

Davis and Prosnitz reply: As Ben Zuckerman points out, border control is certainly an issue in counterterrorism, although immigration and smuggling present different threats that require different responses. The technical means used to detect dangerous materials at choke points and elsewhere will also strengthen efforts to counter drug smuggling. The US Border Patrol, which is responsible for 6000 miles of land borders and 2000 miles of coastal waters, is working closely with the national laboratories and other technical organizations to conduct an end-to-end review of its operations. The border patrol is also using advanced battlefield simulation tools to determine optimum use of such technologies as advanced sensors, data fusion, and unmanned aerial vehicles. The longer-term economic, social, and cultural issues of immigration are central to any rational border control policy, but are properly part of a larger national debate and were certainly beyond the scope of our article.

Henry Heatherly raises a definitional issue that admits of no clear precision. Commonly, and legally,¹ weapons of mass destruction are defined to include nuclear, chemical, and biological weapons and large explosive devices capable of killing great numbers of people. The Oklahoma City and Nairobi bombings fall in this category; the *USS Cole* and Olympic Park bombings do not. A single Scud with an explosive warhead would probably not qualify as a WMD; one with a chemical warhead probably would. A single chemical round probably would be considered a tactical threat. A nuclear bunker buster might be a WMD by some definitions, because of its capability to produce a large number of prompt or delayed casualties, depending on its target. The most useful definition comes from an Office of Technology Assessment study in 1993, which characterizes WMDs by the "large scale and indiscriminate nature of their effects, particularly against unprotected civilians. . . . These weapons can give small states or sub-national groups the ability to inflict damage that is wholly disproportionate to their conventional military capabilities or to the nature of the conflict in which they are used."²

Finally, we agree with Martin Ebert that the most effective defense against terrorism is removing its causes. That is one of the few situations in which one can be active and

on the offensive, rather than be reactive and on the defensive. But we do not think we were suffering from either an exclusively introspective or national viewpoint. In an article for physicists, it was useful to outline relevant technical solutions and to point out their limitations; the value of the social efforts, whether conducted by physicists or anyone else, we regarded as self-evident.

References

1. *US Code*, Title 18, Pt. 2332a(c)(2), 2003 ed.; Title 50, Pt. 2302(1), 2003 ed.

2. US Congress, Office of Technology Assessment, *Proliferation of Weapons of Mass Destruction: Assessing the Risks*, rep. no. OTA-ISC-559, US Government Printing Office, Washington, DC (August 1993).

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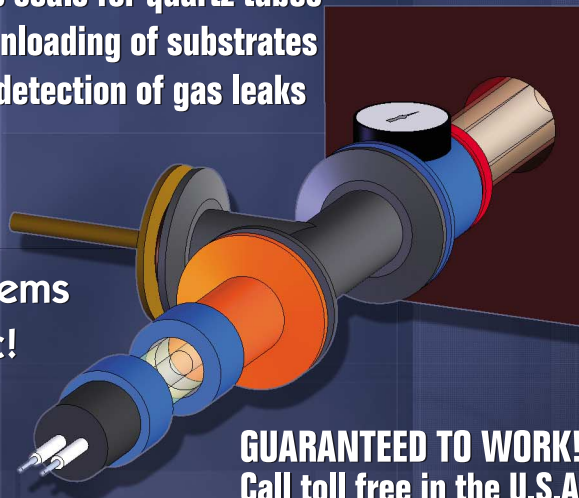
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