



Book: When Smoke Ran Like Water: Tales of Environmental Deception and the Battle Against Pollution

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BMJ 2003;326;452-
doi:10.1136/bmj.326.7386.452

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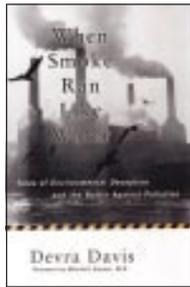
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reviews

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When Smoke Ran Like Water: Tales of Environmental Deception and the Battle Against Pollution

Devra Davis



The Perseus Press, £14.99,
pp 316
ISBN 1 903985 50 1
www.theperseuspress.com

Rating: ★★

This book begins by describing the air pollution disasters that occurred in Donora, Pennsylvania, in 1948 and in London in 1952, along with accounts of the health effects of more current conditions. Then follows a look at scientific uncertainties in the environmental health field, and how commercial interests sometimes exploit these to postpone or derail environmental regulations. There are chapters on breast cancer and male reproductive health

in relation to environmental factors, and a look at environmental health problems in developing countries and the possible health consequences of global change. The author finishes with a call to arms, urging the reader to stand up to injustice and economic pressure in the battle for a clean and healthy environment.

When Smoke Ran Like Water is at its best when describing how commercial interests have harassed well known environmental health scientists in attempts to downplay the seriousness of, say, the effects of environmental lead on the IQ of children. Such pressures are not unusual and most environmental health scientists will recognise some of their own experiences in these sections. However, the book comes close to blaming much of the lack of knowledge and uncertainty in our field on such pressures, creating an “us or them” atmosphere that leaves little room for nuance or exception.

The chapters on “subject matter” I found less convincing. When she writes about air pollution—the subject I am most familiar with—Devra Davis, who teaches at Carnegie Mellon University in Pittsburgh, makes an alarming number of errors. She describes inversion layers as cold air on top of warm air (it’s the other way round), says that particles between 2.5 and 10 micrometres are removed in the upper airways (they penetrate into the thorax), and claims that the 1930 fog

disaster in the Meuse Valley hit the city of Liège (it stayed out of it—many more people would have died if it hadn’t). Also, effect estimates are often misquoted by an order of magnitude. The list goes on. In a field that attracts criticism from industry and environmentalists alike, we need a little more rigour.

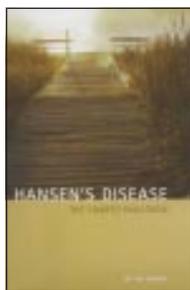
It is a pity that the author repeatedly, in support of central arguments, refers to sources such as television documentaries and reports by non-governmental organisations, and then claims that because of the pressures mentioned earlier, “these findings are unlikely to ever appear in the scientific literature.” Solid research papers published in the best peer reviewed journals are the field’s best defence (“bullet-proof vests”) against the guns that are being hired by various interest groups. Dr Davis hasn’t organised her defences properly.

My feeling at the end was that Dr Davis is largely preaching to the converted. This book will not succeed in convincing more sceptical readers that serious environmental health problems still exist. More rigorous environmental epidemiology is needed to analyse such problems in support of appropriate public health measures.

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Hansen’s Disease: The Shared Paradigm

M.J de Mallac



The Book Guild Ltd, £12.95,
pp 116
ISBN 1 85776 597 4

Rating: ★

The word leprosy evokes a range of responses. To the patient it means devastation and fear of being outcast; to an immunologist it is a complex tissue-damaging immune response; to a surgeon it

may be the problems of protecting a neuropathic foot. It is these differing perspectives that de Mallac sets out to explore through a series of Socratic dialogues. In true French fashion he starts out with a statement of his philosophical position, rejecting Cartesian thinking and focusing on developing the notion of a shared paradigm and conceptual framework that he argues is needed for effective action against leprosy.

