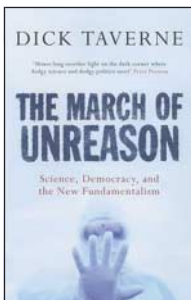


# reviews

BOOKS • CD ROMS • ART • WEBSITES • MEDIA • PERSONAL VIEWS • SOUNDINGS

## The March of Unreason: Science, Democracy, and the New Fundamentalism

Dick Taverne



Oxford University Press,  
£18.99, pp 310  
ISBN 0 19 280485 5

Rating: ★★★☆

Let me start with a brief quote, not from Dick Taverne's book, but from an essay unpromisingly titled "Constructivism in the works of Gibson" by (allegedly) Stephen McElwaine of Harvard and John Geoffrey of the Massachusetts Institute of Technology. A warning: you may find it hard going. But stay with me—it's only a paragraph.

"If one examines precultural narrative, one is faced with a choice: either accept postmaterialist textual theory or conclude that sexual identity has intrinsic meaning. But a number of deappropriations concerning the difference between class and sexuality exist. Baudrillard uses the term 'precultural narrative' to denote not theory *per se*, but subtheory. Therefore, Sontag's model of the postconceptual paradigm of context implies that the *raison d'être* of the observer is deconstruction."

Did you understand that? If you think you did, the understanding lies exclusively within your own brain because that passage—and the essay from which it came—was the 1 536 888th written by a computer. Each is unique and each was created, on demand via the web, by a program developed at Monash University called The Postmodernism Generator. It may make grammatical sense, but it has no meaning.

Such twaddle could never, of course, be taken seriously, let alone published in a learned journal . . . or could it? The celebrated hoax of 1996 in which New York physicist Alan Sokal submitted a spoof article to the journal *Social Text* reveals otherwise. Increasingly irritated by a coterie of social theorists who were persistently sniping at science, Sokal's intention was to show that these particular emperors of radical thought were intellectually naked.

His paper—an essay on quantum gravity stuffed full of buzzwords, scientific errors, and fashionable but irrelevant jargon—was accepted and published. Sokal had demonstrated his point.

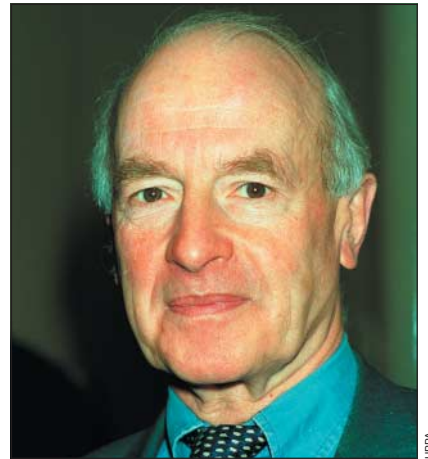
In *The March of Unreason*, Dick Taverne quotes the Sokal affair as evidence that science is under attack. And not only from social theorists, who are, in practical terms, the least of his concerns. Animal rights' campaigners, practitioners of alternative medicine, some politicians and clerics, pressure groups such as Greenpeace, Friends of the Earth and all forms of what he calls "eco-fundamentalism" . . . these and many others are among the enemies of scientific progress. On account of the nature of science and its reliance on evidence, Taverne sees any attack on it as an attack on reason. And because democracy too depends on evidence rather than authority, anything that suppresses or damages science tends to undermine democracy itself. Momentous stuff.

If, like me, you're sympathetic to science this is all rather frightening. And if, again like me, you find yourself arguing with friends who reject the MMR (measles, mumps, rubella) vaccine, become angry with priests who spread lies about the anti-infective value of condoms, or despair over the quality of debates on genetically modified crops and nuclear power, then you will find yourself largely in sympathy with Taverne. Largely—but maybe not wholly. And here's the problem: the man is so passionate in his cause that he is in danger of setting up a fundamentalist camp of his own—a scientific fundamentalism that seeks to deny all limitations on the pursuit of truth, and especially those limitations favoured by non-scientists.

He would, I'm sure, deny this. And his words are there to support him. He applauds the Royal Society's recommendations for public consultation on the future development of nanoscience; he pays tribute to the well informed Parliamentary debates and public discussions that preceded decisions on embryo research. But the problem is less in the words than in the tone, especially when he lays out the appropriate limits to public involvement.

More public input into science, he claims, would mean more orthodoxy, more political correctness, and more control. And popular or political control over the research that scientists want to pursue has always proved fatal to good science.

