## Budgeting Radiation Exposure

In their review of Tamplin and Gofman's *'Population Control' through Nuclear Pollution* (12 Feb., p. 559), Maurice S. Fox and James J. MacKenzie perceptively indicate the strawman nature of a principal argument of those *enfant terrible* crusaders against nuclear power reactors. They say, "The failure of the authors to distinguish between the maximum allowed individual exposure and the average exposure that the general population could be expected to receive results in such distortion as to damage their credibility." That Tamplin and Gofman must know this difference, but seem to choose to ignore it in order to make their case, also raises some questions about their responsibility when speaking as scientists in public.

Although I agree with Fox and MacKenzie that we need participation by a well-informed public in the setting of environmental standards, it seems to me that they have set up their own straw man to support an inference that the present radiation standards are inadequate. They say:

> In view of our limited ability to assess all the consequences of technological innovation we would be wise to exercise greater caution than has been so far manifested in setting environmental standards. Failure to do so in the case of radiation standards would be singularly irresponsible, since there is little doubt that exposure limits in the United States could be substantially reduced without forcing people to live by candlelight in caves.

On one hand this seems a call for perfect knowledge, which I suggest avails nowhere in the real world in which we have to live, to act, and to make choices. On the other hand it seems to be a call for double-locking the environmental barn door against radiation, because we have to date heedlessly left it open to the despoliations of established technologies.

In my judgment the current radiation limits, 500 millirems a year to the individual and 170 millirems a year average to the general population, are based on a greater body of scientific information and incorporate more conservative assumptions to account for the residual unknowns than do the environmental standards for any other toxic agent. However, much needless popular apprehension about possible radiation exposures has been propagated because there has been no specific budget, within the 170 millirems, for exposures related to routine emissions from nuclear power reactors. The International Commission on Radiological Protection [*ICRP Publication 6* (Pergamon, New York, 1964), p. 31] has suggested a 30-year limit of 2.0 rem for the direct exposure of the public at large from all nuclear energy programs. Allowing for exposures from other programs and for contingencies, it seems to me reasonable to allocate one-quarter of this, or 17 millirems per year, to exposures related to power plant emissions per se.

I would hope that such an allocation might diminish the current pressures for increasingly restrictive standards and for "zero-release" reactors. The crusade for absolute radiation safety regardless of cost, in an otherwise far from safe environment, seems to me both foolhardy and irresponsible.

ANDREW P. HULL
*Suffolk Scientists for Cleaner Power and Safer Environment, Post Office Box 413, Upton, New York 11973*

## Better Way to Go?

Although the automobile may be "the best mass transportation system for Los Angeles" (Letters, 26 March), it is in many ways the worst transportation system for genuine cities such as New York. In Manhattan, the ratio of private automobiles to people is one to eight compared to the national average of one to two. Gothamites view the automobile as follows: it generates over 70 percent (by weight) of our air pollution; creates unwanted noise; smells up our streets; clogs our traffic and kills our pedestrians. In short, it is an unnecessary, pestilential nuisance.

When I mention the fact that I do not own a car to younger people from outside New York, they usually assume that I am either too poor or that I have had my license lifted for reckless driving. But by choice I and most of my relatively prosperous friends in Manhattan use public transportation. If we must go to the hinterlands, we sometimes rent cars.

The same factors that killed the Chicago stockyards will inevitably diminish the use of automobiles in this country: a combination of increasing urbanization, economics, and the realization that there is a better way to go.

CYRUS ADLER
*Offshore/Sea Development Corporation, 99 Nassau Street, New York 10038*

## The Good Fight

Boffey's lively account of the recent science writers seminar (5 Mar., p. 874) could be read as attributing to the panelists some criticism of the role played by DuBridge in the first year of the Nixon Administration. Not so. I recall no criticism of him by any of the "statesmen and politicians of science" present. My own verdict on DuBridge is straightforward: he fought the good fight.

WLLIAM D. CAREY
*Arthur D. Little, Inc., 1735 Eye Street, NW, Washington, D.C. 20006*

## Science Lobbies

The recent article by Philip Handler ("The federal government and the scientific community," 15 Jan., p. 144) should, in my opinion, be read by all basic scientists. The problems he raises are extremely acute and must be faced by scientists and especially their societies. At a time of peak economic productivity, arising to a considerable extent from the past scientific and technological developments, the support for basic research is being reduced, and the voices of the critics of research are increasing and becoming dominant in policy decisions at the national level. A recent letter by Longo and Power (29 Jan.) has some additional excellent comments.

Handler points out that both political parties have expressed strong commitments to scientific research but that the American people and our political representatives can supply the funds required only if they are adequately informed. "The scientific community . . . must learn to be its own advocate and must find opportunity to make its own case." Until recently, much of this advocacy of medical research came from Lister Hill, John E. Fogarty, and James A. Shannon, to our detriment now removed from influential roles. They