the views that are expressed in the book. The medical profession has maintained a low profile on the matter hitherto but, in my opinion, the growing popularity of the book and of the practices that are mooted in it are such that silence no longer is appropriate.

The Gawler phenomenon now is having a significant

impact on the day-to-day practice of oncology in this country, and I believe that it is time for Gawler's beliefs and credentials as a cancer researcher to be examined by the scientific community in the same manner that it would examine those of any medical scientist who proposed a new theory about the nature and treatment of cancer.

While not endorsing Gawler's views, many practitioners, none the less, have believed that their adoption can do no harm and might give hope to some patients who otherwise would have none. This article sets out to explore that belief.

First, I will consider the book's general thesis. I then will examine what is known about Gawler's illness because Gawler has made public many of his experiences and because he and his followers take the case of his cure of cancer as "living proof". His tale has become part of Australian folklore. Even my 10-year-old son has been told by his school teacher about the man with one leg who was able to make his widespread cancer go away with meditation, after doctors had informed him that he had only two weeks to live - this, during the class' daily meditation period! Next, I will discuss some specific recommendations that are made in the book. Finally, I will consider two related questions: why are so many patients apparently dissatisfied with orthodox care that they turn to his approach, and what should be the response of the medical profession?

I wish to make it clear from the outset that I am not questioning the value of meditation and other mental processes in helping patients to cope with the knowledge of their diagnosis and with the physical consequences of the disease and its treatment. There is no doubt that many patients do gain such benefits. Nor am I questioning the sincerity of Ian Gawler and his followers in their wish to help patients with cancer to overcome their illness; indeed, in contrast to the extreme antipathy of some, in many ways Gawler's attitude to orthodox medicine may be considered conciliatory and complementary. Rather, I am addressing the proposition that mental processes may affect directly the biology of cancer - in short, that one can "cure" cancer "with the mind".

The Mind, the Immune System and Cancer

Gawler states the central axiom of his paradigm thus: "A body with properly functioning defences cannot have cancer"¹². This is merely a variation of Burnet's once popular theory of immunosurveillance, which was expounded nearly two decades ago, that in all individuals cancer cells arise repeatedly but are eliminated by an intact immune system¹³.

While belief in these ideas remains strong among the community at large, scientific evidence of the relevance of immunosurveillance to the general problem of carcinogenesis in humans is, at best, controversial and perhaps quite lacking¹⁴, in spite of plausible theories and some evidence from experimental studies in animals¹⁵.

The proposition can be examined from two perspectives: first, are patients with cancer immunodeficient?, and secondly, do immunodeficient persons develop cancer?

As for the first question, there is overwhelming evidence to support the belief that, on the whole, patients with the common neoplasms such as lung cancer, breast cancer or colonic cancer are immunologically normal at the time of diagnosis. On the other hand, with advancing disease, immune deficiency often develops¹⁶. Thus, for most cancers, immunodeficiency is a consequence rather than a cause.

From the other perspective, it certainly is well-established that patients with inherited, acquired or iatrogenic immunodeficiency are at a higher risk of developing certain forms of cancer. Children with various inherited immunodeficiency disorders have a risk of the development of malignancies, especially lymphomas, of up to 100-times that of the general population¹⁷. Patients with the acquired immunodeficiency syndrome (AIDS) are at risk of the development of Kaposi's sarcoma¹⁸ and high-grade B-cell lymphomas¹⁹. Patients with renal transplants who are receiving immunosuppressive therapy have a markedly increased risk of the development of B-cell lymphomas, especially of the brain, and to a lesser extent of squamous-cell carcinoma of the skin²⁰⁻²².

It must be noted that such immunodeficient patients do not run a risk of the development of all cancers; on the contrary, their risk is confined to a select group of the less common cancers, especially those of the lymphoid (immune) system itself. Because of this and a large body of other evidence^{23,24}, Burnet's theory no longer is considered generally tenable²⁵. Indeed, it would seem that immunodeficiency, at least so far as it can be detected by today's techniques, has little relevance to the development of the common human cancers at all. There is, in fact, some evidence that in certain circumstances immune responses actually may promote the development of cancer²⁶, and a recent hypothesis on the aetiology of acute lymphoblastic leukaemia in childhood has suggested this possibility²⁷.

The hypothesis that Gawler has adopted is based on the proposed sequence that mental stress impairs the immune system and that a stressed patient, thus impaired, is more liable to develop cancer. However,

while there are several studies that have shown that laboratory measurements of immune function may be affected by psychological stress (for example, secretory immunoglobulin [Ig]A levels were found to be lower in dental students at times of high academic stress²⁸, and T-cell function was depressed temporarily after bereavement²⁹), I already have shown that little evidence exists to indicate that immune deficiency states are relevant to the development of the common cancers. Furthermore, although it is held widely that there is a higher incidence of cancer in patients who have undergone mental stress, scientific studies are far from unanimous on the matter. Thus, the evidence that was produced by some workers that the incidence of cancer was higher in persons after major emotional trauma, including bereavement³⁰⁻³², has not been confirmed by others^{33,34}.

Moreover, no study has shown directly that the individuals in whom immune function is depressed temporarily after mental stress are themselves specifically at an increased risk of the development of malignant disease. Those who postulate such a relationship generally fail to take into account the long lead period between the initiation of cancer and its clinical appearance, which for most neoplasms is a matter of years or even decades. The case remains, at best, unproved and one readily can postulate scenarios other than the mind-immune system nexus to explain why bereaved spouses, for example, should be at increased risk of cancer - if indeed they are. Environmental factors clearly are important in the development of cancer. Spouses would have shared the same environment for decades and, thus, it would be no surprise if the survivor were more liable to cancer than were age and sex-matched control subjects.

Gawler claims that “An inability to cope with stress appropriately is a common factor in most cancer patients’ lives” and that, in his experience, “There is a typical psychological profile which occurs in over 95% of all the many cancer patients with whom I have discussed their disease [*sic*]”. These assertions, for which Gawler provides no evidence, raise the general question of the relationship between mental attitudes and the development of cancer, a subject that is much debated.

Since the time of Galen, certain personality traits have been associated with the genesis of cancer, but the postulates vary widely, and most studies suffer from the problem that they have been retrospective, that is, they have attempted to assess personality after the diagnosis of cancer has been made^{35,36}. Of course, most persons’ attitudes would be affected profoundly

by the knowledge of such a diagnosis. The evidence that has been published is quite conflicting^{33,37-39}; the limitations of such studies have been reviewed⁴⁰.