Always? The remark appears just half a dozen pages after Taverne's own tribute to



Taverne: too passionate?

the process that gave us our enlightened (his term) rules on embryo research. Far from hamstringing science these rules offer researchers a clear space within which to operate, and serve to defend them from those real enemies who would indeed try to stop the work.

When it comes to relationships with the public, science still has something to learn from medicine. Time was when decisions on what was to be done to and for patients' bodies were matters solely for the physician; the patients' only role in the relationship was to follow instructions. The dilution of medical authority has not been an entirely comfortable experience, and is not without certain drawbacks—for patients as well as practitioners. But the net gain is such that it is difficult to imagine either party wishing to reverse things.

Compared with medicine, the impact of science on our lives is less immediate and less personal, but, in the wider scale of things, no less important. Some people assert their wish to influence the development of science in ways that are bigoted, backward looking, irrational, or just bloody minded. *The March of Unreason* offers plenty of examples. But simply battenning down the hatches to repel each and every boarder is a mite too simple. And it won't work.

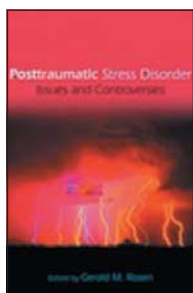
Odd how one can agree with so much of the detail of a book, while feeling slightly queasy about its broader perspective.

Geoff Watts freelance medical journalist  
geoff@scileg.freeserve.co.uk

Items reviewed are rated on a 4 star scale  
(4=excellent)

## Posttraumatic Stress Disorder: Issues and Controversies

Ed Gerald M Rosen



John Wiley & Sons,  
£24.95/€37.50, pp 288  
ISBN 0 470 86285 8

Rating: ★★★☆

It is not hard to make psychiatric diagnoses. Ask the questions, elicit the symptoms, open the *DSM IV*, tick the boxes, and you have it. One set of symptoms means schizophrenia. You don't need to think about the cause, which is fortunate, as we don't know it. Another set of symptoms and a different set of tick boxes, and then this is depression. Again, the label says nothing about the cause, which is also fortunate, as it may have been anything from a long list of psychological, social, or physical hazards.

Another set of tick boxes and the label might be post-traumatic stress disorder (PTSD). However, this time the label does indeed specify the cause: trauma. Out go the intricacies of psychiatric formulation—the complex interplay of genes, early environment, education, marriage, life events, physical illness, and so on. Here was something simple. The appearance of the new diagnosis of PTSD in 1980 was part of America's attempts to come to terms with the upheavals of the Vietnam war. Vietnam veterans were troubled for one reason and one reason alone: they had been to Vietnam. Yet,

as the essays assembled here by the psychiatrist Gerald Rosen confirm, this seductive simplicity was deceiving, as even the illness of Vietnam veterans was complex. The experience of war played a part, to be sure, but in a context of personality, upbringing, class, culture, and politics.

Belatedly our modern “traumatologists” have come to accept that the invention of the disorder did not reverse half a century of knowledge and that the person exposed to the trauma matters just as much as the trauma itself to which they have been exposed. Hence some of the essays in this collection are perhaps not quite so contentious as their authors would have us believe.

However, another controversy shows no sign of resolution. On the one hand, as Rosen expresses it in his pithy foreword, “many, if not most, traumatologists believe that PTSD is a timeless, acultural psychological response to overwhelming trauma.” In this view the traumatologists are saviours who have finally broken the centuries old taboo on admitting suffering and forced a reluctant society to wake up to the psychic reality of trauma. On the other hand are the sceptics who, while not disputing the capacity of adversity to cause distress and even disorder, consider such reactions to be mediated by culture rather than “hardwired” in the brain.

Gerald Rosen has assembled a talented group of contributors, many of whom are psychiatrists and psychologists. He has also persuaded a historian and an anthropologist of trauma to provide perhaps the most penetrating essays. The military historian Ben Shephard delivers the biggest kicking to the traumatologists. He takes them to task for ignoring or, worse, misrepresenting the history of the first and second world wars. Shephard articulates the key dilemma. How does society “discourage the mass of the

population from developing psychiatric problems while simultaneously behaving fairly and humanely to those who do break down?”

Nearly every chapter ends by posing similarly challenging and occasionally unanswerable questions. Why, asks the anthropologist Allan Young, did traumatic neurasthenia, in which the central problem was physical and psychic exhaustion resulting in symptoms that included unwanted memories, give way to traumatic stress, in which it was the memories that came first and the symptoms and exhaustion second? Moving to the present, how do we avoid applying psychiatric labels to the normal reactions of distress or dismay felt by most people after tragedies?

