reviews

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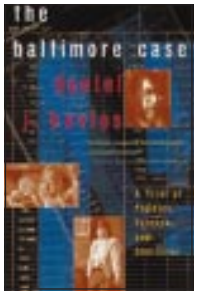
The Baltimore Case: A Trial of Politics, Science, and Character

Daniel J Kevles



W W Norton, £21, pp 448
ISBN 0393041034

Rating: ★★★★

The story would make a marvellous soap opera. The research, into immunological genetics and published in *Cell*, is complex, made worse by the inadequate English of Teresa Imanishi-Kari, the Brazilian-Japanese research worker. Accused of fraud, she is defended by her charismatic but hubristic boss, the Nobel laureate David Baltimore, who takes on a congressional committee. The whistleblower, Margot O'Toole, a young Irish radical, loses her job, house, and career—but receives international honours and publicity for her courage. After 10 years and seven inquiries, reviews, and the final, successful, appeal, the US immunological establishment has disagreed about guilt or innocence, and even the secret service has examined the research records.

The subtitle—"A Trial of Politics, Science, and Character"—of David Kevles' beautifully written book, then, is apt. Importantly, he corrects any wrong emphasis in the record (the accusations received frequent publicity in the lay and scientific press, the outcome much less prominence). For Imanishi-Kari was guilty only of sloppy science. O'Toole's tribulations were invented by the media: her post had finished and could not be extended, she had chosen to move to her mother's house, and she had not applied for a further research job. Only later, moreover, did she allege fraud: her original concern had been the study's accuracy, but this had altered after she had talked to a colleague and to members of the congressional committee staff. Finally, but hardly surprisingly, the secret service made a cock-up of validating the inks used in the computer printers.

The background to "the Baltimore case" (so called to reflect his protagonism, though he was never accused of fraud) was a decade of misconduct cases inadequately managed by the prestigious institutions and scientists involved. Given its vast investment in research, congress had ordered an investigation, chaired by the Democrat, John Dingell. Dingell was sincerely concerned about the issue, but his style was hectoring and he was aided by zealots and bullies, who extensively subpoenaed documents but then withheld them from the accused, and made frequent leaks to the media. At the congressional hearings, though, Dingell was to be worsted by Baltimore, who had already conducted a publicity campaign and insisted on having the last word. Many scientists felt that he had gone too far: congress had a legitimate role in such inquiries, and science funding might suffer. Such concern surfaced when Baltimore subsequently became president of Rockefeller University, and, though he was popular with the younger faculty and had succeeded in raising new research funds and cutting costs, he was eventually forced to resign.

The eventual finding in Imanishi-Kari's favour had a positive outcome. Baltimore himself was restored to the great and the good of US science and is now a colleague of Kevles at Cal-Tech. Imanishi-Kari was reinstated in her Boston post, while the National Institutes of Health was forced to reorganise its mechanisms for dealing with alleged fraud. Crucially, its Office of Scientific Integrity, formed in 1989 during the inquiry and run on an academic basis by dialogue with the accused, was transmuted in 1992 into the Office of Research Integrity, grounded in due process—furnishing the accused with details of the charges, allowing access to documents and cross examination of witnesses, appointing a neutral panel of inquiry, and prohibiting leaks.

Whatever the hurts, the Baltimore case resulted in a serious approach to tackling a probably small but important feature of any society. Ancien regimes, such as Britain, with their continual emphasis on doing little but brushing such distasteful episodes under the carpet, could learn a lot from this book and the example set across the Atlantic.

Stephen Lock *former editor, BMJ*

Corrections and clarifications

Minerva
In the third paragraph of Minerva in the issue of 7 August (p 392), the reference was partly wrong. The article did indeed appear in *Prescrire International*, but the other details should have read "(1999;8:124-7)."

A patient's eye view of quality
In this "Personal view" by Claire Rayner (21 August, p 525), the last part of the second sentence in the sixth paragraph should have read: "otherwise we are unjustly labelled as 'do not attends' [not 'do nothing abouts']."

Hit parade

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Education and debate 1999;319:568-71
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Intensive Care Medicine

Ed Julian F Bion

BMJ Books, £45, pp 456
ISBN 0 7279 1076 0

Rating: ★★★

Anaesthesia has its roots in the basic sciences and interfaces with every branch of medical practice. The specialty thus seems particularly suited to the publication of series of books that are more than journals but, individually, are not comprehensive textbooks.

