

BOOK REVIEW

Ernst, E. (2015). *A Scientist in Wonderland: A Memoir of Searching for Truth and Finding Trouble*. Exeter, UK: Imprint Academic. ISBN 978-1-845-40777-3

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Introduction

The intended audience of this book is medical practitioners and the users of complementary and alternative medicine (CAM). The writing in *A Scientist in Wonderland* is clear and engaging. It combines good storytelling, sensitive autobiographical writing with important insights about medicine, science and analytic thinking. Despite all the troubles Ernst encountered, his story could be seen as inspirational, specifically for budding authors of memoirs. His honesty in confronting difficult experiences is outstanding. Ernst appears naïve in the book in his expressions of surprise about the intense resistance from so-called complementary and alternative medicine practitioners to his research agenda. For readers with special interests in this subject an index would have been helpful, because due to its lack it is necessary to study every chapter for specific themes.

Edzard Ernst: the early years

In Chapter 1 “Early Days” the author Professor Edzard Ernst, tells how his father had served in Hitler’s army as a physician, first on the Western Front and then in Russia. He survived being a prisoner of war in Siberia. He was released about two years after the war ended and then Ernst was born. When Ernst was just four years of age his parents split up. A relative of his mother had been a General in the Waffen SS. By the age of eight he was reunited with his family. Ernst writes very sensitively, in the first person, of his early days studying medicine and in Chapter 2 he describes how he became “A doctor at last”. In his first job following medical school, he worked as a junior doctor at Germany’s only homeopathic hospital in Munich and practised a range of alternative therapies. He received training in acupuncture, autogenic training, herbalism, homoeopathy, massage therapy and spinal

manipulation. At the time, he recognized the implausibility of homeopathic preparations as therapy, but he observed that patients often got better with homeopathic treatment instead of nonsensical drugs they had been taking. This apparent paradox left him with questions he would try to answer in his future scientific investigations using proper controls for sources of bias.

In Chapter 3 Ernst describes how he became Professor in Physical Medicine and Rehabilitation (PMR) at Hanover Medical School and in 1990 Head of the PMR Department at the University of Vienna, one of the most prestigious institutions in Europe. Heading up the Department of Physical Medicine and Rehabilitation, Ernst was in charge of more than 100 staff serving an enormous hospital. At first, he relished the role, but before long the darkness set in. “They spent their time intriguing against each other and that cost so much energy.” After four years of enduring petty and sometimes vicious bureaucratic infighting among his colleagues in Vienna, he moved on to the University of Exeter where he established the UK’s first chair in complementary medicine in 1993. But his studies were met with a hostile response from practitioners. “That puzzled me for a very long time,” he says. “Why shouldn’t they be delighted to have somebody trying to back up the science of what they are thinking and doing? I think it is because alternative medicine is basically anti-establishment, anti-science.” If there had been a surprise, it was a very gradual realising that more than 90% [of CAM] does not live up to the claims and the expectations of alternative therapists. He is not afraid of a fight. Indeed, as professor of complementary medicine his determination to apply rigorous scientific analysis to everything from homeopathy to acupuncture triggered a furore that ricocheted from the halls of Academia to St James’s Palace, London.

Ernst at St. George's

Ernst related the time he was hired to join a research team on blood rheology (the study of blood fluidity) at St. George's Hospital in London. He writes that his roughly two years at St. George's developing himself as a basic and applied research scientist with critical and analytic thinking skills was the happiest time of his life. He describes his medical school experience as offering an overwhelming amount of knowledge to absorb for the benefit of future patients, but with little opportunity for critically analysing the facts he was expected to learn and little opportunity to develop as a researcher. However, by completing an MD thesis on blood clotting abnormalities in women experiencing septic abortion, he gained research skills that he would apply later in his career. This experience enabled him to realize the vital importance of scientific analysis in medicine. He spent two years at St George's studying and publishing on rheology combined with clinical work with patients who had severe circulatory problems.