More relevant to our discussion here is the question, can attitudes of mind influence the rate of development of cancer once it has become established? Here, too, the evidence is conflicting in spite of valiant attempts to find a consensus in the literature⁴¹.

Claims have been made that survival was increased in those persons who had a high level of hostility⁴²; in those who had a low level of hostility (anger)^{43,44}; in those who had a “fighting spirit”, or denial⁴⁵; in those who experienced greater psychological distress and had a poor ability to cope with their disease⁴³; and in those who were able to make major adjustments to enable them to cope with their disease⁴³. If there is any consensus at all, it may be that those who fared better were less well-adjusted to their disease and more hostile⁴¹. But a major aim of meditation is to enable persons to come to terms with their illness - in other words, to allow them to become adjusted to their disease and to become less hostile!

A recent retrospective survey of 50 patients with early breast cancer found that the occurrence of stressful life-events was an adverse prognostic factor for recurrence⁴⁷. However, others have found no relationship between psychological factors and outcome⁴⁸.

The largest prospective study that has been published so far investigated the rate of the recurrence of cancer in patients with apparently localised melanomas and breast cancers, and survival in patients with advanced nonresectable cancers⁴⁹. This study measured psychological factors by several techniques which were based on previously published claims of their predictive value. No relationship was found between any measurement and either time to relapse or the length of survival. The authors concluded that their results⁴⁹:

suggest a need for caution in interpreting studies that claim a positive association between psychosocial factors and survival in malignant disease generally. [...] Our study of patients with advanced, high-risk malignant diseases suggests that the inherent biology of the disease alone determines the prognosis, overriding the potentially mitigating influence of psychosocial factors.

Thus, whatever else may be said about the relationship between mind and body function, the scientific evidence for mental attitudes determining either the risk of the development of cancer or the outcome once cancer has developed is equivocal at

best. It certainly is not strong enough, in my opinion, to form the basis for a philosophy of treatment.

Is Ian Gawler “living proof”?

I now will turn to Gawler’s illness. My synopsis of his clinical case history is derived from the incomplete information which has been published and from his own public accounts. His medical practitioners are, of course, bound to silence. Ian Gawler is a veterinary surgeon who, by his own story, was diagnosed with osteogenic sarcoma in 1975⁴⁴. He underwent a leg amputation but at the time was told that he had only a 5% chance of five-years’ survival. He subsequently developed bone and lung symptoms, including haemoptysis, which led to a diagnosis of metastatic disease. He was treated with chemotherapy and, possibly, radiotherapy, but apparently understood that he was told that he had only “two weeks to live”. He then abandoned orthodox medicine and attempted a variety of unorthodox treatments including psychic surgery, acupuncture, yoga, the laying-on of hands, dietary manipulations, coffee enemas and meditation⁵⁰. Now he apparently is cured and his survival is used as evidence to support his point of view.

While the relationship between the various treatments that Gawler received and his good outcome cannot be commented upon specifically, a brief review of the recent scientific literature on osteogenic sarcoma may provide some perspective.

Osteogenic sarcoma is a rare cancer, especially in adults. Thus, apart from the general impossibility of providing a patient who is not actually dying with any useful prognosis^{{46}51}, few clinicians would have seen sufficient examples of the specific malignancy to be able to comment from their own experience. Prognoses are historically based, and the 5% figure that Gawler received at diagnosis presumably would have relied on the limited data that were available from the late 1960s and early 1970s - although, even in 1975, the quoted figure should have been of the order of 20%, not 5%^{52,53}.

It is now recognised that the type of treatment that Gawler received is associated with a 30-52%⁵⁵ five-year survival rate. Therefore, although it might be said that Gawler has survived “against the odds”, the odds were not as long as he has claimed. As for the question of metastases, it is first of interest to point out that haemoptysis is an uncommon manifestation of pulmonary metastatic disease; in one series, only eight of 136 patients with pulmonary metastases from osteogenic and soft-tissue sarcomas presented with symptoms⁵⁶. Thus, while published photographs do suggest that Gawler had bony metastases⁵⁰, the

possibility of an alternative diagnosis for his lung disorder is raised.

However, let us accept that he did develop this complication. Leaving aside the rare possibility of spontaneous regression, which has been well-described for many tumours⁵⁷, especially osteogenic sarcoma⁵⁸, even with pulmonary metastases⁵⁹, it may be noted that it is a malignancy that responds well to chemotherapy⁶⁰⁻⁶² and, to a lesser extent, to radiotherapy⁶³. Of particular interest is a report of a child with inoperable osteogenic sarcoma of the fourth thoracic vertebra in whom complete remission and prolonged survival were achieved by means of chemotherapy alone⁶⁴. The long-term survival of patients with metastatic osteogenic sarcoma by means of orthodox treatments, although rare, has been well-described⁶⁵⁻⁶⁸.

Thus, from the limited information that is available publicly, it might be said that Ian Gawler has shown an unusually, but not extraordinarily, good response to treatments which are known to be effective for his type of cancer. He is one of the lucky ones, but one of many, not one of a kind. The outcome in a single case (an anecdote) certainly cannot be used to prove a particular point of view. By his own admission, Gawler received both orthodox and unorthodox treatments so, clearly, it is quite impossible to determine which of the various modalities was responsible for his good outcome. Anecdotal evidence is misinterpreted easily and anyone who is involved with cancer care could produce anecdotes of patients who have fared unexpectedly well and unexpectedly badly. These cases merely represent the two ends of the normal distribution of the survival curve.

Gawler has admitted that of the thousands of persons who have adopted his approach he considers that “only about 50” persons have fared better than would have been expected by the medical profession⁶⁹. Surely then, these patients - who would seem to contribute only about 1-2% of the total - represent the tail of the survival curve. With every disease with a fatal outcome, there are some patients who fare better than the average as well as some who fare worse: this is the meaning of average. For example, in one study, 2% of patients with widespread liver metastases from colorectal cancer survived five years⁷⁰. These survivors could not attribute their good fortune to effective treatment, for none was available to them. Rather, they illustrate the natural variability of the disease.

Claims in the scientific literature that meditation may effect the regression of cancer growth have been sparse⁷¹⁻⁷⁴. Those that have been published have been

anecdotal, generally poorly documented, and explicable in most, if not all, cases by the concomitant use of orthodox treatments or by the natural variability of cancer. In spite of this, Gawler has attracted a following of thousands and has, according to his own descriptions, ten full-time persons working for his Australian Cancer Patients' Foundation⁶⁹. Therefore, he is in a better position than are many persons in the mainstream to provide a statistical analysis of his results.