Intensive Care Medicine is the latest in the BMJ's series *Anaesthesia and Acute Medicine*. The editor is a recognised authority in the specialty, the book consists of 32 monographs by 52 authors, mostly from Britain but including some from continental Europe, Australia, and north America. It is refreshing that some of the contributors are trainees; the book cannot be regarded as merely the idiosyncratic musings of a self selected group of crusty old consultants.

The book is divided into three sections, the first being a historical introduction, necessarily brief because intensive care has only been around for four decades. Secondly, four essays on the pathogenesis of critical illness set the scientific scene. Thirdly, the main body of the book comprises 25 chapters covering many clinical problems as they manifest in intensive care.

Each chapter is some 12 pages long, easy to read, and well referenced. The highlights are the chapters on acute lung injury and ventilatory failure, which should be compulsory reading for all who work in an intensive care unit, even the cleaner. They present well referenced, clearly summarised advice on some of the commonest problems presenting in every intensive care.

Three other chapters are particularly worthy of attention. "Ethical Legal Issues" provides an authoritative review of consent in the management of adults and children, withholding and withdrawing intensive care, and the ethics surrounding research in the specialty. Its author, described modestly as "barrister at law," was, in a previous career, one of the country's foremost authorities on cardiothoracic intensive care and anaesthesia. "Tissue Hypoxia and Ischaemia—Reperfusion Injury" is the uninspiring title of a clearly explained, logical discussion of the mechanisms underlying cell damage during and after shock. It emphasises the role of free radicals and the place of antioxidants. These mechanisms are relevant to so many disease processes that all of us should have an appreciation of this science. "Obstetric Critical Illness" describes, in some detail, the presentation and current management of uncommon but potentially disastrous complications of pregnancy—HELLP syndrome, eclampsia, amniotic fluid embolism, and acute fatty liver of pregnancy.

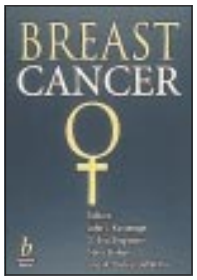
There is also a down side to the book. I was baffled by abbreviations in the chapter on cytokines: in one sentence the letters "TNF" appear six times. The chapter on the surgical abdomen summarises itself towards the end with the phrase "request a surgical consultation," reminding me of a now retired colleague who gave a lecture to the FRCS course on anaesthesia by saying "Leave it to the experts" and departing the room. The chapter on the critically ill child paints a picture using the only photographs of patients in the book, but it is overshadowed by the book *Paediatric Intensive Care* in the same series. I was disappointed by the omissions. Perhaps budget holders will be pleased that protein C managed only one line. I could find little practical advice theontherationalchoiceofinotropesandvasoactive drugs. Most worrying of all, there was nothing on septic shock in spite of recent outbreaks of meningococcaemia in teenage and student populations.

Anyone who reads this book cannot fail to appreciate the growth of intensive care from the "iron lung" ventilator to the scientifically based multidisciplinary management of some of our sickest patients. Who knows what the next 40 years will bring.

Ian Barker *consultant anaesthetist, Sheffield Children's Hospital*

Breast Cancer

Eds J J Kavanagh, S E Singletary, N Einhorn, A D DePetrillo



Blackwell Science, £66, pp 208
ISBN 0 632 04431 4

Rating: ★

When I am asked to be involved in a new book on breast cancer or when I simply read one, I ask the same question: "Do we need any more textbooks on this subject?" Evidently people buy and read them, otherwise publishers would not continue to produce them. They are usually written or edited by experienced clinicians working in centres treating large numbers of breast cancer patients. This may explain their popularity because for no other cancer is there such good evidence that patients treated by doctors who manage large numbers of cases have a better outlook than patients treated by doctors who look after small numbers of breast cancer patients.

Although this book was published in 1999, the inside cover indicates that sections of the book were originally published in *Cancers in Women* in 1998, which explains why three of the four editors are gynaecologists. Most medical textbooks are out of date by the time they are published, and authors and editors have to hope that, for two or three years after their book is written, there are no major new studies published on that subject. In this respect, the authors and editors of this book have been unlucky. The latest reference in the book is 1996, and there have been many studies published since then—including the collaborative group report investigating the association of hormone replacement therapy with breast cancer, reports of three cancer prevention trials with tamoxifen, a second overview of the early breast cancer trialists group looking at adjuvant hormonal therapy and chemotherapy, studies of the value of aromatase inhibitors as second line agents in metastatic breast cancer, and two studies on DCIS looking at the roles of radiotherapy and tamoxifen. Of course, none of this information appears in the book.

