

**The Undergrowth of Science: Deception, Self-Deception and Human Frailty** by Walter Gratzer. Oxford etc.: Oxford University Press, 2000. 328 + ix pp. \$27.50, cloth. ISBN 019-850707-0.

Rejuvenation procedures, mitogenic radiation, transferring memories via material substances, N-rays, polywater, cold fusion, eugenics, Soviet and Nazi pseudoscience: these and other similar topics are what Gratzer calls “The undergrowth of science”, not fraudulent nor lunatic but “pathological”, sometimes spreading like a virus. The book recounts the histories of these episodes and a final short chapter considers what lessons might be drawn.

Does one rotten apple really spoil a whole barrel? Does one rotten chapter discredit a whole book?

That question forced itself on me when I reached chapter 6, about cold fusion. Up to then I had enjoyed matching wits and knowledge with Gratzer. I had penned this sentence: “A thoughtful book worth sharpening your mind against”—for Gratzer gives uncommonly detailed descriptions that stimulate considerable thought about Blondlot’s N-rays, Gurvich’s mitogenic rays, and more; and the “self-deception and human frailty” of his sub-title set a commendable tone. But Gratzer on cold fusion is nothing short of a disaster: He manages to outdo the three most intemperate debunking books both in sneering tone and in factual inaccuracy. My considered, utterly serious recommendation is that readers skip this chapter altogether.

The problem surely stems in significant part from the difficulty anyone has who tries to assess so many disparate episodes. Gratzer specifically disclaims original research and acknowledges his reliance on secondary sources. His book is thereby bound to be sounder, the better the secondary literature is; and that in turn is more likely to be so, the further in the past were the relevant events. Cold fusion is however a contemporary matter. The kinder inference is that Gratzer failed to look for current material even though the most elementary search on the Web would have turned up useful clues; the less kind inference is that Gratzer too readily accepted dismissals coming from apparently competent sources. Would that Beaudette’s recent book, *Excess Heat*, had been read by Gratzer before his ignorance-shaped opinions had hardened.

Nevertheless, the other chapters in this book have much to recommend them. The detail given about N-rays, mitogenic rays and several other subjects is more helpful than in any other semi-popular work that I’ve come across, as is the lengthy discussion of Nazi pseudo-science (the chapter on which is by far the longest in the book). All these contribute to thought about the persistent conundrums that face researchers: How to make the evidence and its logic more persuasive than preconception and external pressures? How, when judging the plausibility of a claim, to distinguish the plausibility of the claim itself from the credibility of the proponents of that claim? How to avoid falling into intellectual traps as one enquires into mysteries?

Unfortunately, Gratzer is enthusiastic about Langmuir’s criteria for recognizing pathological science and claims that the episodes he recounts illustrate the efficacy of those criteria. He is wrong about that<sup>1,2</sup>. Still, Langmuir’s essay

has been so often reprinted and referred to in the mainstream scientific literature that Gratzler is far from alone here and is scarcely to be singled out for blame. What one can hold against Gratzler individually is a penchant for *ad hominem* that pervades the book.

It did my heart good, I confess, to read that “Heinrich Himmler was a *petit bourgeois* with intellectual pretensions... [who] took a dilettantish interest in such subjects as astronomy... [and was] a man of severely limited intelligence” (231). Still, how factually accurate is that description of Himmler? And even if it is quite accurate, does that help me understand “the undergrowth of science” in Nazi Germany?

Commenting first re Himmler serves to be provocative: I want to argue that even when Gratzler is *ad hominem* about someone who is indeed distasteful, there are nevertheless good reasons to want something that is more *intellectually useful* than mere scornful personal disapproval. But Gratzler denigrates promiscuously as well as gratuitously: everyone who fails to dismiss cold fusion, for example; Alexis Carrel, for being a sinister surgeon, eugenicist, fascist (147); China, which “is said to” kill prisoners on demand to provide organs for transplanting to rich donors (151); Freud, who is “scarcely relevant... in the context of science” (154); Oparin, “an academic powermonger of the most unsavoury kind” (191); one Communist praised Michurinist biology, “barely pausing to wipe the foam from his lips” (201); Paracelsus (who lived in the 16th century) was “a model anti-Semite” (266).