If indeed Gawler has a method of treating cancer that is better than that which generally is available, all of us want to know about it and all of us will want to adopt it. It is clear that many would like to believe in the efficacy of his methods, and a large number of persons do so passionately - but belief is not proof. That his opinions currently are accepted so uncritically represents a victory of esperance over evidence. Because so many persons now are persuaded by him, I believe that he owes it to his readers to publish his actual results, not merely his ideas, or at least to submit those patients whom, he claims, have fared "extraordinarily well" to evaluation by a panel of experts including pathologists, in much the same way that the US National Cancer Institute sought evidence of the effects of the alleged cancer cure, laetrile⁷⁵.

The Book "You Can Conquer Cancer"

Whether Gawler's methods actually increase survival in patients with cancer is one thing but, it may be said, they at least can do no harm. Those medical practitioners who believe this to be so first should read the book and examine its specific recommendations⁷; they may be surprised at what they find. As have many middle-class Australians for whom meditation seems to have become the new secular religion, Gawler has a particular world view of its importance and value. It is, he says, "the single most powerful tool to aid recovery from disease and lead to a life of maximum health"⁷. It is one of "the pillars upon which to build total health"⁷. It leads to a "reduction in stress", which allows the body to "remove the tumours itself" and it "increases quality and *quantity* [my italics] of life"⁷.

The technique of meditation that is proposed involves several hours a day of intense mental effort^{50,72}. This means that several hours a day are taken from the other activities that a person with cancer may well prefer to undertake. It is time taken away from friends, and family, time taken away from the normal events of daily life. The effort might be thought to be worth while if it were to be rewarded by a cure of cancer but, as shown above, the evidence that such an outcome can be achieved does not exist.

Secondly, the belief that mental attitudes may have caused cancer leads some patients to feel guilty that they have brought cancer on themselves⁴⁹. Worse still, parents may be persuaded that they, through their attitudes, have brought cancer on their child. Furthermore, when patients attempt intensive meditation but fail to cure the cancer, the failure induces even more guilt. Guilt is an additional and quite unnecessary burden on those who already are troubled by the diagnosis of cancer⁴⁹.

Gawler's attitude to orthodox cancer treatments, which he describes as "toxic", is less than sympathetic, whereas he describes as "non-toxic" certain alternative approaches which have been discredited by scientific studies. They include various bizarre diets including the "grape cure" and that of Gerson⁷⁶; such diets may lead to malnutrition⁷⁷⁻⁷⁹. Also, under the heading of so-called non-toxic therapies are mistletoe, which may cause hepatitis⁸⁰; coffee enemas, which have led to death as a result of electrolyte disturbances⁸¹ and septicaemia⁸²; megadose vitamins including high-dose vitamin C, the ineffectiveness of which has been demonstrated clearly in controlled clinical trials⁸³⁻⁸⁵; and laetrile, an extract of apricot kernels that not only is useless but also has caused deaths of cyanide poisoning^{75,86-88}. Although he is careful not to advise patients to reject orthodox therapies, his bias is clear, and if even one patient were to forego potentially curative treatment it would be a tragedy. The most toxic treatment of all is one that is ineffective when an effective treatment exists.

The book is a rather diffuse one, moving in a pleasant, even charming way, through various forms of philosophy and religion, interleaved with more specific discussions about postulated dietary and stress factors in the causation of cancer and detailed recommendations concerning diet. Patients are advised to adopt a "natural" life and to avoid nicotine, tea, coffee, chocolate, aluminium pots, sexual excesses and too much television. It is suggested that fluoride and chlorine in the water supply are "questionable" and that one should use spring or rain-water. Food should not be prepared in a microwave oven. Certain herbs are recommended; they include alfalfa, red clover, chaparral, nettle, marshmallow and comfrey which are said to be "blood purifiers". "Detoxification" of the body, by means of frequent coffee enemas and/or the use of monodiets of either grapes or brown rice, is advised.

In making his recommendations, Gawler confusingly is equating possible risk factors in the development of some cancers with factors which, if avoided, may be helpful once cancer has developed. Although it is well-

known that some substances are carcinogenic - including tobacco, of which he quite rightly disapproves, and comfrey⁸⁹, which he commends (and which recently also has been found to be a cause of hepatic venoocclusive disease⁹⁰) - the evidence which incriminates most of the substances in his list is sketchy or quite nonexistent. Even if their carcinogenic properties were to be established, it is one thing to recommend the avoidance of such substances to prevent cancer and another thing to suggest that such avoidance will promote a cure or healing once the cancer is established. There is no evidence that such an action will have any beneficial effects.

The futility of proscribing supposed carcinogens after the event can be appreciated readily when one looks at the example of lung cancer. Nearly all cases of lung cancer are caused by cigarette smoking, yet quitting smoking once the cancer is established has no known effect on the growth of the cancer. The danger in these approaches is that patients are advised to make major modifications to their lifestyle and diet, at considerable inconvenience and for no benefit. Indeed, for persons who do not understand fully the complexities of nutrition, such major modifications to diet and, in particular, the use of monodiets have the potential to cause severe nutritional deficiencies⁷⁹.

This is not to say that attention to diet is irrelevant. On the contrary, all persons who are ill, including patients with cancer, need to ensure that they eat a good mixed diet, which should include (but not be restricted to) a good supply of fresh fruit and vegetables, and be sufficient to maintain their weight. In specific cases, food supplementation may be advisable. By these simple measures, patients will be helped to maintain their general well-being and, thus, to minimise the complications both of the disease and its treatment.

The concepts of the purification of the blood, detoxification and the use of enemas carry the implication that cancer is a dirty disease, but what are the toxins? A rite of purification has appeal to those who believe that the development of cancer is evidence of a patient's previous impropriety⁹¹. However, no scientific evidence exists that purification rituals will rid the body of any substance that is relevant to the causation or perpetuation of cancer, and apart from their time-consuming nature, such rituals carry their own dangers^{81,82,91}.

What Meditation Can Achieve

The foregoing discussion has examined specifically the proposition that mental influences may affect the development and growth of cancer cells directly. In

challenging it, I do not deny that meditation, relaxation and prayer may provide mental succour, reduce the appreciation of pain, improve the ability to cope and lead to more harmonious relationships between patients and their families^{41,92} nor that having a will to live has value in itself^{93,94}. The medical profession would be guilty of throwing the baby out with the bathwater if it did not recognise the appeal and the beneficial effects that such approaches may have on over-all well-being. As discussed by Margarey⁴¹, meditation may answer many of the unmet psychological needs of patients with cancer. On the other hand, meditation, similar to religion, does not appeal to all. Those who are not attracted by it need feel under no obligation to adopt it. There is, at least as yet, no scientific evidence that their failure to do so will put them at any disadvantage.