Apart from being three to four years out of date, the book is well written. It starts with an excellent chapter covering risk factors as we understood them in 1996. At that time, we thought that the cumulative lifetime risk for a woman carrying the BRCA1 gene was 85%, but subsequently it has become clear that the penetrance of the BRCA1 gene varies from family to family and lifetime risk for most BRCA1 carriers is closer to 60%. The chapter on controversies in breast screening suggests that there is negligible difference in rates of cancer detection between one view and two view mammography, but this statement is in direct contrast with the results of a recent UK study. There is a very sensible chapter on breast biopsy, the only omission being the use of vacuum assisted biopsy procedures, which have been introduced since 1996. The chapter on adjuvant therapy relies heavily on the first overview findings published in 1992, which have been superseded by the second overview published in 1998. Breast cancer in elderly women is well covered, and the chapter dispels many of the myths that have surrounded treatment in this age group.

It is always depressing to find that, when a book comes out (often years after you have written or edited it), its use is limited by the advances that have taken place since it was written. After the hard work of putting this book together in 1995 and 1996, the authors and editors must feel disheartened that, for whatever reason, it has not been published until 1999. Perhaps they will have better luck with the second edition.

J Michael Dixon *senior lecturer in surgery, Edinburgh Breast Unit, Western General Hospital, Edinburgh*

The problem with medical advice columns

Studies show that patients get most of their health advice from the media. Doctors, however, are fond of blaming broadcasters and journalists for inaccurate reporting and scaremongering. But is this criticism justified? After all, much of that advice is offered by doctors writing health columns.

The accuracy of information in the lay press was recently examined in Canada. The study looked at a random sample of 50 advice columns on geriatric problems which were written by doctors and published in 11 different Canadian daily newspapers in 1995 (see News, *BMJ* 11 September, p 658). The group of geriatricians who evaluated these columns found that 28% gave potentially life threatening advice, in 22% critical issues were not clearly identified, and in 14% opinion was likely to be interpreted as fact.

Given the number of patients now arriving at general practitioners' surgeries clutching newspaper articles, it is time for a wider review of these advice columns. Various methodologies have been developed to produce measures of quality for consumer health information—such as DISCERN, an instrument for judging the quality of consumer health information on treatment choices—and some of these could help in evaluation of health columns. How do the UK newspapers' advice columns rate? I regularly read them, firstly, to try to be one step ahead of my patients, and, secondly, to see what wrong advice patients may be exposed to. A quick glance at a selection of recent columns reveals that the quality of advice is mixed.

The *Sunday People* has Dr Vernon's casebook looking into why "I can't find a lover man enough to satisfy me." He responds: "By and large women are more highly sexed and more imaginative than men. They have much dirtier minds, are far less prudish and are more willing to be adventurous in bed or in the park." Is he reporting the findings of his own unpublished, double blind, randomised controlled trial? More dangerously, in the same column is the question: "Does someone's sex drive disappear if they don't have sex for a while?" To this he replies: "Yes. Use it or lose it." I'd like to know on what evidence he bases that statement. Don't use it but lose it might be a better way to approach Dr Vernon Coleman's advice.

From a dubious evidence base to the possibly misleading. Dr Mark Porter of the *Sunday Mirror* was asked how radiotherapy worked in breast cancer and what the likely side effects were. He replied: "It is an effective form of treatment in breast cancer and tends to be fairly well tolerated by most patients." Generally true, but it is inadequate and potentially misleading because radiotherapy stops local recurrence but does not stop the spread of the cancer elsewhere, nor does it affect five year mortality.

By contrast, Dr Ann Robinson of the *Guardian*, in answer to a question about "swollen" breasts, writes: "Gamolenic acid may help and is very unlikely to cause side effects"—a statement that is supported by research evidence even though it is not mentioned. Dr Miriam Stoppard of the *Mirror* does even better when asked about a TENS machine for back pain. She explains: "Tens is beneficial in about 60% of cases, but pain relief in some people lasts only during stimulation."


