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BOOK REVIEW

Not Even Trying: The Corruption of Real Science by Bruce G. Charlton. Buckingham (UK): University of Buckingham Press, 2012. 144 pp. £10 (paperback), $9.99 (Kindle). ISBN 978-1908684189.

Bruce Charlton describes in trenchant tone and terms the state of contemporary modern science in what I've called its decadent third stage (Bauer 2013). Lacking citations, the book is really an extended essay, but no informed observer will doubt the comprehensive accuracy with which Charlton points to present-day careerism, bureaucracy, overspecialization, dysfunctional incentives, and snowballing dishonesty; there is too much "science" (Bauer 2014) and too much influence of self-interested forces from outside science (commerce, politics, the media), and insiders fear to rock the boat even when they recognize that it needs rocking. All of that is in the starkest contrast to the popular misconception of science (Charlton's "Real Science") as a disinterested search for truth.

Charlton dates the "extraordinarily rapid—yet dishonestly concealed—collapse" from that ideal Real Science (in my view accurately [Bauer 2013]), from about the middle of the 20th century, paralleling what has happened outside science (Barzun 2000). Though Charlton describes his aim as "*opening eyes to the obvious*, of clarifying the already-known" (p. 135), the book nevertheless illuminates causes and connections in ways that can be fresh and useful, for example in asserting inevitability: "The main problem is that when science becomes big, as it is now, the social processes of science come to control all aspects of science" (p. 116).

Still, human beings can make choices even if they are only limited ones, and Charlton does assign blame for some aspects of the sorry present circumstances, for instance to the "leaders" who don't allow themselves to acknowledge what they know is happening: "Many scientists are now dishonest even with themselves, in the privacy of their own thoughts" (p. 24). "Trying strictly to be truthful would indeed be regarded as evidence of naiveté, or—if persisted-with—actively dangerous" (p. 21). That is illustrated for me by the colleague of Peter Duesberg who faulted him for not realizing that scientific careers require political savvy and for not falling in line with mainstream views even though they may well be mistaken (Farber 2006: Chapter 1). "It may be impossible to get a job, or get tenure, or promotion—except by dumping idealism and scientific ambition and

embracing low-risk careerism" (p. 26); "shame may not lead to remorse but instead to rationalization, to self-exculpation, to the elaborate construction of excuses—and eventually a denial of dishonesty. In other words, shame may lead to aggressive hypocrisy" (p. 30).

Most researchers will bridle, of course, at the charges of hypocrisy and dishonesty. But, as Charlton points out, most applications for research funds now require statements about what useful applications are likely to emerge from the research, and any such statements constitute untruths because such outcomes cannot be honestly predicted. By seemingly small steps like this, the contemporary scene has been led toward increasing dishonesty and an untrustworthiness of the whole enterprise of "science."

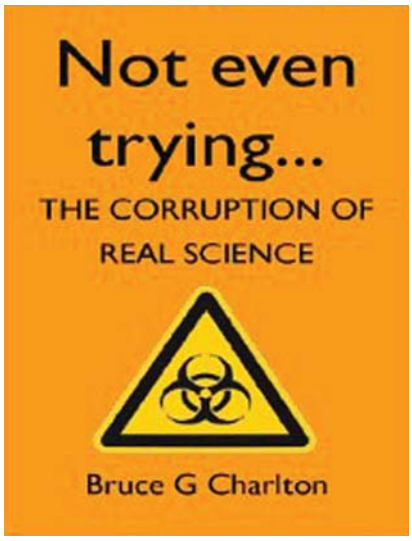
Consistent with these generalizations is that among those who are blowing the whistle (into the wind), for example Nobelist Randy Schekman (2013), there is a high proportion of people who are retired or otherwise have nothing to lose any more.

A point too often overlooked is that "Peer review is not necessary, nor was peer review a feature of science in its golden age, when science worked best" (p. 36). Peer review is nothing but a way of enforcing mainstream beliefs, akin to the functioning of committees in homogenizing everything to the lowest common denominator. "The over-expansion and domination of peer review in science is therefore a sign of scientific decline and decadence, not (as so commonly asserted) a sign of increased rigour" (p. 37). "Even those who publicly oppose and ridicule the idea of social construction of 'reality' behave as if a vote from a peer review committee of senior 'scientists' is the nearest possible approximation to truth—which is a view as close to pure reality-denying nihilism as makes no difference" (p. 45).