The Attraction of Unproved Remedies and the Medical Profession's Response

The first point to make is that the widely used description of the therapeutic claims that are described in this article as "alternative" is quite inappropriate. At best, meditation and dietary manipulations, if used carefully, may be considered complementary to orthodox, proved therapies. Meditation is no alternative to upper-mantle radiotherapy for the cure of stage-11A Hodgkin's disease. Dietary change is not alternative to chemotherapy for bringing about a remission in a child with acute lymphoblastic leukaemia. These adjuncts to standard therapy should be regarded as such, and if proposed for the cure of cancer, are referred to correctly as unproved, not alternative.

None the less, the success and popular appeal of Gawler's approach and those of others like him indicate clearly that in some way orthodox medicine is not meeting the needs and expectations of many patients with cancer. One comment that often is made by his supporters is that they were attracted by his spirit of hopefulness and optimism, when this had been denied them by their doctors. Thus, it is of the utmost importance that no practitioner ever say to a patient "nothing more can be done". This is never true; to attest so is to confuse cure with care. In cases where cure is not attainable, it is, nevertheless, always possible to give patients a great deal of help and hope⁵¹: help, the expert control of symptoms and emotional support; hope, realistic hope, by indicating that fears of uncontrollable pain and other dire complications usually are groundless, and by pointing out the variability of cancers.

"Miracles" do happen, at least in the sense that some patients are bound to fare much better than is the

“average”, much better than their doctors would have anticipated. Patients can be told that there is no reason why they should not be one of the lucky ones - perhaps like Ian Gawler. Attention must be paid to patients’ overall well-being; so-called holistic medicine always has been part of ordinary competent medical practice and is not the exclusive province of “alternative” practitioners, in spite of their claims. The concern that oncologists have for improving the quality as well as the quantity of life deserves to be known more widely^{95,96}. However, whatever the reality, patients will be driven to those who practise unorthodox medicine when their perception is that doctors are uncaring and bereft.

So how should the profession respond to Gawler? Now that his views have taken such a hold on the public imagination in Australia, we must demand of him that he justify, with evidence, the claims that he makes. I already have described how I believe that this can be achieved and, indeed, a challenge to Gawler that he make available his best 50 cases for study by a panel of experts was made publicly and accepted during a debate on the ABC television program “Couchman”, which was broadcast on June 21, 1989. In the meantime, we can tell our patients that, while much of his advice is to be commended, especially that which encourages patients to take charge of their own lives and to be hopeful and positive⁷⁸, the book also includes recommendations that potentially are dangerous and must be recognised as such. Patients who wish to inform themselves about cancer and to learn how they can help themselves can be recommended to read certain other books that provide a more balanced view of the orthodox and unorthodox methods of cancer treatment^{10,11}.

However, it has to be accepted that Gawler’s success clearly is telling us that we have not been meeting many patients’ needs. Perhaps in embracing the empiricist *Zeitgeist* we have overlooked the importance of the transcendental, to the detriment of our patients. The medical profession may have been slow in recognising that many who are affected by a diagnosis of cancer are enabled to find solace and acceptance in meditation, and comfort and camaraderie through participation in support groups^{93,97}. Large public hospitals that provide comprehensive cancer care should consider enlarging their treatment services to include provision for such groups, as indeed has been achieved successfully by some^{41,98}, including the Anti-Cancer Council of Victoria (Nigel Gray, personal communication) and the Cancer Support and Information Service in Tasmania (unpublished observations).

In short, the challenge to scientific medicine must be met by combining the skills that are learned from scientific training and experience with honesty, openness and compassion. To ignore the Gawler phenomenon is not in the best interests of patients or doctors; rather, we should learn from it. We always must instil hope, and ensure that patients are able to receive care for their psychological and spiritual needs as well as their physical needs. We must reaffirm the medical profession’s historic role as friend and advocate of the sick. In this way, each patient will achieve the best result for his or her individual cancer - cure in some cases, comfort in all.

Acknowledgement

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Raymond M. Lowenthal, MD, MCRP, FRACP, is reader in medicine at the University of Tasmania and director of medical oncology, Royal Hobart Hospital.

References

Because of the extremely large number of references in this article (which would fill approximately a quarter of the space already taken up by the article proper) we have limited the number of references printed here to a bare minimum - publications which would be of more general interest to a lay audience. The full list of references (or specific references if required) can be obtained by writing to Australian Skeptics, PO Box 268, Roseville NSW 2069, or by reference to the original journal of publication: *The Medical Journal of Australia*, December 4/18, 1989, Volume 151, references pp. 714-715.

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A Skeptical Examination of Faith Healing

Mary-Ann Barfod

Many, if not most, of the phenomena which fall in the realm of parapsychological research are trivial and purposeless (Moore, 1987). Even if it were possible to psychokinetically bend cutlery or elevate furniture, even if a huge creature did roam the forests of North America or swim the lakes of Scotland, even if one could determine the personality of a stranger from their date of birth, the lines in their palms, or the length of their nose, what use would this be? The existence of these phenomena would be almost as worthless as their nonexistence.

Not so with healing. The existence of a method for miraculous healing would radically alter the lives of millions of people, if not the entire world. It is perhaps therein the attraction of healing lies.

At this point it may be appropriate to say what is meant by healing. In a general sense, healing can be defined as a restoration to health. Doctors, surgeons, dentists, nurses, psychiatrists and psychologists heal. Medicines heal. And people get better for no discernible reason - this too can be called healing. However, for the purposes of this essay, healing is defined as a restoration to health effected by mechanisms beyond those recognised by conventional medicine (Benor, 1984). Included in this definition are faith healing, spiritual healing, Christian Science, psychic surgery, spirit healing and a hotchpotch of separate practices that have little in common other than their claim that they are capable of restoring health (Sabbagh, 1985). And while this claim may not be completely unsubstantiated, it is proposed here that when restoration to health occurs, it occurs for none of the reasons given by the healers themselves (Sabbagh, 1985).

Healers work in so many different ways that classification is virtually impossible (Stanway, 1986), however healing systems can be crudely divided into three basic types based on what is identified by the system as the source of the healing power. Healing may be attributed to: (1) God or Jesus Christ; this is generally called faith healing or spiritual healing; (2) supernatural life forces or disincarnate spirits, sometimes referred to as spirit healing; or (3) psychic phenomena such as extrasensory perception and

psychokinesis, generally called psychic healing. Whatever its source, the healing force is generally impossible to measure or even detect (Stanway 1986), and consequently it is impossible to predict whether a patient will be healed. Most healers do not keep clinical records to allow assessment of success rates, however it appears that only a fraction of those patients treated by healers respond with measurable physical changes (Benor, 1984).