After 500 job applications Ernst was offered an appointment in 1979 in the new St George's Psychiatric Hospital in Tooting in south London. This was a distressing six-month unhappy experience which is described in Chapter 3 "A Golden Cage". He hated working there because of being involved in the ECT clinic and patients being sedated for being "difficult". He says that the last straw was when he found out that several of his female patients were in the habit of prostituting themselves at night to passing truck drivers outside the hospital walls. This chapter also includes his two years planning, conducting and publishing rheological experiments as the happiest time in his life. In Chapter 4 "Mission Impossible" and Chapter 5 "Trials and Tribulations" he articulates the struggles between orthodox medicine and alternative therapies. In Chapter 6 "Wonderland" Ernst explains that: "In health care it is unwise and arguably unethical to give 'the benefit of the doubt' to under-researched therapies."

Homeopathy and retirement

Homeopathy has had the continuous support of the Royal Family in Britain and much of the social elite as well as a large middle-class following. Ernst describes an episode as "the most unpleasant period of his entire professional life". The trouble started in 2005 when he publicly attacked a draft report by economist Christopher Smallwood that had been personally commissioned by the Prince of Wales. He described the report, which claimed complementary and alternative medicine (CAM) was cost effective and should be available on the NHS, as "complete misleading rubbish". But Ernst was himself strongly criticised for disclosing the report's contents before they had been fully reviewed and published. In Chapter 7 entitled "Off With His Head", he writes: "Prince Charles has continued to promote alternative medicine indefatigably, often showing himself unwilling or unable to distinguish between real health care and blatant quackery, between medicine and

snake oil, or between the truth and some half-baked obsessions of his own." The last chapter is entitled "The End of the Road" when all fundraising for his Unit ceased, forcing him to use up its core funding and allow its 15 staff to drift away. He retired in 2011, two years ahead of his official retirement.

Examining alternative medical practice

But Ernst did not set out to wage war against the unconventional. Indeed, fresh from his studies, he began his career in a homeopathic hospital "To me, homeopathy wasn't as strange as it would be to many other people because, in a way, I was brought up on homeopathy - our family doctor was a homeopath," he says. But something did not quite fit. He had of course noticed that in medical school one does not hear about [homeopathy] except for when the pharmacologists go into a blind rage about it. Chatting to his boss at the homeopathic hospital, Ernst became curious. "I asked him why patients could get better on homeopathy. His answer should have made me think a lot because he didn't say 'because of our homeopathic remedies'; he said "because we discontinue all the rubbish medicine they come in with." And perhaps this was the first time he started thinking critically about what homeopaths were doing. Indeed, the homeopathic remedies were simply placebos - and Ernst is clear about the ethics. He would promote placebo effects, but not placebo: "If I have a patient who has a condition and I treat it well according to the best evidence, and as a good doctor with compassion and empathy, then this patient will benefit from a placebo effect. Just giving them a pure placebo, like homeopathy, is cheating the patient." Ernst has big concerns about the placebo effect. As a clinician he wants his patients to get better and concedes that how that happens takes second place. But as a researcher he finds it very difficult to sanction a treatment that appears to have no intrinsic effect. It is regressive - a huge step backwards into the dark ages of medicine - because it does not lead anywhere. That said, Ernst does not disregard the placebo effect; he believes it should be studied in greater detail. Why a spiritual healer elicits a huge placebo effect where a doctor does not is a fascinating research conundrum. The phenomenon is important to understand, he says, as all practitioners want to exploit it.

A Letter to the Royal Pharmaceutical Society

Ernst sent an open letter urging the Royal Pharmaceutical Society of Great Britain to crack down on high street chemists that sell homeopathic remedies without warning that the remedies lack evidence for claimed biological effects. According to him, this disinformation would be a violation of their ethical code. He said his plea was simply for honesty. Let people buy what they want, but tell them

the truth about what they are buying. He explained that these treatments are biologically implausible and the clinical tests have shown they do not do anything at all in human beings. The argument that this information is not relevant or important for customers is quite simply ridiculous. Ernst says that homeopathy is among the worst examples of faith-based medicine. It is based on an absurd concept that denies progress in physics and chemistry. All fundraising for his Unit ceased, forcing him to use up its core funding and allow its 15 staff to drift away.

