

BOOK REVIEWS

Forbidden Science by Richard Milton. London: Fourth Estate, 1994. 265 pp. £14.99(c) ISBN 1-85702-188-6, £6.99 (p). ISBN 1-85702-302-1.

In his latest book, Richard Milton gives short accounts of some well-known cases showing how scientists have tried, often successfully, to suppress inventions or new ideas that challenged orthodox belief. His writing is clear, cogent, and worrying to anyone who feels that science should be dedicated to discovery and not be a means of cushioning the careers of researchers, many of whom live comfortable lives while being condescending to the very taxpayers who provide the research funds.

Topics covered include alternative medicine, cold fusion, ESP, hypnotism, placebos, relativity, Velikovsky, and a range of inventions from TV to flying to radio that renowned "experts" deemed impossible even while the inventions were being demonstrated! I did note one lapse on Milton's part. While he praises mavericks who have the courage to defy scientific authorities, he gives credit to John Cairns for the original research into directed mutation, with subsequent replication by Barry Hall. Actually, the pioneer in this research is Australian Ted Steele, now being written out of the history books in a rather unscientific and spiteful manner.

Milton addresses this problem: how do we define pathological science? After giving various listings of what constitutes bad science, he looks at the famous experiment in which Millikan found a value for electron charge, and concludes that the experiment easily could be labeled pathological, using the criteria of orthodox vigilantes. The more outspoken of these "guardians" are dissected and found wanting. While pressure groups such as CSICOP claim they are defending the honor of science, their own behavior is lacking in objectivity and fairness. To me, this book is valuable for the conclusions Milton reaches. For example, his tactical approach to writing "what to report and what to avoid" is very well put in his examples of Haeckel and Kammerer (pp. 224-31). As well, he includes, and endorses, Peter Sturrock's guidelines for research into anomalous phenomena. One guideline of note is Sturrock's advice to avoid both total belief (the probability of $p = 1$) and total disbelief ($p = 0$), as these hinder rational research. Milton ends his book with 13 questions that he claims orthodox science cannot answer adequately. Referring to anomalies, he writes (p. 233): "The hundreds of such examples in this book show that there are major anomalous phenomena taking place that orthodox science is ignoring yet which are valid subjects of study, crying out for research, and in many cases promising radical revisions of our understanding of the nature of the world."

Of course, not every anomaly can be researched, and many anomalies will turn out to have innocuous explanations; the problem is that orthodox science

refuses to investigate many anomalies because of a rigid, artificial belief structure that takes precedence over reality. As Milton writes (p. 233): "...orthodox science *must* be prepared to... seek answers to these anomalies, or it must be prepared to abdicate its title as the sovereign means of acquiring knowledge."

To put it bluntly, orthodox science claims that it is the only legitimate means we have of seeking answers from nature; orthodox science admits there are large areas, of importance to humans, where the scientific method doesn't work; orthodox science ordains that these unexplored areas and their anomalies will be solved scientifically in the future and can be ignored for the moment. Along with Milton, I wonder: just how long do orthodox scientists think they can get away with this sort of thing? Is it any wonder there is a growing anti-science mood in developed countries?

This is a shame. If orthodox scientists stop pretending to be high priests, and develop a little humility, there is a chance that people once again might see in them a hope for our future. With the planet facing so many urgent problems, now is not the time for scientific arrogance or science-bashing. It's time we all got together.

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A second view, from Henry Bauer:

I agree with much in Eldridge's review. But nuances can be important, and readers should recognize that Milton's approach may not be the one to bring scientists and anomalists together. He indulges in too many absolutes and superlatives, being apparently too certain that particular anomalies are real; "thus Uri Geller is far from alone in having repeatably performed such paranormal feats in controlled conditions" (p. 46) and "repeatable and well attested, scientifically observed psychokinetic phenomena are nothing new" (p. 48). I was disappointed, too, that some of the topics with which I happen to be familiar were covered quite superficially, in particular cold fusion and Velikovsky, the latter relying just on the one-sided edited book by De Grazia.

But this is not to deny that Milton's book is a useful addition to the discussion of anomalies and the role of science; just that different readers will benefit from it in different ways.

Synopsis of Unconventional Flying Objects by Paul Hill, Hampton Roads Publ. Co., Charlottesville, VA, 1995 (ISBN 1-57174-027-9), \$15.95.

To the degree that the engineering characteristics of UFOs can be estimated by empirical observation, in this reviewer's opinion the above-referenced, recently-published book by Paul Hill provides the most reliable, concise sum-