

and public policy. Few cover as wide a range of topics as does Robert Ehrlich's *Nine Crazy Ideas in Science*, and even fewer so well scrutinize the strengths and weaknesses of such ideas. In the first chapter, Ehrlich explains that he selected ideas for inclusion that are "far from being completely settled" (which excludes continental drift and cold fusion) but which are nevertheless scientific: "They can be supported or refuted by data."

Each of the ideas is treated in its own chapter, which can be read in almost any order. The chapter titles state the ideas: "More Guns Means Less Crime," "AIDS Is Not Caused by HIV," "Sun Exposure is Beneficial," "Low Doses of Nuclear Radiation Are Beneficial," "The Solar System Has Two Suns," "Oil, Coal, and Gas Have Abiogenic Origins," "Time Travel Is Possible," "Faster-than-Light Particles Exist," and "There was No Big Bang."

One has to admire Ehrlich's audacity in offering critical analyses over such a broad front. In the introductory chapter, he lists and explains a set of questions to be used in evaluating each of the ideas. Some of these, such as "How many free parameters does the theory contain?" are very familiar to physicists. Others, such as "Does the proposer have an agenda?" are seldom explicitly addressed in scientific dialogues.

Most of the writing is both clear and lively. In one respect it is downright whimsical: At the end of each chapter, Ehrlich assigns the idea at hand a rating of zero to four "cuckoos," with zero meaning "why not?" and four meaning "certainly false." I will not disclose his assessments here, but it's a safe prediction that most readers will disagree with at least one or two among the nine assigned ratings.

Comparing one's "bottom line" with Ehrlich's is entertaining, but the genuine value of his book lies in the analyses. General readers (and also students in college courses on "science and society" or "science and public policy") can learn from the book how to evaluate controversial claims. I heartily concur with Ehrlich's assertion that "we should base policy choices on the best science available, whether or not it happens to agree with what we wish might be true."

Some chapters will be more accessible to the general reader than others. Ehrlich himself identifies the last two ideas (on tachyons and on the early universe) as the most demanding mathematically. Among the other chapters, the most clearly written are on guns and crime, on AIDS/HIV, and on the possible existence of a Nemesis star.

The book is not flawless. There are a few nontechnical errors, such as a sentence fragment near the bottom of page 195. The sievert is used (p. 74) well before it is defined (p. 81). There is apparently a wording error on p. 120 in the comparison of two probabilities. More globally, some of the discussions that involve statistics are likely to test the general reader's perseverance. Although numerous references for each chapter are listed at the end of the book, there is no commentary with them to guide the general reader.

In spite of these imperfections, the book is an important addition to an underpopulated genre of science books: It critically examines both sides of interesting, important, and unsettled arguments. In my view, those of us who teach science to nonscience majors must continually encourage them to base their beliefs on evidence rather than mere prior preference. Ehrlich has given us an excellent additional resource for that task.

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