De Mallac progresses from a historical to a social analysis of leprosy. He looks at how hereditary and sanitary aetiologies were seriously considered in the 19th century while fish eating was briefly popular as a cause in the early 20th century. He has interesting observations on how society kept itself unpolluted by excluding leprosy patients, and how the mythologies of leprosy increase the marginalisation of patients by giving them a distorted image of disease.

De Mallac is rightly critical of the World Health Organization leprosy elimination campaign, which set the target of eliminating leprosy as a public health problem by 2000 (elimination was defined as reducing

prevalence to less than 1 case per 10 000 population). This was to be achieved by rigorous application of multidrug therapy, and de Mallac points out that multidrug therapy alone is unlikely to interrupt transmission. This is because *Mycobacterium leprae* can survive in the environment for months and the disease has a long incubation time. The WHO target was also based on the premise that when prevalence reached 1 case per 10 000 population the disease would die out naturally, but there is no evidence to support this.

This is a difficult book to read. It is written in an excessively philosophical style, but without using data to develop arguments. Many will share de Mallac’s deeply felt need for an approach to leprosy that encompasses the immunological, therapeutic, self-awareness, and psychological needs of leprosy patients, but this book is unlikely to convince sceptical readers of the importance of his arguments.

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



Mr Placebo

Traverse Theatre, Edinburgh, until 1 March
www.traverse.co.uk/
 Drum Theatre, Plymouth, 6 to 22 March
www.theatreroyal.com/

Rating: ★★

The Traverse Theatre has brought us some of the United Kingdom's best new plays and this latest offering, written by Isabel Wright, promised much. It kicks off with the brilliant scenario that the mini society created by a drug trial, with its privations and restrictions, serves as a microcosm in which to explore concepts such as chance and fate, personal responsibility, and the morality of modern science.

The action centres around four men in their early 20s who enrol for a clinical trial of an unnamed drug. They are doing it purely for the money and apart from this have little in common with each other.

The main character, Jude, has an additional reason for being there. Frank, his estranged father, has lung cancer and is in an upstairs ward, where he is taking part in a therapeutic trial of a standard chemotherapy against a new regime. He doesn't know which drug he has been given, nor can he find out.

Jude tries to influence what drug Frank receives, in the hope of saving his father's life.

Unfortunately, the play fails to live up to its potential. The four young men become overwhelmed by boredom and their relationships degenerate into a mindless power struggle, with the trial collapsing in an orgy of sabotage. Meanwhile, the Frank and Jude plotline similarly fails to break new ground and blandly articulates a semidysfunctional relationship between father and son. What is set up as a life and death struggle, a dying father at the mercy of experimental science, is left unresolved. By the end, we don't find out what happens to Frank and the dramatic tension drains away.

Also, the play's title implies that the drama will explore the concept of what a placebo is, but Wright does not appear to fully understand her subject. Thus, she presents Frank's predicament of being offered one of two active treatments as "a placebo trial," which it cannot be. Similarly, she undervalues the dramatic possibilities of the drug trial in the main plot. Two of the characters refer to the idea that one of them might be "the placebo guy," but this idea simply gets kicked around in platitudinous exchanges.

It would have been more interesting to watch one or more of the characters having an adverse reaction to the trial drug. Then the play could have challenged the moral standpoint of the investigating scientists. Instead, the investigator (the implacable nurse Silas) spouted uncontested bulletins of science's success stories and no one was



An ingenious concept, not fully tested

left any the wiser about what the trial, or the play, was really about.

Most of the acting was convincing and well directed. But, as a whole, the play failed to deliver and I left with a sense that its ingenious concept had not been fully tested in the Traverse's famed laboratory.

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WEBSITE OF THE WEEK

Personality types A paper in this week's *BMJ* (p 429) suggests that medical students who scored highly in tests that measure the personality trait of conscientiousness tended to do better in their preclinical work. It is interesting, though, that the same trait does not predict success in clinical studies. The authors say that scores for conscientiousness could aid selection for interview but it is not clear quite how this suggestion follows from the results. Few will consider that marks in preclinical assessments constitute an adequate criterion for judging whether the right people are being trained as doctors.