Such comments make unavoidable the question, how does Gratzler know these things?

The book itself offers no satisfactory answer. The bibliography for each chapter is sparse and non-specific, so that a great number of Gratzler’s assertions stand without even claimed support. Furthermore, readers who wish to learn more about a subject are cheated of the guidance normally found in a book of this sort.

Thus the book has serious flaws—flaws typical of scientists who come late to philosophy, history, or sociology of science and particularly to considering the role of unorthodoxy in the progress of science. Gratzler is also unaware of how often it happens that competent, well-known indeed distinguished scientists lapse from favor with the mainstream<sup>3</sup>. Nevertheless, I think the book is worth reading by people seriously interested in anomalistics. It is among a handful of works to consider a variety of episodes and claims and to look for generalities among them. Many such works by “skeptics” are too superficial and negative. Many by enthusiasts are too gullible. Gratzler’s book is certainly more stimulating of thought than those, and more informative (leaving aside chapter 6!). And Gratzler’s concluding paragraph (309) can only be applauded: “So we return to the conclusion—and who would question it?—that scientists, for all their vaunted training in objectivity and skepticism, are as much a prey to human frailty as anyone else, and their capacity for unbending objectivity is circumscribed. Even skepticism has its dark side... ‘First they tell you you’re

wrong and they can prove it; then they tell you you're right but it isn't important; then they tell you it's important but they knew it all along''.

It's a shame that this understanding has not informed the whole of Gratzner's book. A decade ago he published a useful collection<sup>4</sup> about how science has featured in literary works, which admirably filled a notable lacuna in discussions of the role of science in human culture.

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### References

1. Henry H. Bauer. *Beyond Velikovsky: The History of a Public Controversy*, Urbana: University of Illinois Press, 1984; chapter 8, especially pp. 145–46.
2. Henry H. Bauer, *Science or Pseudoscience: Magnetic Healing, Psychic Phenomena and Other Scientific Heterodoxies*, Urbana: University of Illinois Press, 2001; especially pp. 116–18.
3. Henry Bauer and Patrick Huyghe, "Those Who Lapse: Are Mavericks Bad Scientists or Just Unlucky?", <http://www1.mightywords.com/> and use their Quick Search for Bauer or Huyghe.
4. Walter Gratzner, *Literary Companion to Science*, New York: W. W. Norton & Company, 1990.

**The Field Guide to Ghosts and Other Apparitions** by Hilary Evans and Patrick Huyghe. New York: HarperCollins, 2000. 166 pp. \$13.00 (p). ISBN 0-380-80264-3

Hilary Evans and Patrick Huyghe are names likely to be familiar to *JSE* readers. Evans is the Director of the Mary Evans Picture Library (UK) and has published some brilliant ideas about apparitions (e.g., Evans 1984, 1986, 1987). Huyghe is the editor of *The Anomalist*, a popular chronicle of mysterious phenomena. I was excited for the opportunity to review their collaborative effort, which is the latest in a series of "Field Guides into the Unknown" from Quill (a HarperCollins imprint). My respect for the authors prompted high expectations for this work, and overall the book is charming. Spanning only 166 pages, it is a quick read and easily comprehended.

Evans and Huyghe present short cases of apparitions derived primarily from previously published material. The cases, however, are divided into three main sections that seemingly follow from the authors' main thesis. This thesis basically argues that the content of apparitions appears to fall into one of three classes: ghosts of the past, present, and future. Before *JSE* readers think that the ghost of Charles Dickens visited the authors, let me add that the book does not merely restate popular theories of "place memories" and kindred notions. Instead, the patterns that define this three-fold typology are used to illustrate