Ernst, who has had 48 books published and more than 1,000 articles in peer reviewed journals, remains steadfastly opposed to unproven alternative treatments and openly critical of the Prince of Wales. In July 2011, a Reuters article described his “long-running dispute with the Prince about the merits of alternative therapies” and stated that he “accused Britain's heir-to-the-throne Prince Charles and other backers of alternative therapies on Monday of being 'snake-oil salesmen' who promote products with no scientific basis” and that the dispute “had cost him his job - a claim Prince Charles's office denied”. After being investigated over a complaint made by Charles's former private secretary on Clarence House notepaper, (Sir Michael wrote to the University of Exeter's vice chancellor, citing a “breach of confidence” after the professor had been sent an early and incomplete draft of the report for comment), he retired early in 2011 and his department was closed.

CAM - spending time with patients

An important attraction of alternative, holistic therapies is probably the detailed questioning about individual background, family history, history of illnesses, tastes and preferences and current life situation. The ‘holistic therapies’ appear to offer a highly personalized approach to health problems. The practitioner has to establish the kind of person he is treating. What kind of weather does he prefer; which foods; does he worry a lot? Is he nervous of heights or closed-in spaces? Attempts are also made to determine the individual's general state of physical, emotional and spiritual wellbeing before offering treatment. Time has always been cited as one of the main ways in which alternative therapies pay attention to the individual; whereas conventional doctors might see a patient for five to ten minutes, alternative therapists regularly see their patients for an hour or an hour and a half. They ask questions about changes in emotional state and seek to find out about the apparently most minor physical symptoms. They want to know what the person has been eating, how much exercise they have been doing and how they are feeling. More than anything else it is this attention to moods, emotional states and predispositions of the personality that justify the claim of ‘whole person’ treatment.

Conclusion

Ernst insists he is not against all alternative or complementary therapies and claims there is evidence that some, including certain herbal treatments and acupuncture, can be effective. Others he dismisses as a waste of time and money and potentially dangerous. He is especially scornful of homeopathy, which is based on extreme dilutions of substances that are supposed to help the body heal itself. “For homeopathy we should be closing the book.” He concludes that: “They've had 200 years to prove that it's anything more than a placebo. That proof has failed, so let's now move on. Homeopathy is an example of a harmless treatment being quite harmful.” In this autobiography, Edzard Ernst explains how use of the scientific method led him to change his mind about the effectiveness of the complementary and alternative medicines he grew up with, as controlled trials showed that beneficial effects were mainly placebos. This work brought him up against powerful opposition that threatened his career. Ernst says that his research into CAM showed that most of the treatments in question were not effective and some were even outright dangerous.

Ernst's research into the history of the German and Austrian medical profession during the Third Reich demonstrated that the worst Nazi crimes would not have been possible without the willing and enthusiastic contributions of medics. The Nazis had been very fond of homeopathy and other “natural” therapies - he used to see them as essentially separate subjects. Yet there was an important link: medical ethics. Writing in the *Sueddeutsche Zeitung*, a journalist disclosed that Claus Fritzsche, a German journalist who had systematically defamed Ernst for his negative stance on homeopathy, with substantial financial support from five German homeopathic manufacturers. One of the firms paying him was owned by the son of Goebbels, the only one of his children who escaped the family's 1945 mass suicide in Hitler's bunker. A few months after these events Claus Fritzsche took his own life.

I strongly recommend this book which correctly subtitled: is “A Memoir of searching for truth and finding trouble” for people using unorthodox therapies as well as practitioners of these systems. It provides a very well informed account of searching in ‘Wonderland’.

Conflicts of Interest

The author reports no conflicts of interest.