The Australian psychologist Richard Bryant asks why psychological debriefing fails to work and probably even makes you worse. One definite sceptic, the psychiatrist Derek Summerfield, wonders why we have turned our back on valuing stoicism and reticence in the face of adversity, in favour of emotionalism and disclosure. Watching the coverage of the Asian tsunami, I was struck by how several Western experts professed themselves astonished by the resilience, courage, and even cheerfulness of the survivors. One mental health specialist, reporting live on radio from a Sri Lankan village, expressed his surprise that the children he encountered seemed keener to return to school than talk about their experiences. They were, he told the listeners, “clearly in denial,” and “only later will they experience the full emotional horror of what has happened to them.” How he knew this was not stated. The programme's presenter back in London concluded, “Of course, everybody knows that children are the most vulnerable to trauma such as this.” Actually, no—children can be remarkably adaptable and are more resilient to trauma than older generations.

At the start of the second world war US psychiatrists believed they could identify which conscripts would experience mental breakdowns if exposed to combat and, by excluding them from military service, “save these boys from horror.” Yet even with those young men removed—nearly two million of them—rates of psychiatric breakdown remained as high as ever. It took George Marshall, the chief of staff, to halt the screening programme, because the drain on manpower was costing America the war. Many of those who had been denied service were now re-enlisted, and most made satisfactory soldiers. General Marshall had restored sanity, says Shephard, but “how the present confusion will be brought to an end is hard to predict.”

**Simon Wessely** director, King's Centre for Military Health Research, Institute of Psychiatry, King's College, London  
s.wessely@iop.kcl.ac.uk



PHILIP JONES GRIFFITHS/MAGNUM PHOTOS

Vietnam: nervewracking stuff

**P+** A longer version of this review is available on [bmj.com](http://www.bmj.com)





## The rise of reality science

Over the coming year a batch of programmes featuring human experiments will hit television screens across the UK. Best described as a rendezvous between reality television and scientific experimentation, they are set to follow in the footsteps of such controversial programmes as *Cheating in Athens* (review *BMJ* 2004;329:207) and *Torture: The Guantanamo Handbook* (review *BMJ* 2005;330:543).

Science programmes, just like all other television genres, follow trends. The new formats have come a long way since the highbrow traditional documentaries featuring “talking heads” that, judging by BBC *Horizon*'s message board ([www.bbc.co.uk/sn/tvradio/programmes/horizon/index.shtml](http://www.bbc.co.uk/sn/tvradio/programmes/horizon/index.shtml)), many scientists remember nostalgically.

While informative, the older formats often had limited appeal and failed to generate a major debate outside a select audience. Hamish Mykura, head of history, science, and religion at the UK's Channel 4, says that the ultimate aim of broadcasting is to reach a broad audience. “What you set out to do is bring people to a programme, who wouldn't normally be interested in that area. It's important to deliver what is often a detailed, complex scientific topic in an interesting way and when television works best, that's exactly what it does. To say that programmes that are entertaining and informative can't communicate credible science is to completely misunderstand the way that television works,” he says.

A prime example is *Jamie's School Dinners* (review *BMJ* 2005;330:678). Lobbyists and scientists featured on health programmes had been advocating that junk food was rather unhealthy for years, yet chemical and fat laden food continued to be served up to the UK's schoolchildren. But when reality empirical television was coupled with a well known celebrity, the chef Jamie Oliver, public health became accessible and touched a national nerve. The phone lines on radio chat shows were jammed with disgruntled callers demanding for heads to roll. Politicians and policy makers sat up and listened.

Edward Briffa, a former executive producer at the BBC's specialist factual science unit, who now runs his own production company, says: “Putting things to the test, what you might call experimentation, has become a major technique for a lot of television programmes.”

He pins the move towards empirical television on to a seminal *World in Action* programme in the 1980s. The programme makers pitched *Times* columnist and former Conservative MP Matthew Parris to live

for a week in a deprived part of Newcastle on unemployment benefit—the then princely sum of £26.80 (€38.97; \$49.24). Parris had been an ardent defender of the low levels of benefits for unemployed people, but in practice found it impossible to live on. Issues surrounding poverty in the UK had long been debated on television, but had not really scored many political points.

Television is a medium that thrives on human stories. Mr Mykura says, “It's much easier to show people experiencing something than it is just having a talking head talking about what it's like to experience that. It's about getting closer to somebody's own reaction to something. That's why these programmes seem a lot more vivid and, in many ways, are a lot more attractive to audiences than traditional documentaries.”