The website of the American Psychological Association contains a discussion of how personality influences ability to discharge a task (<http://helping.apa.org/work/personal.html>). It is not really surprising that conscientiousness (being responsible, dependable, organised, and persistent) predicts performance in many jobs from managerial to semiskilled. But for other occupations, particularly those that require creativity, conscientiousness may be a liability, rather than an asset.

Trait theories depend on the idea that personality can be measured by a series of binary oppositions. Eysenck thought that two oppositions, extroversion to introversion and neuroticism to stability, were enough. But others have added agreeableness to antagonism, conscientiousness to undirectedness, and openness to non-openness to make the five-factor model or "big five" dimensions of personality: www.personalityresearch.org/bigfive.html explains the deep theoretical divide between these terms.

In the Christmas *BMJ*, Laporte argued that PowerPoint was taking over from journals as the preferred method of scientific communication (*BMJ* 2002;325:1478-81). Certainly PowerPoint lectures on the web are a useful resource for learning. Wanting to know a little more about structural equation modelling—the statistical technique used in this week's *BMJ* paper on predictors of medical student performance—it was easy to find an accessible explanation (www.jeremymiles.co.uk/misc/fun/index.htm). However, the site's title, *Fun with Structural Equation Modelling*, may say something about the personality traits of statisticians.

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Hit parade

bmj.com

These articles scored the most hits on the *BMJ*'s website in the week of publication

JANUARY

- 1 Education and debate: The ethics of intimate examinations—teaching tomorrow's doctors**
 2003;326:97-101
 7057 hits
- 2 Editorial: Drug treatment of hypertension**
 2003;326:61-2
 5608 hits
- 3 Clinical review: Care of the dying patient: the last hours or days of life**
 2003;326:30-4
 5590 hits
- 4 Learning in practice: Transferability of principles of evidence based medicine to improve educational quality: systematic review and case study of an online course in primary health care**
 2003;326:142-5
 5164 hits
- 5 Education and debate: The making of a disease: female sexual dysfunction**
 2003;326:45-7
 4980 hits
- 6 Editorial: Contraindications to the use of metformin**
 2003;326:4-5
 4474 hits
- 7 News roundup: The market for medical journals is anticompetitive, says expert**
 2003;326:182
 4265 hits
- 8 Editorial: The causes of autism spectrum disorders**
 2003;326:173-4
 3012 hits
- 9 ABC of antithrombotic therapy: Anticoagulation in hospitals and general practice**
 2003;326:4-5
 3006 hits
- 10 News: Urologist recommends daily Viagra to prevent impotence**
 2003;326:9
 2938 hits

Magazine's HIV claim rekindles "gay plague" row

The US glossy magazine *Rolling Stone* is best known for its coverage of the latest music and movies. But recently it tried its hand at a little HIV epidemiology, and found itself accused of sensationalism and virulent homophobia.

In a feature called "In search of death," published in its February issue, the magazine suggested that a new craze is sweeping America. Thousands of gay men each year are apparently seeking out HIV positive partners in order to become infected. These men are known as "bug chasers." The men who give them the virus are "gift givers."

This was not the first story about bug chasing—in September 1997, for example, *Newsweek* ran a feature entitled "A deadly dance" that discussed the phenomenon. What was shocking about the *Rolling Stone* article was its assertion that an astonishing 25% of all new HIV infections in gay men was caused by bug chasing.

The article profiled one bug chaser called Carlos (a pseudonym), a 32 year old gay man living in New York, who has an intense desire to become infected with HIV. The moment of transmission, said Carlos, will be, "the most erotic thing I can imagine."

Becoming HIV positive, said the article, will initiate Carlos into "a brotherhood." He will apparently become part of a flourishing community of bug chasers and gift givers who meet online in chat rooms dedicated to "barebacking" (having unprotected anal sex).

