LETTERS

EPA Air Pollution Standard

Eliot Marshall's article (News and Comment, 1 Dec. 1978, p. 949) on the proposed Environmental Protection Agency (EPA) standard for photochemical oxidants raises several serious questions, some in a misleading light.

Marshall suggests EPA is proceeding in the face of opposition from the scientific community and without consultation. Having been a scientific reviewer of the "Photochemical oxidant criteria document," an author of the "Oxides of nitrogen document," and one of those presently preparing the "Sulfur oxides and particulate document," I find this contention incredulous. The former two documents were circulated in at least two drafts, and criticisms were incorporated from both EPA's science advisory board (SAB) and outside reviewers. True, there were and are differences of opinion but, to my knowledge, the photochemical oxidant document was never "rejected" by the SAB. Marshall does not distinguish between a request for revision and rejection. The criteria documents are immense efforts by a broad spectrum of scientists. EPA has taken the proper position that, because they are public documents, comments by the public should be incoporated as far as possible. To my knowledge, this has happened. To suggest that the contributions of nongovernment scientists to these documents have been discarded is a slur on the efforts of many.

The issue of using ozone in place of total oxidants as a pollution index has been, and continues to be, controversial. As Marshall points out, some scientists, such as James Pitts, Jr., regard this move as impractical. I both agree with Pitts' contention that ozone alone is not a sufficient standard for polluted air and contend that ozone is a reasonable interim approach to regulation as proposed by EPA. Ozone has been better studied than other photochemical pollutants and its toxicity is better understood. The toxicity of the complex mixture of polluted air is poorly understood, and there is simply not enough data available to make a reasonable judgment or defense of a more general standard.

While no one can fault obtaining a better inventory of the toxicants in air, the Clean Air Act amendments require action before added data can be obtained. I am not so pessimistic about support for added research on the composition of

polluted air or its health effects. The storm clouds of the new budget may prove that I am incorrect.

A critical issue is the safety of a higher air quality standard than the present 0.08 part per million (ppm) of pollutant. Present data suggest that chronic toxicity will occur at a level of at least 0.5 ppm. To ignore the animal toxicity data supporting this contention is to ignore the basic concept of prediction of safety from experimental studies as a whole. Human pulmonary function tests are much less sensitive than biochemical, physiological, and morphological studies in animals and thus tend to underestimate, short of lifetime exposures, the hazards from ozone. A standard of 0.2 ppm will provide little, or no, safety margin. More important, the effects of cyclical, short-term exposure regimens, mimicking human exposures in urban areas, are lacking.

The gaps in critical data in air pollutant toxicology are not for want of trying. Rather, they reflect the overall sophistication of toxicology and the improved sensitivity of pathophysiological measurements. What is needed is stronger support for intensive, long-term scientific studies of the highest quality. If the initiative to clean up the environment is to survive, EPA and other agencies regulating the outpouring of pollutants need the support and contribution of the scientific community as a whole.

DANIEL B. MENZEL
Departments of Pharmacology and Medicine, Duke University Medical Center, Durham, North Carolina 27710

Federal Regulation: What Role for Universities?

Eliot Marshall (News and Comment, 1 Dec. 1978, p. 955) reports on Massachusetts Institute of Technology president Jerome B. Wiesner's concern over federal intrusion into internal university operation and management. The suggested solution appears to be the establishment, or reestablishment, of a special "federal-academic relationship" that would exempt universities from the enforcement of government regulations applied to others.

One concerned about the welfare of our universities can only sympathize with the problem Wiesner raises and applaud him and others who speak out. But one concerned about the overall welfare of our society may also ask whether it is responsible for the universities to plead for special treatment. After all, government regulations are intended to help achieve ideals to which all of us ascribe: equality of opportunity regardless of race, religion, sex, or physical handicap; prevention of cruelty to animals; control or elimination of activities with risk to health or safety; fair labor practices; sound financial management—especially of public funds; decent treatment of the aged, and so forth, and so forth.

Do universities have a special role that should exempt them from trying to reach these ideals? Might one not argue, instead, that universities should show exemplary conformance with government regulations intended to help achieve these goals?

Let me suggest that it is not the goals, but unbalanced and intrusive federal actions connected with the achievement of those goals, that are the problem. If this is so, shouldn't the universities, on the basis of their own experience, be seeking to change this federal approach wherever it is applied?

Is it responsible for those in universities—so long as they are not directly affected—to ignore, or even support, the same regulatory approach they find so "repressive"?

BERTRAM WOLFE
15453 Via Vaquero, Monte Sereno, California 95030

Problems

I am frankly baffled by Soviet mathematician Grigori Freiman's reported baffflement. Gina Bari Kolata, in her article on alleged anti-Semitism in Soviet mathematics (News and Comment, 15 Dec. 1978, p. 1167), describes Freiman as being amazed that a Soviet Jewish student could solve the "difficult" problem, "Which is greater, sin 8/7 or $8\pi/7$?" Either the problem is garbled, or I am missing something, because the relationship sought is elementary (easier, I'd judge, than proving the problem alleged to be less difficult—that "$\log_2 3$" is irrational). So my curiosity is aroused. What was the problem?

GEORGE GREENE
524 Oakdale Avenue, Chicago, Illinois 60657

Both problems were given incorrectly in my article. The difficult problem was to decide, without the use of tables, which is greater, sin 8/7 or $8\pi/27$. The other problem was to prove that $\log_2 3$ is irrational.—GINA BARI KOLATA