

LETTERS

Soviet Nuclear Capabilities

In R. Jeffrey Smith's article "An upheaval in U.S. strategic thought" (News and Comment, 2 Apr., p. 30), I am quoted on page 33 as saying, "We exaggerate the growth of Soviet nuclear capabilities. . . ." The statement was obviously taken from testimony that I gave last November before the Senate Foreign Relations Committee, and the "We" was meant to refer to government spokesmen and the foreign policy-defense establishment. What I actually said was that "We exaggerate the *significance* of the growth of Soviet capabilities."

There is, in fact, little dispute among the informed about actual Soviet capabilities, although occasionally Administration spokesmen have exaggerated them—the President, most recently—but whether improvements in Soviet capabilities are *significant* is a matter of great contention. The gravamen of my remarks was that they need not be; that such developments as have occurred are not militarily or politically exploitable.

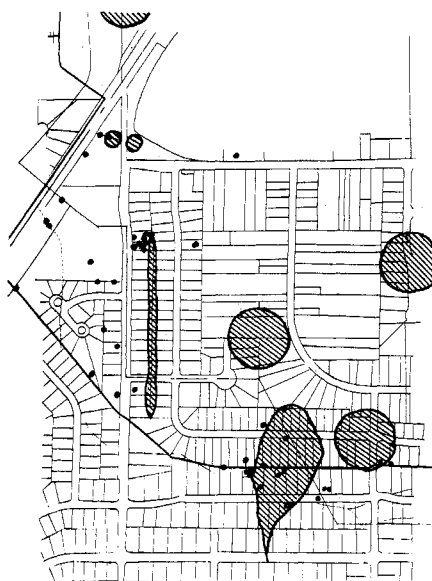
GEORGE RATHJENS

Department of Political Science,
Massachusetts Institute of Technology,
Cambridge 02139

"Ghost Dumps"

The toxic chemicals program of the Environmental Defense Fund has for the past 2 years been investigating residents' reports of health effects related to hazardous waste dumping in Memphis, Tennessee, at the Frayser and Hollywood sites. We would like to respond to Thomas H. Maugh II's article "The dump that wasn't there" (Research News, 5 Feb., p. 645), which implies that the Frayser site represents the problem of "ghost dumps," when a situation is provoked by residents' emotionalism and irresponsible political activism.

Investigations to date do not resolve the question of whether there was chemical waste dumping in the Frayser neighborhood. The accompanying figure shows areas (shaded) of dumping, according to former health department employees (1), and the sites (points) of the environmental sampling conducted by the Environmental Protection Agency. This monitoring in no way surveyed "the entire neighborhood," and, in fact, did not examine many areas of alleged



dumping. Aerial reconnaissance, visual site inspection, and some metal detection surveys (with instruments of relatively low sensitivity) comprised the rest of the site evaluation procedure. In some cases, follow-up was not complete. Such methods are not likely to be sufficient to rule out dumping unless an "obvious source" of chemicals is apparent (that is, seepage, visible canisters or drums, or waste lagoons). Unfortunately, many occult dumps probably exist in this country, and comprehensive methods for their detection will be required before their existence can be summarily denied.

Attempts to assess health effects at Frayser reveal much about issues important to more general concerns about health implications of toxic waste dumps. The study by the Centers for Disease Control (CDC) (2) noted that several signs and symptoms of illness occurred more frequently in the Frayser population than in a control group. The design of this survey can be criticized for defining adverse health effects in terms of visits to physicians in a population where doctor-going is not frequent for economic and cultural reasons. Moreover, as pointed out by Maugh, the results of the CDC and other studies, at Frayser and at other sites, point to issues common to the problem of assessing toxic waste dumps. Even when data suggesting cause are persuasive, effects are likely to be nonspecific and difficult to characterize as "illnesses" because of the low level and chronic nature of the exposure and the presence of many toxins.

Long-term retrospective or prospective studies of toxic waste dump sites must be undertaken, involving large

numbers of subjects. The difficulties in discovering toxic waste dumps and assessing their effects on health should not obscure the potential seriousness of waste dumps and the extent of the problem in the United States (3). Nor should the victims be blamed for their fear and confusion, which can be exacerbated by dilatory and incomplete responses and by the premature judgment of the scientific world that their problems do not exist.

ELLEN K. SILBERGELD

Environmental Defense Fund,
1525 18th Street, NW,
Washington, D.C. 20036

JOSEPH HIGHLAND

Department of Chemical Engineering,
Princeton University,
Princeton, New Jersey 08544

References

1. Sworn statement of Q. J. Anglin, 5 March 1980, at hearings before Memphis-Shelby County Health Department.
2. "The CDC-Memphis and Shelby County Health Department family health survey, May 1980: A report for presentation at the December 9, 1980 meeting of the metropolitan area environmental task force, Memphis, Tennessee" (Chronic Diseases Division, Bureau of Epidemiology, Centers for Disease Control, Atlanta, Ga., 1980).
3. *Preliminary Assessment of Cleanup Costs for National Hazardous Waste Problems* (Fred C. Hart Associates, Washington, D.C., prepared for the Environmental Protection Agency, Washington, D.C., 1979); *Damages and Threats Caused by Hazardous Material Sites* (Report No. 430/9-80/004 Environmental Protection Agency, Washington, D.C., 1980); J. Highland, Ed., *Hazardous Wastes: Finding Solutions* (Ann Arbor Press, Ann Arbor, Mich., in press).

AAAS Radiation Session

Bernard L. Cohen (Letters, 26 Feb., p. 1028) criticizes the AAAS for sponsoring a session at its annual meeting on the health effects of nuclear weapons and power. The AAAS, according to Cohen, "mislead[s] the American public by appearing to give the support of the scientific community" for the symposium participants. These speakers, Cohen states, "have published few papers on that subject in refereed scientific journals in the past several years." To bolster his claims, Cohen cites more than 20 critiques of a 1977 paper by Mancuso, Stewart, and Kneale which suggests that human sensitivity to fatal cancer induction by low-level ionizing radiation may be 10 to 25 times greater than previously thought.

By the spring of this year, Mancuso, Stewart, and Kneale will have published five additional papers (1). They were written to answer major criticisms mentioned in the papers Cohen cites, 12 of which are not in refereed scientific jour-