Patients who seek healers often feel they have reached the bounds of what conventional medicine has to offer. Basically, such patients are of two types: (1) those in whom no physical ailment can be detected; and (2) those in whom the condition has no known cure, such as diabetes, arthritis and cancer (Jones, 1987). And it would seem that there are classes of sicknesses which healing cannot cure; for example healing is particularly powerless to mend broken bones or heal open wounds or even do a little thing like restore lost teeth (Warfield 1972). However, healing is especially effective in the treatment of nondiseases, that is, half-perceived discomforts or anxieties which healers label and thus elevate to disease status (Sabbagh, 1985). Healers tend to focus on psychosomatic medicine (Benor, 1984); the psychosomatic link is monopolised by some healers as if it were a concept that did not exist in conventional medicine.

Many Western healers are practising Christians and attribute their healing powers to the intercession of God or Jesus Christ (Stanway, 1986). Typically they first diagnose illness without any prior acquaintance with the patient and without performing a physical examination (Benor, 1984), claiming that their information comes from God and that the healings are done by God or Jesus Christ working through them (Steiner, 1986). While spiritual healers may not necessarily demand that the patient has religious beliefs (Stanway, 1986), lack of success is often attributed to lack of faith on the part of the patient (Randi, 1987). Ironically, a large source of antagonism to spiritual healing comes from the Church, as most formal churches have for various reasons been unable to endorse healing (Stanway, 1986). Consequently, healers have formed breakaway churches or religious groups such as Christian Scientists, the Emmanuel Movement, and New Thought (Kelsey, 1973) whose main focus is healing the sick. Within more conventional churches, it is popular for the sick to visit healing shrines such as Lourdes in France and Holywell in Wales in the hope of cures (Weatherhead, 1952). And this century has seen the emergence of evangelical faith healers such as Oral Roberts, Peter Popoff and Rex

Humbard in the United States (Randi, 1987), and “psychic surgeons” such as Tony Agpao and Juan Blanche from the Philippines (Schaller & Carroll, 1976).

The Church of Christ (Scientist) or Christian Science was founded in 1879 by Mary Baker Eddy, who is the author of “Science and Health”, the ‘bible’ of Christian Science (Weatherhead, 1952). Christian Scientists believe that disease, pain and even death are illusions produced by the human mind and typically refuse any kind of conventional medical attention (Schaller & Carroll, 1976). Members who fall ill may send for a Christian Science healer trained in metaphysics who persuades the patient that the illness is unreal (Weatherhead, 1952). Certainly the wholesome lifestyle of Christian Science may have positive health benefits, but there are numerous flaws in the theory, which is at times inconsistent, incoherent and confused. Disease is not an illusion created by man; scientific research shows evidence of disease among animals before man existed (Weatherhead, 1952). And pain serves a very real purpose as a signal that something is wrong which should not be ignored. Christian Science healers give the same treatment for all illnesses, yet claim “cures” without first having diagnosed disease (Weatherhead, 1952). But perhaps the most disturbing element of Christian Science is the ill-treatment of children, who are not immunised or given proper medical attention, even for broken bones (Stanway, 1986). In short, a society based on the teachings of Christian Science would at best be rife with disease and suffering, at worst, self-destructive.

Every year literally hundreds of thousands of people flock to the small town of Lourdes in the south of France in the hope of being healed (Randi, 1987). Lourdes is just one of a number of such places throughout Europe; it was “discovered” in 1858 when a young girl, Bernadette Soubirous, claimed to have seen the Virgin Mary there, and later unearthed a nearby stream supposedly has special healing powers, although nothing especially beneficial can be detected in its waters. In fact, there is a high risk of infection from the slow-flowing water; those who bathe in it are often unclean, incontinent, or have skin diseases or discharging ulcers or sores, and typhoid germs have been found in specimens of the Lourdes water (Weatherhead, 1952). In short, while the psychological effects of meeting up with fellow sufferers may be beneficial, there is no evidence that the water or any other aspect of Lourdes itself can make miracles happen (Randi, 1987).

Presently the most prominent of the healing systems that attribute their healing power to heavenly

intervention is the modern evangelical healing movement which emerged in the United States in the 1940’s (Randi, 1987). This is a multi-million dollar industry which again lacks any firm evidence of actual cures that may be attributed to the intervention of God or Jesus Christ. In fact, James Randi, a magician and a founder of CSICOP, the Committee for the Scientific Investigation of Claims of the Paranormal, has exposed several of these faith healers as using cheap gimmicks and outright fraud and deception in their healing crusades (Steiner, 1986; Jaroff, 1988). However, the most disturbing element of this form of healing is that failure of the method becomes a burden of guilt for the patient to carry as it is attributed to a lack of faith on their part.

A special variant of religious healing is psychic surgery which originated in the Philippines. Psychic surgery now appears to be spreading throughout the World, attracting thousands each year - the gullible, the desperate, the hopeless, the terminally ill (Schaller & Carroll, 1976). Again, the treatment remains the same whatever the illness may be; whether the surgery is for cysts, cancer, diabetes or arthritis, psychic surgeons appear to extract masses of tissue from the patient; tissue which has been identified as being chicken, rabbit, cow, even vegetable in origin. However, the rationalisation for this is simple - the deadly tissue is transformed into innocuous substances by supernatural forces (Randi, 1982). And once again there is no evidence of any cure; that could be attributed to the “surgery” alone. Randi and others, in contrast, have repeatedly demonstrated that the psychic surgeons use sleight of hand and simple magic props such as false thumbs, balloons of blood, and razor blades concealed in cotton wool, accompanied by skilled showmanship to amaze and astound their audiences (Smiles, 1980; Randi, 1982).

Some healers latch onto psychic phenomena such as extrasensory perception (ESP) and psychokinesis (PK) and use these to diagnose and heal illness (Stanway, 1986). They may diagnose illnesses by obtaining the information telepathically from the mind of the patient, from the patient’s physical condition, or from the minds of others present, or precognitively from diagnoses yet to be made. Healers could then cure the patient directly, via PK, or by telepathically influencing the patient to cure him/herself, to heal people at a distance, or to impregnate objects with healing powers (Aakster, 1986). However, as the existence of psi powers has yet to be proven beyond reasonable doubt, these theories can in no way be cited a evidence for the existence of healing.