UPPA

Dr Miriam Stoppard


NICKY JOHNSTON/RADIO TIMES

Dr Mark Porter

Other columnists, such as Dr Fred Kavalier of the *Independent* and Dr Phil Hammond of the *Express*, give commonsense advice that you would expect from any good general practitioner. They may not, however, generate the excitement level that Dr Rosemary Leonard of the *Daily Mail* does by extolling the virtues of a "New test that could discover an allergy."

So what would improve these advice columns while maintaining their readability and avoiding dismissal of everything that isn't scientifically "pure"? Health articles, whether by doctors or journalists, can be readable, fun, and factually correct—they just need some time and research. In general, it would be useful if the writers were more specific about both the reliability of the evidence on which they were basing their assertions and the numbers of patients in broad terms who might find improvement with an intervention. A cautionary note is that the use of numbers can make an assertion seem true when there is no firm evidence. Sarah Brewer shows how in answering a question in the *Daily Telegraph* on the usefulness of multivitamins. She says that it is a good idea to take a vitamin and mineral supplement and quotes research involving 96 older people who took multivitamins for a year. Apparently, they had better immune responses to influenza vaccine and half as many days ill with infections compared with people not taking multivitamins. Were there sufficient patients in this trial to support these claims? Were the two groups comparable? She does not tell us.

Columnists can do more to give their readership a better understanding of the reliability and applicability of their advice, both in general and individual terms. Is this asking too much? Many doctors do have difficulty explaining evidence and risk, but that should be exactly what sets these columnists apart. As a consequence, patients might be better placed to gauge when they are being misled or misinformed. Selling newspapers, however, doesn't always equate with talking sense.

Ann McPherson *general practitioner, Oxford*

WEBSITE OF THE WEEK

Complementary medicine It was with trepidation that I accepted the brief to try to pick a few good sites from the multitude that I knew must be out there. In fact, an AltaVista search on "complementary medicine" yielded only about 20 000 hits—not many by the standards of the modern web, but still far too many to be searchable. Google (www.google.com), now out of beta but working as well as ever, comes to the rescue. It returns keyword based searches ranked by the number of links to a site, which is a good measure of the site's importance. Its top pick is the US government's National Centre for Complementary and Alternative Medicine, which is one of those sites that is so well organised that it can be difficult to find the content. However, nccam.nih.gov/nccam/what-is-cam/ is a good place to start, with guidance for those considering adopting alternative or complementary therapies.

At www.healthy.net/clinic/therapy/index.asp the Alternative and Complementary Medicine Centre has a workable database that allows searches for practitioners in each field. As ever, the picks are US dominated, but the search is truly international and could be useful for residents of most English speaking countries, although there is only as much information about each practitioner as you might find in a telephone book.

This, of course, is the key point. How can you judge whether the standards of practice are safe and effective? The answer is that, as for conventional medicine on the web, you generally can't. Private practitioners need self promotion, and the largely small scale of alternative practices means that there are a plethora of small scale websites with little good quality content.

Douglas Carnall
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PERSONAL VIEW

The machismo of medicine

I recently enjoyed a dinner with a group of junior doctors, and as always it was not long before the conversation turned to medicine. Of course, it was not an academic discussion of the latest advances in surgical procedures, nor the swapping of vignettes from recent journal articles, but the more common subjects of medical disasters, hospital mayhem, and job dissatisfaction, with the usual smatterings of blood, guts, and excrement thrown in.

These are the usual themes of the junior doctors' dinner conversation. Small, harmless stories are told first, but it proceeds in snowball fashion gathering momentum in a spiral of oneupmanship. Who has the worst rota? Who is working for the least supportive, slave driving consultant? Who has the goriest story of trauma and disaster to tell? A young senior house officer tells the story of an 18 year old who threw himself in front of a train and is brought to the accident and emergency department in two ambulances. But this is immediately surpassed by the specialist registrar with the tale of the death of a 6 month old baby subjected to indescribable abuse by drug addicted parents. Stories typically begin with "When I was doing that job" and "That's nothing compared with…." A senior house officer working a 1 in 3 rota is shouted down by stories of the old days when 1 in 3 was luxury.

There is no time for condolences or discussion of the impact that these events have had on what is a typical group of young adults out for a meal. Anyway, that would go against the grain of the general ethos of medicine. Machismo flows as freely around the table as the wine does. Women are not exempt, and younger doctors with fewer stories to tell run dry, but there is always someone else to fill the quiet.