"Carlos," said the piece, "has been chasing the bug for more than a year in a topsyturvy world in which every convention about HIV is turned upside down. The virus isn't horrible and fearsome, it's beautiful and sexy."

If *Rolling Stone* has its figures correct—that a quarter of new HIV infections are from bug chasing—Carlos is just one of many

thousands of bug chasers in America. It is this assertion that has infuriated members of the US gay community, who fear that conservative groups will use the article to attack gay men for reckless behaviour.

Larry Hanbrook, from San Francisco's department of public health, told the *Bay Area Reporter* (30 January), a weekly gay newspaper, that "almost everyone I know is angry because the information is spurious, is unfounded, and is untrue."

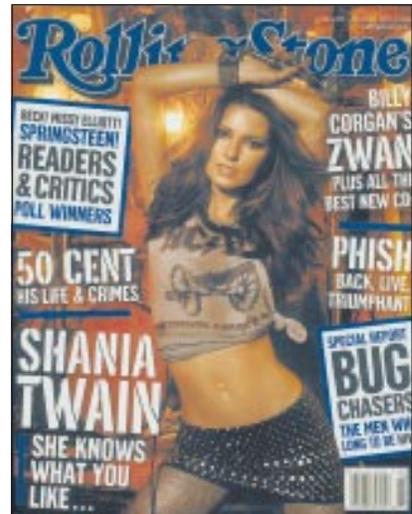
The Gay and Lesbian Alliance Against Defamation (www.glaad.org) called the piece "grossly sensationalistic reporting" that "sends a dangerous, inaccurate message that is already being exploited by the anti-gay right."

Rolling Stone says that its data came from an interview with Bob Cabaj, director of behavioral health services at San Francisco's department of public health. But immediately after the piece was published, Cabaj asserted that he never mentioned any figures on the prevalence of bug chasing. In a letter to *Rolling Stone*, which was forwarded to the *BMJ*, Cabaj wrote: "I did not have data, as I explained to the [*Rolling Stone*] author, but was saying it was probably more common than people wanted to think."

And in an interview with *Newsweek* (23 January), Cabaj distanced himself even further from the widely quoted prevalence data: "I never said that [it was 25%]. And when the fact checker called me and asked me if I said that, I said no. I said no. This is unbelievable."

The US media also questioned the validity of *Rolling Stone's* data. The *Washington Times* (24 January) quoted Jessica Frikey of the Centers for Disease Control and Prevention as saying, "No studies have been done to see how many 'bug chasers' there are."

In an editorial on *Salon.com* (24 January), the respected columnist Andrew Sullivan said that the *Rolling Stone* piece was "riddled with unbelievably shoddy work." He gave one striking example—the piece had said that there were 40 000 new HIV infections each year in the US, so around 10 000 each year were caused by bug



chasing. But the 40 000 figure, said Sullivan, refers to all HIV infections per year, of which 42% are in men who have sex with men. "So even if you buy the bizarre 25% figure," said Sullivan, "you don't end up with 10 000, you end up with 4200."

So why did *Rolling Stone* suggest that the phenomenon was so widespread? Perhaps, suggested UK Sunday newspaper the *Observer* (26 January), because its new British editor, Ed Needham, wanted to create a stir so that people would start noticing the magazine. "Such a sensational impact," said the paper, "was exactly what was demanded from colleagues by Needham when he took over last year."