A related theory is that healing occurs when energy

is transferred from the healer to the patient (Benor, 1984). This idea of energy transference appeared to receive support from experiments by Maxwell Cade and Cashford (1980) who found that the EEG amplitude of the psychic healer increases during treatment whereas that of the patient decreases. However, Hearne (1982) hypothesised that this was not due to energy flow, but to differing states of cortical arousal in the healer and the patient. He tested this by monitoring the EEG activity in people performing mental arithmetic and people who were simply instructed to relax and found a similar significant difference. Thus this theory, too, would seem to be relatively unsubstantiated.

Yet although only a portion of healers' diagnoses are accurate and only a fraction of those patients "healed" respond with measurable physical changes (Benor, 1984), healing sometimes works, or appears to work. Every day there are people who feel better after healing treatment, however the reasons given by the healers are seldom those responsible (Sabbagh, 1985). Realistic explanations for the occasional effectiveness of healing are more likely to lie in the realms of psychology and physiology than the domains of heavenly intervention, energy fields, or psi phenomena (Sabbagh, 1985).

The term "faith healing" may be interpreted in two ways. To some it may suggest that the healing is effected by the force to whom the faith is committed, be it God, spirits, or the charismatic healer. Alternatively, "faith healing" can be seen as implying that the healing occurs due to the action of faith itself (Warfield, 1972). Healing simply makes use of a sort of empathy as the main source of the healing power (Stanway, 1986); in listening to the patient and providing reassurance and compassion, the healer may reduce anxiety and tension and even suggest away symptoms (Benor, 1984). There can be little doubt that, whatever the method, reducing anxiety and tension alone may produce very beneficial results, and suggestion can certainly play an enormous part in bringing about a cure (Moore, 1977).

To some extent, this is a need which has in the past, been filled by conventional medical practitioners. Previously, when little medical help could be offered, doctors devoted more time to counselling and supporting patients, however the advent of modern medical science has greatly altered the patient-doctor relationship (Jones, 1987). This point becomes increasingly salient when one considers the types of patients who seek healers - those for whom modern medicine can do little, because there is nothing physically wrong with them or because there is no

known cure for their condition (Jones, 1987).

Another important element to consider when examining why healing appears to be effective at times is; spontaneous remission. The natural variability of all disease means that there are periods when patients feel better and actually have physically improved (Sabbagh 1985). While the actual reasons for remission may not be discernible, it is a simple matter to ascribe it to a "miracle" or intervention by supernatural power; (Moore, 1977). The "Freireich Experimental Plan provides a tongue-in-cheek analysis of how it is possible to utilise natural periods of remission to "prove" that treatment is effective (Sabbagh, 1985). If the treatment in this case healing, is applied after a period when the patient has been getting progressively worse, there exist four possibilities: (1) the condition may improve, and thus the treatment appears to be effective; (2) the disease may stabilise, and again the treatment appears to be working as it has arrested the course of the illness; (3) the patient may continue to get worse, which may indicate that the treatment was sought too late and that the dosage should be increased (in the case of healing the patient should have more faith); and (4) the patient may die, which again indicates that the treatment was overdue (Randi, 1987). No matter what, the healing method it never proved wrong.

This highlights the importance of establishing rigorous experimental controls when testing the effectiveness of any treatment method. First and foremost, the condition must be clearly defined and diagnosed before any healing treatment begins and again after the "cure", to ensure that a real illness is being treated and that the patient is in fact restored to health. Secondly, the effect of confounding variables, such as the effect of the empathetic relationship with the healer or the randomness of human physiology, must be excluded (Sabbagh, 1985). Unfortunately, the strength of the proof seems to be in inverse proportion to the rigour of the controls. To some extent the representation of healing by the media is also at fault. Just as we, on a personal level, selectively attend to only that information which reinforces our beliefs, healing successes are typically glorified in the popular press, whereas the numerous failures are discarded and ignored (Randi, 1987).

Perhaps partially as a result of this, the fact still remains that, in spite of the lack of evidence for the effectiveness of healing, people still believe in it (Sabbagh, 1985). Apart from the fact that the healing industry is a form of semi-institutionalised dishonesty, it is not as harmless as it may seem; real dangers exist (Sabbagh, 1985). Believing that they have been cured, patients may discontinue conventional medical

treatment, which can in some circumstances be fatal, for example, in the case of diabetes. Alternatively they may waste precious time before seeking legitimate treatment; this may be specially crucial for cancer sufferers (Pepper, 1987). But perhaps more concerning than those who endanger themselves through their own ignorance and gullibility, are the innocent who are put at risk through the practices of others. Two especially salient examples here are children who are endangered by the mistaken beliefs of their parents, or contagious persons who falsely assume themselves to be healed and thus endanger the entire community (Sabbagh, 1985). Senior citizens are also especially vulnerable; their health needs are greater, they often have chronic conditions such as arthritis for which conventional treatment is only partially successful, and they are often housebound and were raised in a more trusting era and thus more susceptible to tempting advertising (Pepper, 1987).

A final word should be said on the healers themselves. It is the opinion of this author that they are also of two types: (1) those who truly believe in what they are doing; and (2) those who truly deceive. The former are as ignorant as their patients, and need to be brought to grips with the fact that the physical problems of the human body are much more than merely influences of the mind; no amount of faith will remove tumours or restore lost limbs. The latter are the opportunists and the swindle who knowingly deceive and prey upon the desperate the hopeless, the terminally ill. These are the real criminals, guilty of fraud, theft, and even murder, and they should be punished accordingly.

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Alternative therapies exposed

Barry Williams

The Lancet of September 8, 1990 reported a study conducted on 334 women suffering from breast cancer, and who had attended the Bristol Cancer Help Center (BCHC). This organisation had been set up in 1979 to offer various alternative therapies including diet, counselling, 'healing' and other treatments to patients with cancer. A control group of 461 women who attended a specialist cancer hospital or two district general hospitals was used. The study found that those patients who attended the BCHC had significantly poorer survival rates than did the controls. In fact, BCHC patients had twice as much chance of dying and three times as much chance of having the cancer spread.

The extraordinary thing about this story is not that alternative therapies are not particularly effective in treating cancer (which most Skeptics would expect to be true anyway), but in the responses which were published in the Letters column of the next issue of *The Lancet*.

Some writers criticised the methodology of the study but this seems to have been anticipated by the researchers; one writer's criticism can be summed up as "You might be twice as likely to die, but at least you will die happy" and, in probably the most remarkable

response of all, one writer agreed that, “Yes, it might be true that some of the therapies are positively deleterious to the health, but possibly the bad effects from these had ‘masked’ the good effects from others”. The underlying plea was “Don’t condemn all the alternate therapies, just because some of them are dangerous.”