"[M]ainstream research is . . . simply unconcerned by matters such as seeking truth and rigid truthfulness in its discourse" (p. 18), a lack of concern that philosopher Harry Frankfurt (2005) has identified as the definition of intellectual bullshit. Charlton has coined the nice term "zombie science" for wrong theories that would remain moribund if it were not for support by vested interests.

Moreover, anonymous peer review, again like the use of committees, has the advantage that "*nobody-in-particular is identifiably to-blame* for the situation" (p. 37).

In Nazi Germany and the Soviet Union, political domination of science led to dysfunctional, erroneous "science" in biology and physics and chemistry. Commercial and bureaucratic domination of science in nominally free societies can lead to the same result, "science" that is wrong about the workings of the natural world—as we see already with respect to human-



caused global warming, HIV/AIDS, cosmology, and other matters (Bauer 2012). Contributing to going wrong is overspecialization:

"[M]icro-specialization is about micro-validation—which can neither detect nor correct gross errors in its basic suppositions. . . . [M]icro-specialization allows a situation to develop where the whole of a vast area of science is bogus knowledge; and for this reality of total bogosity to be intrinsically and permanently invisible and incomprehensible to the participants in that science" (pp. 91–92). Within micro-specialties, there can flourish ever-increasing theoretical complexity, like Ptolemy's wheels within wheels, serving to make any theory effectively unfalsifiable (p. 100). Science comes to lack coherence (p. 118 ff.): The theories of different micro-specialties are incompatible with one another, so that in effect these self-contained entities no longer care whether they are meaningful beyond their borders, again satisfying Frankfurt's (2005) criterion for bullshit. HIV/AIDS offers an illustration of these points: The epidemiology, genomics, immunology, supposed mode of action, and "treatment" of HIV do not cohere to produce a believable overall understanding—research or practice in each specialty proceeds without any apparent need to make sense outside its own domain; thus laboratory researchers and biostatisticians are clear that "HIV" tests are non-specific and prone to false positives and cannot identify actual infection by a human immunodeficiency virus (Weiss & Cowan 2004), yet all practicing physicians including those who administer antiretroviral drugs take a positive "HIV" test as demonstrating infection.

Charlton also identifies the myth that there is a scientific method (Bauer 1992) as the basis for the misguided notion that science can produce anything desired just so long as enough resources are supplied (p. 95). Charlton follows Michael Polanyi and Michael Oakeshott in emphasizing the significance of *tacit* knowledge and understanding, which is at odds with contemporary reliance on "objective" tests and mass training; Real Science was passed on through individual master–apprentice relationships. I see this as reflecting a wider social context in which individual judgments have been increasingly suspected and denigrated as possibly biased, to be

superseded by robotic checklists as supposedly more fair—which has led to the burden of "political correctness" about which Charlton has written a separate book (Charlton 2013).

Real Science needs to be based, in Charlton's view, on a conviction that there exists some transcendental truth, because doing science is not a value-free activity: "Although scientific knowledge is indeed morally neutral (and can be used for good or evil), the practice of science (including being a scientist) is certainly a moral activity—based on the habit of truth" (p. 41). Ends never justify means, means determine ends; so shading honesty in pursuit of funding results in progressively less honesty in the whole enterprise.

At the end of the text, Charlton describes his intellectual development, lists articles previously published by him, and mentions people whose ideas have been of particular significance for him. Earlier he had cited Erwin Chargaff, who recognized before most of us the decline of quality in science and who expressed his insights in delightfully acerbic prose (Chargaff 1977, 1978). Charlton does not talk about the end of his decade-long editorship of *Medical Hypotheses* when the publisher, Elsevier, capitulated to demands from HIV/AIDS researchers and emasculated the journal (Bauer 2012: Chapter 3), though the episode illustrates a number of the general points made in this book.

A reviewer dare not avoid mentioning Charlton's extraordinarily prolific and extraordinarily idiosyncratic use of hyphens, which does not however interfere with the commendable clarity of the text.

Every scientist and would-be scientist and everyone interested in science ought to read this work.

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