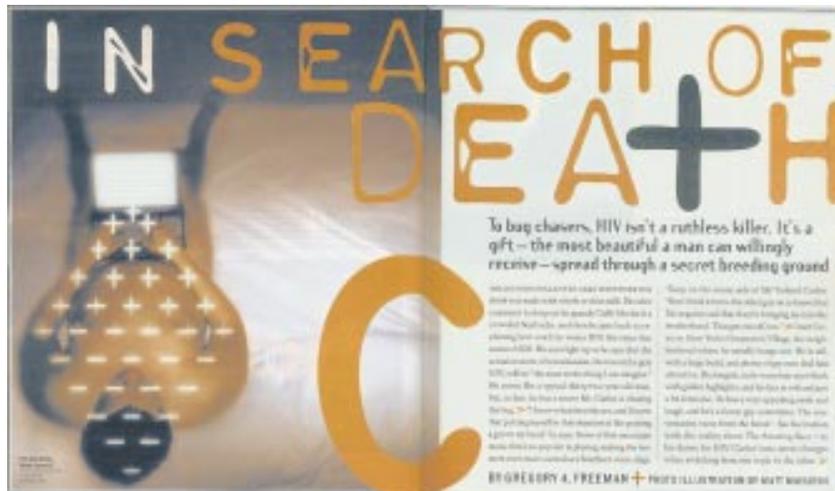
Rolling Stone's sensationalism may have helped to sell more mags, but it has taken the world back two decades to a time when the media characterised gay men as disease-ridden perverts, and HIV as a "gay plague." The magazine's branding of gay men as bug chasers and gift givers, said Andrew Sullivan, suggests that they are "heading toward another selfish, disgusting and sickening AIDS Armageddon."

And by stirring up hysteria about what may be an extremely rare phenomenon, *Rolling Stone* missed a far more important story—namely, that health professionals are failing to get the prevention message across to people both within and beyond the gay community.

With perfect timing, a new documentary called *The Gift*, which puts the issue of bug chasing within the context of a worldwide pandemic that shows little sign of slowing down, premiered last week at the Berlin International Film Festival. The film's maker, Louise Hogarth, told the *Bay Area Reporter* (30 January), "We need to change the [prevention] messages." She added: "The issue is the failure of prevention. What we are doing now is not working."

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Critics have called the *Rolling Stone* article "grossly sensationalistic reporting"

PERSONAL VIEW

Alternative prescribing and negligence

Negligence is the lack of proper care and attention; carelessness or an act of carelessness. A negligent act may be of no consequence. It may be of the utmost consequence and for the licensed medical profession, a negligent act can lead to criminal charges and removal of your name from the Medical Register. We are trained to avoid negligence and are now regularly audited to ensure this. Fear of negligence determines much of modern medical practice. Are similar standards applied to others?

My story concerns an alternative medical practitioner/pharmacist, an example of the kind of non-traditional practitioner, with apparent training in holistic medicine, that the House of Lords and other bodies have recommended.

It was a damp Friday evening when I set out from a lecture to return on the train to Bath. Walking along the crowded pavements I was troubled once again by a recurrent low back pain, a longstanding complaint relieved for the most part by intermittent non-steroidal analgesics and relaxation. My customary relaxation technique having failed, I sought the former remedy. Failing to locate a Western-based pharmaceutical outlet, I entered a Chinese herbal-based alternative medicine holistic centre. The shop was empty and I approached the alternative practitioner stating that I was looking for a painkiller. She promptly offered me one at £8.99. I questioned whether just one drug was adequate given the level of my pain and she asked where the pain was. She offered me an additional remedy and informed me that it acted in a synergistic fashion. I looked concerned and then told her the following story, which she had not asked for.

For the past month, I explained, I had been much troubled by an unremitting pain in the lower back, present both day and night, aggravated by movement, and not relieved by rest. I added that I felt very unwell, was shivering, and that I had lost weight. My expression and demeanour demonstrated, I hope, the pain, anxiety, and suffering. The practitioner handed me the two "synergistic bottles" of medication, but I could assess neither of them as the labels were in Chinese. She offered a course of acupuncture, telling me how much it would cost and how long it would last. I hesitated, awaiting further questions; none were forthcoming. I asked for evidence of the efficacy of the medicine and was informed courteously that Eastern medicine had a tradition that extended over a thousand years, that evidence was based on serial anecdotal observation with a constantly changing practice to refine and optimise the therapy. I

was told that it was only Western medicine, which had a much poorer historical base, that required the scientific proof that I appeared to request. I did not purchase the compounds and bought a non-steroidal from the nearest Western outlet. I was advised to seek medical attention.