In this lies the fallacy that is at the very heart of “alternative” medicine. There is just no quality control. No one actually knows what, if any, of it might be beneficial. There is no body of evidence, gathered in properly conducted and controlled clinical trials, to show that any of them are effective. We are expected to believe that apocryphal or anecdotal evidence is every bit as valid as are the results of scientific experiments. That ‘natural’ chemicals are somehow different from, and better than artificial ones. That the validity of a treatment is directly associated with its antiquity. That if it **feels** good then it must **be** good.

This study may not be definitive, but it should be noted. Perhaps such good things in alternative health, if they exist, could be accepted if they were shown to be efficacious by properly designed and controlled clinical trials. If the practitioners of these arts are not prepared to subject their practices to proper scrutiny, then we are entitled to regard ‘alternative’ medicine in the same way we would regard alternative engineering. Who, after all, would fly to Perth in an airliner designed and built by an amateur, who believed he could keep it in the air purely by the exercise of will?



Biofields Hucks and Dens and Five-Eared Corn

Harry Edwards

Egg laying rabbits, buck-toothed, carrot nibbling chickens, electronic gene information transfer and a microwave rejuvenating machine - science fiction? Not according to a report from *Novosti Press Agency* of the USSR I came across in the *Manila Bulletin* of February 26, 1990. This article catalogued the exploits of one, Dr Yuri Jiang Kanzheng, which include the production of hybrid “hen-ducks”, “bushy corn” and a “pumpkincucumber with a very strange taste”. The cause of all this tampering with nature is some sort of emanation or “biofield”, which living organisms are supposed to exude, and which Dr Jiang claims he can

detect, amplify and transmit to other living organisms. The benefits are alleged to include cancer cures and rejuvenation of the ageing (Barry Williams please note).

The scientific implausibility of this claim is covered in Dr Mel Dickson’s article in this issue but I would like to look at some of the implications for this technology, in the unlikely event that it was true. Readers may recall a horror movie called *The Fly*, in which the hero succeeds in teleporting himself from one location to another, and the unintended results which occurred when a fly bumbled into the experiment. I strongly suspect that this film, or an earlier version of it, must have turned up recently in Khabarovsk, Siberia, where Dr Jiang now resides, having previously been purged for “idealism” and sent to a labour camp in his native China. The article is full of the sort of low quality science fiction ideas to be found in those 1950s epics which make repeated appearances on our post-midnight TV screens.

For example, it claims that Jiang doubled the life of old mice by “*irradiating them with the biofield from young mice*”. Having performed this useful service, he then “*subjected himself to the rejuvenating biofield impact of young animals*”. As the biofield is also used to make hybrid duck-hens, one is left to wonder what other effects might be felt by someone who has been irradiated by the emanations of young mice? An unnatural fondness for cheese? The tendency of women in ones presence to jump on chairs and scream? (Apologies to our feminist readers - we are talking about 1950s SF, so why not 1950s sitcoms.) It’s almost enough to make Monty Python sue for plagiarism.

But perhaps (the article does not make this clear) you do not irradiate old humans with the biofields of young mice, maybe you do it with the fields of young humans. What it also does not make clear is what happens to the donors of the biofield? To rejuvenate the old, do you necessarily have to balance the books by gerontifying the young? That certainly gives new meaning to the old saw, “Having children keeps you young”. But it is, yet again, an old SF plot, sucking the life force from the young, to keep some geriatric power baron in youthful trim.

One can imagine this transmission of energies from other creatures as being a great boon to the astrologers. I can see the ads now “*Scorpios! losing your sting? Get a shot of Dr Jiang’s microwaves NOW. It will really curl your tail.*” or “*Pisceans, get in the swim again with Dr J’s essence of mullet*” I don’t know what Librans do, as scales tend to be non-biological. I guess they continue to be unbalanced. It seems that

either Dr Jiang, or the author of the article, has been irradiated with a little too much of the biowaves of Taureans.

While this story may not seem to be immediately relevant to Australia, this sort of thing is also being raved about by the more loony elements among our home grown New Age gurus (**Are there less loony elements in the New Age? Ed**) and sections of our own news media are not immune to unquestioningly promoting this sort of claptrap. It would seem that Perestroika is not bringing unmixed blessings to the Soviet Union. Along with some good western ideas they would also appear to be picking up the fruits of the lunatic fringe. What with biofields, UFOs and women able to read print through their buttocks, the Soviets seem to be right in step with the rest of the world.

I wonder what is the Russian word for New Age?



Biofields II **Bio-waves: a Cure for Cancer?**

Mel Dickson

Harry Edwards has kindly sent me an article entitled “*Microwave biocommunication as curefor cancer*” by Gennadi Vedernikov of the *Novosti Press Agency*, taken from the *Manila Bulletin* of 26 February 1990. The article describes the work of a Dr Yuri Jiang Kanzheng, a “*specialist in Oriental medicine*” who “*practices reflexoacupuncture and heads a department at a specialised polyclinic*” in Khabarovsk, Siberia. Dr Jiang is described as having carried out “*phenomenal experiments*” the results of which include a “*henduck*”, a “*single corn root with five stems and ears of corn*” and a “*pumpkin-cacumber with a very strange taste*”.

All this is based on a claim that living things emit microwave energy in the 2-3cm band. This can be “*concentrated, amplified and transmitted*” and radiation from a healthy organism will “*suppress the patient’s microwave binfield and rectify a defect, alleviate pain and eventually cure them*”.

Later in the item an experiment is described thus: “*In the focus of parabolic antennas inside the microwave biotransmitter sits a rabbit, feasting on a carrot. The waveguides transmit the microwave biofield, which passes genetic information to the*

incubator with hen eggs in the adjacent laboratory. In this receiver the miraculous hen-ducks and bushy corn have been produced.”

The clipping was hardly detailed enough to enable one to follow how much real science, if any, was involved in the formation of the hypothesis. But, to a casual reader, it sounds seductively plausible. Many people know that microwaves are used to carry information in systems such as transcontinental phone links. And genes carry information too. Thanks to the ubiquitous microwave oven, we also know that microwaves interact with biological material. And don’t some practitioners assert that the body responds to the vibrations of particular colours? And then there’s the aura; that’s a radiation too, isn’t it?

Then there was Professor Jaeger (developer of the fine woolen undies that bear his name) who found that exhalations from healthy people could be absorbed by unhealthy (and ageing) people to restore them. Professor Jaeger even followed his own advice and surrounded himself with a dozen fine healthy young women, whose exhalations kept him young until he died. Maybe exhalations are the same as these microwave thingies?