While the empirical genre looks set to continue and turns to televising human experiments for the next big trend, it is worth noting, before scientific purists start heckling from the sidelines, that these programmes are not necessarily intended to represent a gold standard study or a publishable study.

“I think they are borrowing the clothes of science—ie, we have a hypothesis and we'll put it to the test,” says Mr Briffa. “You can see this in *Wife Swap*. But it would be extremely rare that anyone would be rash enough to claim that the outcome is designed to do the same as a scientific experiment. The outcome of these kinds of programmes, depending if they're factual or purely entertainment, is to make the subject more engaging. They're a concrete way of providing a natural cliff hanger. This is intrinsic to drama and it's intrinsic to a test—that's why they're so popular.”

There are a number of reasons why human experimentation on television can't observe many of the conventions of a proper scientific test and these limitations run throughout the whole production process.

Firstly, the selection procedure cannot be randomised and introduces selection bias. It's impossible to get a random sample of people—television researchers don't want a participant to clam up in front of the camera or have a personality that fails to grab the audience. They've got to be interesting, and researchers will select them accordingly.

Moreover, it is hard to see how any experiment involving or modifying human behaviour can be extrapolated to draw conclusions about society in general when, during filming, a television camera and boom microphone are looming overhead. While people may become accustomed to being followed around by a cameraman or



*Jamie's School Dinners*: extraordinary impact

observed by a static camera, it is only really possible to say that this person acted in this way in this particular set of conditions.

There are other ways in which the programmes fall down scientifically. There is rarely a control group, the trials are certainly not double blind, and the sample size barely makes double figures. Nor do the researchers put their work through a peer review process, or have to gain approval from the research ethics committee. But the programmes are subjected to tight ethical controls and guidelines. Mr Mykura says, “The guidelines that control programmes are pretty stringent when they're undertaking these kinds of projects. The producers' guidelines issued by different broadcasters and those of Ofcom are all fairly specific.” Although one of the participants in *Torture: The Guantanamo Guidebook* commented to the *Sunday Telegraph* that he “realised just how meaningless the term ‘informed consent’ can be.”

However, Mr Briffa doesn't think that this type of programme that uses the scientific tradition sees the communication of science as its first objective. “I think they're principally factual entertainment—entertainment that happens to dip into factual stuff when they feel inclined. A good example is *Plastic Surgery Live*. Its first purpose is not to communicate a balanced account of the pros and cons of plastic surgery.”

But he urges caution about simply disregarding this type of programme. “It's all very well and good to say, ‘Bah humbug’ about these sorts of programmes, but look at *Jamie's School Dinners*. That has done, or looks like it will do, such a lot of good for the nutritional diet in England, that I don't think traditional or orthodox documentaries would have done.”

Mr Mykura agrees: “By using this format, you can really bring in a wider audience who are intrigued by the proposition and then deliver a very serious message. That's why these programmes are so powerful and important. When they're done well they can have an extraordinary impact.”

Deborah Cohen editor, studentBMJ  
dcohen@bmj.com

## PERSONAL VIEW

## Text messaging and breaking bad news

It all began with a routine screening mammogram squeezed in over the lunch period between breast assessment clinics. As I watched my films slide out of the processor, there it was in my left breast: a tiny spiculate smudge. I asked my rather bemused radiographer colleague to do further views of my left breast. It didn't go away. I sneaked into the empty ultrasound room and, with one eye on the door, quickly placed the ultrasound scanner on my breast through a small modest window in my clothing. I thought I could see something. Then again perhaps I couldn't. Any breast clinician will tell you that ultrasonography is not normally performed under these conditions.

I then sent my first text message of many to my friend and colleague. "Hi, I think there is a small breast cancer on my mammogram. Can I see you before clinic tomorrow? Mammograms are on your desk. M." As is typical of any doctor who becomes a patient, the diagnosis was not easy, and eventually, after a highly suspicious magnetic resonance image, I had a core biopsy done 40 hours before I was due to fly to France for a skiing holiday.

"Can you text me my result?" I asked my colleague. She looked horrified. As breast radiologists and clinicians working in the screening service our most difficult job is to give bad news. But by text? Suddenly with black humour we could imagine the headlines, "Patient receives diagnosis of breast cancer by text message." Surely the ultimate cruelty. And so we shied away. Even though I felt fine about it, it was not fair to ask my colleague to do that.

The biopsy was rushed through by another colleague in pathology, and on the evening before I was due to fly I had a provisional result given in person, face to face, at my home: "Probably malignant, probably grade I with a good prognosis." It was enough. I was upbeat. I told my children and reassured them and the next morning flew to France to ski.

