Jay Pasachoff and I have discussed these problems in e-mail exchanges. He would admit that what a writer produces for textbook publishers is out of the author's hands once submitted, and the manuscripts do get edited to "simplify the science" and "adjust" the readability, as one editor told me. The original report did speak of some excellent material in one of the reviewed texts, but only because it was removed in the next edition. I am concerned that "emphasizing the good parts" as Pasachoff suggests may give readers the idea that the whole book is being recommended. There certainly are good parts, but the large number of people involved in developing these books militates against such a conclusion. Although my Web site http://www.science-house.org/ middle-school reports errors in textbooks, its main purpose is to point out good resources for the middle-school classroom and for teacher enrichment.

Many years ago, I visited one of my son's classes. After the students successfully identified biologists and chemists and were asked which scientists studied the stars, they answered in unison, "astrologers." After class, I pointed out that they were astronomers and the teacher asked, "Aren't they the same?" Perhaps now her next 20 years of students will not be led astray. We need more physicists to visit more classrooms and to attend more school board meetings and to volunteer to review new text offerings. Together we can accomplish much.

Reference

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Counterterrorism Priorities and Policy

The dangers of nuclear and biological terrorism are now recognized across the entire spectrum of intellectual and political opinion. In their article on counterterrorism (PHYSICS TODAY, April 2003, page 39), Jay Davis and Don Prosnitz focus on technical and policy issues related to homeland security. Although their focus is understandable in a piece written primarily for physicists, the article is incomplete, given the extraordinary importance of avoiding nuclear explosions in our cities.

Deployment of weapons of mass destruction (WMDs) in the US requires that someone bring them across our borders. In box 2 of the article, the authors addressed the difficulties of checking the entry of 540 million people at more than 420 ports of entry. But Davis and Prosnitz wrote nothing about the thousands of miles of wide open borders across which more than half a million people, along with tons of drugs and machines, illegally cross each year.

To reduce the probability that WMDs will be used in the US, we must terminate illegal immigration and seriously crack down on all smuggling across the border. We cannot have homeland security with open borders.

Presently, it is much easier to monitor and prevent the entry of people than of WMDs. It is ludicrous and self-defeating to claim, as some do, that border enforcement is impossible. Significantly fewer resources would be required to defend our borders than to wage war and engage in nation-building in the Middle East or elsewhere.

A national poll conducted in mid-2002 by the nonpartisan Chicago Council on Foreign Relations found that 60% of the general public regards the present level of immigration as a "critical threat to the vital interests of the United States" (http://www.worldviews.org/detailreports/usreport). However, the poll also showed that only 14% of our nation's leaders hold the same view. As a result, our level of national insecurity remains the same as before September 11th, 2001.

Many people are haunted by the saying that those who do not learn from history are condemned to repeat it. Yet a repeat of September 11th would be like a picnic in the park compared to the effects of a nuclear bomb. We must secure our borders now.

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In their article, Jay Davis and Don Prosnitz use the now common phrase "weapons of mass destruction" (WMDs). I have yet to see a working, decisive definition of the term.

According to some sources, a Scud missile with a conventional high-explosive warhead is a WMD, but a flight of B-52 bombers carrying tons of high explosives apparently is not. What about a bunker-buster bomb, or an artillery shell with a mustard-gas warhead? In public policy debates, especially those regarding warfare, clear definitions of the key words or phrases would be helpful. What is a WMD? What do the experts mean when they use this term?

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Many thanks to Jay Davis and Don Prosnitz for fascinating insights into both the technicalities of keeping a nation safe from terrorism and the role physicists may play in that effort. However, the article is written from the viewpoint that contributes to global instability—introspection without a global outlook.

Australians applaud the efforts of the US to counter terrorism. We have also suffered significantly in the past few years: Several Australians were victims of the September 11th attacks, and 89 Australians were killed on 12 October 2002 in the Bali bombings. Our troops have subsequently gone to war on several fronts in response to terrorism threats.

Terrorism cannot be stamped out simply by protecting ourselves from it or by attempting to destroy those who initiate it. Countering terrorism means tackling the political and social origins of the problem worldwide, not just understanding what the authors call the "fundamental technical basis of the threat."

Physicists, and scientists and mathematicians in general, can contribute in an enormous way. Science has a long history of international cooperation strengthened by global communication and travel. Scientists are in a unique position to promote international cooperation. They recognize the value of their trade to society; the combination of knowledge, a common language, and the ability for ethical and moral discrimination is a force capable of breaking down political, racial, and religious barriers.

The precedents of terrorism are, I think, inequality, social suffering, intolerance, and lack of understanding. Physicists need not just concentrate on defending the potential victims of terrorism. They can develop better ways to ease suffering, reduce famine, provide more equal distribution of resources, prevent civil unrest, and accommodate the world's diversity in our social outlook.

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