We teach doctors in training that "common things occur commonly," a dictum with which one cannot argue. This, no doubt, was the basis of my alternative practitioner's prescription and lack of advice. Statistically it was most likely that, despite my history, I still had mechanical low back pain and therefore there would be little adverse consequence to my taking the medication offered.

There would have been no form of redress if the treatment had failed

Our pronouncements to medical students are reinforced by a second dictum: always diagnose the treatable and important, even if it is not the most common or likely explanation for the patient's symptoms. A medical student or a Western pharmacist should have been alerted by the "red flags" indicating potentially serious pathology. Testicular cancer with secondaries would be on the list, as might an infection.

In medicine and pharmacy our training is arduous and long and it licenses us to proceed with caution, provided that we are assessed and audited on route. My alternative practitioner was, I believe, negligent. She was operating from premises licensed by the local council and advertised as offering Chinese medicine. She was therefore providing a service of which I had a reasonable expectation of benefit and for which she charged. There would have been no form of redress if the treatment had failed or if, as a consequence of her lack of diagnostic skills, I had died. The House of Lords and other bodies encourage us to embrace alternative medicine. They must re-examine their position.

I am hoping to conduct an appropriate national audit using "stealth methodology" with a clearly defined primary end point to test the null hypothesis that an alternative medical practitioner is more likely to advise a physical examination for symptoms suggestive of serious pathology than an outlet that prescribes standard Western medicines.

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Competing interest: DB has a degree in "evidence based medicine" and a licence to practise from the General Medical Council. He receives programme and infrastructure support from the Arthritis and Rheumatism Council (UK). The views expressed here are his own and do not necessarily reflect the views of his employers (NHS/university) or sponsors.

SOUNDINGS

Dying we live

On the stairs an evocative odour lingers. The anatomy department has gone but its lecture theatre remains: blackboard, dusty skylight, and tiered half-circle of fiercely uncomfortable benches exactly as they were. Even decades on there is a flicker of the bad-dream feeling of being trapped back in school, ignorant and accountable. The brachial plexus? The decussation of the pyramids? The foramen of Monro?

But someone has kindly removed the skeleton that stood sentinel on the hundreds of hours of anatomy teaching no one seems to need any more, and this afternoon a different audience climbs the wooden steps and settles down.

For years each new professor in our now quite ancient medical school has made a first impression here. Today's inaugural lecture brings together the mixture as before: undergraduates and postgraduates; friends and family; and a little platoon of gowned professors, on this occasion outnumbered by their retired forebears—the generation who taught us. After 20 minutes in the soothing half-light, a fair few of the latter have dozed off. Now they know. For the rest, discomfort takes its toll or memories distract. A minority pays attention and learns a lot.

Apoptosis—programmed cell death—was first thought of just 30 years ago and about 200 yards away: an observation and an idea that have gone on to deliver vast amounts of impressive, competitive, and seriously expensive international research.

Orderly cell death matters in growth and disease, and the emerging details are increasingly complex. Suddenly the sound system drowns our speaker in a random howl. People wake and listen, but have missed the intricacies, the elegance of recently determined apoptosis mechanisms, and—of course—their possible role in cancer.

A vote of thanks and we are free to go. A senior sample from three generations of Edinburgh medicine disperses: middle aged and older, some now very old and frail. Outside in the New Quad it is dark and cold.

Soon the New Quad, an elegant Italianate 1880s courtyard complex once the heart of the medical school, will be downgraded and abandoned to public health; 4 km to the south east, a boxy white building, contemporary in design and visibly temporary in comparison, is already in use. It sits within a PFI project and has a much shorter expected life. But it will do for now. Dying, we live.

Colin Douglas *doctor and novelist, Edinburgh*