Text messages were my lifeline while I was away. Every so often there was a comforting buzz and jingle in my ski jacket pocket as the messages came through on chairlifts, on the top of mountains, and in mountain top cafes. The messages, which I could read at leisure, were mostly short but sweet, and comforting words were used that

are not always easy to say face to face. I kept the messages on my phone, and in the dead of night when a few tears would fall I would reread them.

"Can we discuss you at the multidisciplinary meeting?" said one. I tried to imagine being discussed at the weekly meeting I regularly attended. "Yes, I think so," I replied. I wanted to play safe and go through the same channels as everyone else. I was careful not to ask my colleague any leading direct questions by text, yet I wanted to know if my "probably malignant" diagnosis was now definite. "I hope the diagnosis is now definite. Much easier to deal with," I wrote. She was able to reply, "Yes but no worse than you are expecting." I understood.

**"Can you text me my result?" I asked my colleague. She looked horrified**

I thought of nothing else during that half term ski break. Luckily my 16 year old son was scooped up by our friends, and his days were spent in wild, off-piste skiing. I will be forever grateful to them for this. My husband did not leave my side.

"Surgery has been arranged for next Friday. Thought you would be pleased."

"Delighted. Thanks for everything," I replied. It was so good to hear that things were moving.

On my return, before and after surgery, text messaging remained an important part of my life. My family, friends, and colleagues continued to text me messages of support.

My husband, having fought steadfastly against the mobile phone culture, eventually succumbed; and the messages from him were the sweetest. While in hospital I have to admit that I received and sent a few illicit text messages under the bedclothes. My non-medical friend was bemused by "Peeing blue dye and have a blue nipple. Don't ask, M," sent after sentinel node surgery.

I have remained upbeat. My breast cancer was grade I and node negative, with an excellent prognosis. Working as a breast clinician has undoubtedly helped me to stay positive and to know that I am lucky—not only to have had this small, low grade tumour but also to have knowledge of my condition and wonderful colleagues and friends as my carers.

And text messaging? Breaking bad news by text? I think not—and certainly not in the foreseeable future. But for me it was a marvellous comfort to know that things were moving along while I was away. I am now a texting addict, but unlike my children I still need to look at the keypad. I still mostly spell and punctuate correctly, and what's more I can't do any of it without my reading glasses.

**Monica Lamont** breast clinician, United Bristol Healthcare Trust, Bristol  
Monica.Lamont@ubht.swest.nhs.uk

## SOUNDINGS

*Compassionate care*

An 87 year old woman is brought to the emergency room of a small Chicago hospital. She has had a stroke. She is unresponsive, stops breathing, and is intubated and connected to a ventilator.

Later it turns out that she has not had a stroke at all. She was brought by her daughter from another state and has been demented for seven years. She has no papers, no visa, no insurance. She came to the US 20 years ago as a visitor and stayed on. One of her daughters collects public assistance for her two children. She also had no visa and was to be deported, but the order was vacated on grounds that she had not had adequate legal representation. She then married an American to obtain a green card and soon after that divorced him. The other daughter has a visitor's visa and visits her native country three times a year to maintain her visitor's status.

Six months go by, or more. The little hospital, always teetering on the brink of bankruptcy, has run up a bill of almost \$2m (£1.1m; €1.6m). The woman is still on a ventilator. She needs special nursing, frequent turning, skin care, tube feeding. Administrators, lawyers, and ethics committees are deeply involved. The finance officer is tearing his hair out. The daughters want everything done and believe she will recover if given massive doses of antibiotics. They at last agree to have her transferred to a nursing home, but only provided that the hospital pays for her care. An announcement goes out that the woman has left. Many predict that she will be back soon.

She is one of thousands of "undocumented" patients receiving care in America (it is politically incorrect to call them illegal aliens). They come for open heart surgery, chronic dialysis, cancer treatment, hypertension, or diabetes. They come across the long Mexican border, by boat from the Caribbean, as visitors from Africa, Asia, eastern Europe. They are directed, as by a hidden hand, to hospitals that it is known will not refuse them. They sometimes arrive there directly from the airport. They often bring their doctors' reports, x rays. Renal patients come with functioning catheters ready to have dialysis. Others go straight to the cardiac lab. They all receive care. They never leave. They cost taxpayers billions of dollars. Who says that the American healthcare system is not compassionate?

**George Dunea** attending physician, Cook County Hospital, Chicago, USA

*We welcome submissions for the personal view section. These should be no more than 850 words and should be sent electronically via our website. For information on how to submit a personal view online, see <http://bmj.com/cgi/content/full/325/7360/DC1/1>*