The trouble with all these nice ideas (and it’s sad about Jaeger’s) is that when they are rigorously tested they fall down. But, until they are rigorously tested, anecdotes of success pass rapidly around, especially in that section of the popular press which just hates to let the facts (or commonsense) spoil a good yarn.

But, I must have a closed mind because I don’t think Dr Jiang’s ideas have any basis in fact. Here are my reasons.

1. Previous experimenters have not found any detectable radiation (apart from a small amount of infrared radiation in warm-blooded organisms) coming from living organisms.

The best experiments, distinguished by the fact that they were done at all, were performed by John Taylor, a British scientist who achieved notoriety by being totally sucked in by Uri Geller. In fact, he put the public cause of science back by years by saying on British TV that Geller had proved that we had to totally rethink the whole of physics. Then he “tested” groups of children for psychic talents such as metal bending, found ever so many children with strange powers and wrote a book about that called *Superminds*.

Then he decided to become a scientist again. Taylor reasoned that psychic energy had to be electromagnetic because that is the only sort of radiation capable of carrying the sort of information that supposedly passes in psychic transfer. He found a number of self-confessed psychics who professed various powers and

surrounded them with detectors sensitive to most of the range of electromagnetic radiations. He found that no radiations were emitted whether they were exerting their “powers” or not. Dr Taylor later wrote another book *Science and the Supernatural* in which he recanted his previous book.

So, in the first place, Dr Jiang’s findings conflict with Dr Taylor’s. Dr Taylor may be a faulty observer of humanity but he has status as a physicist and I’ll bet he measured his radiations properly.

2. Dr Jiang has sadly confused the sorts of information carried by microwaves and genes. For his ideas to work, it is necessary for information coded in triplet sequences of nucleotide bases to be transmitted as modulated microwave radiation which will then be decoded in a receptive organism and transferred to new genetic material.

There is simply no known mechanism for any of this to occur. DNA decodes its information into further nucleotide sequences, which eventually are converted into amino acid sequences in proteins. None of the chemistry involves energy transfers of such levels that microwaves are generated. And information cannot be incorporated direct from microwaves into base sequences. Microwaves might cause some twisting of intermolecular bonds and at shorter wavelengths they cause molecular agitation but these are productive of disorder in organisms. It is inconceivable that they somehow organise nucleotides into working codons that are invariably beneficial to the organism.

And if our bodies are acting as sensitive microwave receivers, how on earth do we stop our genes from being reassembled by the transmissions of Neighbours, or the radar at Mascot, or by Telecom’s phone links? And yes, there are health hazards from microwave radiation, but only with large doses. The assumption is that single bases are modified so as to interfere with proper decoding. Not that people get obscene phone calls in their genes.

But it’s no use me grumbling. “*The Institute of Clinical and Experimental Medicine of the USSR Academy of Science’s Siberian branch has decided to establish a microwave-biofield laboratory in Khabarovsk...*”. Dr Jiang has his grant already. The Manila Bulletin has its story. Now I wonder would they be interested in my researches into porcine aviation?



Healing Applied Theosophy

Ian Drysdale

At the Fitzroy Alternative Medicine Centre recently, whilst browsing through a pile of brochures offering courses in iridology, aroma therapy and crystal healing, I came across a leaflet on Applied Theosophy. Theosophy stood out from the small ‘t’ therapies in that it offered “absent healing”. Intrigued by this concept, on 26th June, 1990, I presented myself at the “Right Human Relations House” in the rather old-fashioned suburb of Bentleigh. The “House” is an old church hall complex which the Applied Theosophers recently purchased.

In the entrance hall, cheek by jowl with a two metre tall Buddha, stood a smiling gent, dressed in casual clothes (all white), greeting the visitors. I was directed upstairs to a room, where I was requested to remove my shoes before entering. Seated around the room in a circle were sixteen people, with a bookstand in the centre. All of those present appeared to be in the 30-40 age group, with the sexes equally divided. The leader of the group was a smiling female of around 35, dressed in pink and white, the same colours as the room decor.

The formal part of the evening began with a musicbacked prayer session, with the leader and her male associate describing the beauty of “love of the Buddha and the Lady Mary”. This curious amalgam of Buddhism and Christianity was couched in rather vague and generalised terms but the soft flute and violin music was quite enjoyable.

We were then requested to write the names of those who needed healing in the book in the centre of the room. As my father has recently injured his back, I decided that this was a good opportunity to test the absent healing powers. Unfortunately, the recipient of the ‘healing forces’ is supposed to be informed of them, so he can be a willing participant in the ceremony. The consequences for an uninformed ‘healee’ were not specified and although they are possibly too horrible to contemplate, I decided my father would have to take his chances.

After the names of the sick and dying were entered in the book, we all resumed our seats and were instructed to close our eyes and to hold our hands outstretched towards the book in the centre of the room. White and pink light then flowed (according to the prayer leader) from our hearts, through our arms and hands to the book. From here it was directed to the heavens, where it bounced off the “Spirit Angel” into the hearts of the ailing listed in the book. Curiously,

THE SECOND COMING

All the best from *the Skeptic*, 1986–1990

Health

neither the addresses nor the ailment of the recipient was required.

After the absent healing was completed, we all held hands and swayed one way and another to more flute music. Personal healing sessions were then conducted for those present who had the need, while the healthy were invited to go outside for tea and cake (at \$2 per head). The healers stood at the back of the room behind white chairs. I approached the first healer to be informed that I must first have my aura cleansed. This procedure was carried out at the front of the room.

Two female aura cleaners stood before a table containing a small statue and two burning candles. Each cleaner held a crystal and uttered prayers while raising and lowering the crystals above the candles. We were then required to stand still while the crystal was moved up and down our bodies, front and back, in a continuous flowing motion, which covered the whole body. The style of crystal did not seem to be important; my aura was cleaned with a long clear/white crystal while the person next to me was cleaned with a cricket ball sized pink crystal.

As with the absent healing, no description of the ailment was required. The healer waved her hands around me while I sat in a chair with my eyes closed. No crystal was used, though the healers hands had a heavy rose scent. This took about five minutes and was quite relaxing. The completion of the healing was indicated by the laying of a hand on my shoulder and a request that a donation be left in the hands of the Buddha downstairs. Obviously, my experience does not rate a scientific investigation of Applied Theosophy and its healing powers, but my stiff neck has freed up and my cold has ‘miraculously’ cleared. Unfortunately, my father’s back has not improved.

IT'S ALL NATURAL!