I, of course, am not without fault and pitch in with my latest story of the psychiatric patient found in a pool of blood after cutting his throat and both antecubital fossae. I relate to my colleagues how, as the only doctor in the hospital, I handled the situation with authority and confidence. No mention of the fact that I was physically shaken afterwards and had blood soaked dreams that night. No mention of how I jealously watched the nurses leave the hospital together at the end of their shift to go out for a drink and talk through what had happened. They, of course, would have the nursing debriefing the following day to work through the way the event had affected them. I was left, as the youngest and most junior member involved, to continue my 24 hour shift without another word.

In the age of improved working conditions for junior doctors this is still a neglected area. People, and that includes the doctors themselves, must realise we are not a group of thick skinned, desensitised robots for whom traumatic events are like water off a duck's back. We must realise the true effect that our job has on us, which is reflected in appalling rates of drug and alcohol misuse, suicide, and divorce. Difficult working conditions, long hours, and frequent exposure to traumatic situations lead to copious emotional burdens that we carry home with us. We use denial and machismo to down play the effect.

> We as doctors need to admit the burdens we carry

That night's conversation was not an example of callous, arrogant young doctors spouting off about work, as people at the next table may have thought. In truth, it was a group of young adults performing a necessary and vital act of trying to cope with stresses that people in other professions cannot imagine. We allow ourselves the catharsis of telling stories when in medical company as our own form of lay therapy. It unburdens us at the end of the day and allows us to return to work tomorrow.

> We use denial and machismo to down play the effect

There needs to be acknowledgment of the emotional and psychological impact that our jobs have on our lives. Unburdening ourselves under the guise of telling horror stories should not be the only method we have of dealing with this. Many hospitals now provide support in the form of counselling services to doctors, and this has to be a positive step. But most doctors avoid such services for fear of being labelled as someone not coping, which is the worst admission for a junior doctor pumped up with the machismo of the profession. More important than demanding that the hospitals provide such services, we as doctors need to admit the burdens we carry in order to begin to deal with them. We must use the services available to us and demand that those available are appropriate and sufficient. Mind you, if we do succeed in finding other channels to unload our baggage, what does that leave us to discuss around our dinner tables?

If you would like to submit a personal view please send no more than 850 words to the Editor, BMJ, BMA House, Tavistock Square, London WC1H 9JR or email **editor@bmj.com**

Stephen Dinniss, *psychiatric trainee, Gloucester*

SOUNDINGS

Do you believe in God?

As he left the consulting room he turned.

"Do you believe in God?" he asked.

He was a man in his 40s with two young children and prostate cancer.

I don't think that I answered.

He didn't, he said.

The terminal care went well until the end. But he was young, and his bodily systems did not fade gracefully as with older patients. He was restless and inadequately sedated at the end, probably through my inexperience.

He would half rise from the bed, shouting, "Midnight, darkness, death." We were privy to the echoes from his tortured mind. It was a disturbing experience for his wife, his young children, and our district nurse. In the end we had to transfer him to hospital and he died there.

My experiences with believers have been different. I think of the slow death of a monk in our local monastery. It was serene and peaceful.

What about the medical carers? Does their faith or lack of it make a difference? I am not aware of any evidence on the subject, although I would be surprised if there was none.

Those events have stayed with me for some years, haunting those occasional sleepless hours before dawn. I learnt much later that my colleague, our district nurse, had sought professional help after the experience. It never occurred to me to do the same—a reflection, perhaps, of the way that we treat ourselves as a profession.

I can't recall now why I didn't answer my patient when he asked me whether I believed in God. I think it was partly surprise. Also, perhaps, the stumbling qualification you feel with the dying, searching to see if you are saying the right thing in the right way.

But also, in the end, it was the massive imprecision of the terminology. Do you mean the same as I do by the question?

I am reminded of the story of the erudite theologian who was sometimes suspected by the zealots of heresy. A journalist confronted him.

"Do you believe in God?" he asked.

The theologian eyed him cautiously. "I can answer you," he said, "but the answer is complex, and I can promise you that you will not understand my answer. Do you want me to go ahead?"

"Certainly."

"All right. The answer is yes."

Kevin Barraclough, *general practitioner, Painswick, Gloucestershire*