Letters

AAUP on Congressional Investigations

The investigations of scientific researchers by legislative committees that have been reported in *Science* present issues of concern to the broader academic community. For this reason, the American Association of University Professors, at its recently concluded annual meeting, adopted the following resolution.

During the past year, committees of Congress have held hearings on alleged scientific misconduct by academic researchers. This Annual Meeting does not question the authority of Congress to secure information consistent with its responsibility for overseeing the operations of the National Institutes of Health and other agencies that fund university research. This Meeting protests, however, the tendency of legislative investigations toward equating scientific errors or omissions with misconduct, and in the process to impugn the professional integrity of individual scientists. The discovery, exposure, and correction of error in science is pre-eminently the responsibility of the academic profession, and legislative investigations that are in fact trials of individuals—replete with forensic examinations of laboratory notebooks by the Secret Service—are alien to free science in a free society. The Seventy-fifth Annual Meeting of the American Association of University Professors urges Congress, in the furtherance of its purposes, to refrain from actions that, in the name of legislative oversight, encroach upon the freedom of scientists to impart the findings of research without fear of political reprisal.

JONATHAN KNIGHT
American Association of University Professors, 1012 Fourteenth Street, NW, Suite 500, Washington, DC 20005

The 1957 Soviet Nuclear Accident

David Dickson's article about the Soviet announcement of a major nuclear accident near Kasli in the Urals in September 1957 (News & Comment, 23 June, p. 1435) omits significant background information. He does not mention our analysis of the 1957 Soviet nuclear accident (*1*) and subsequent correspondence (*2*), as well as several News & Comment features (*3*). Our analysis did not confirm the interpretations of Zhores Medvedev, but (contrary to Dickson's assertion) neither did the Soviet announcement nor, in our opinion, did the observations of Lev Tumerman. A Soviet admission of this accident was also made in December 1988 by Yevgenii Velikhov, vice president of the Soviet Academy of Sciences, during a visit to Japan (*4*).

We were pleased as well as intrigued by the congruity between the Soviet statements and our analysis (*1*). Briefly, the major points of agreement are (i) airborne radioactivity was released by a chemical explosion [acetate-nitrate deflagration, following failure of a cooling system (*5*)] in a high-level waste storage tank in the latter part of 1957 (not by a nuclear criticality as claimed by Medvedev; this—not a chemical explosion—is the crux of the Hill-Medvedev disagreement); (ii) the total radioactivity release was 2×10^6 curies, which is consistent with our ^{90}Sr release estimate of 0.1 to 1×10^6 Ci (but not with 10^7 to 10^9 Ci of ^{90}Sr alone, as estimated by Medvedev); (iii) atmospheric deposition was apparently confined to a relatively narrow zone, and the area contaminated was ≤ 1000 km^2 (not "several thousand square miles" as claimed by Medvedev and implied by the derived figure in Dickson's article, which has simply been retrofitted with a scale an order of magnitude too small); (iv) high residual contamination exists in lakes, other waterways, and terrestrial areas [see figures 1 and 2 of (*1*) and discussion below]; and (v) large numbers of civilians were evacuated, but casualties (serious injuries and/or fatalities) were not necessarily extensive.

However, we are forced to ask: How much of the Soviet explanations should we accept without hard evidence, glasnost notwithstanding? This Soviet announcement did not preclude the occurrence of radioactive contamination near this same site from other "chronic" accidental sources (for example, involving pre-Chernobyl graphite-moderated reactors), and there is a significant body of evidence to the contrary (*1–3*). In fact, the Soviets have now indicated the unexplained presence of 120 million curies of radioactivity in Lake Kyzyltash, located adjacent to the site (*5*). Further, Medvedev believed that several hundred casualties resulted from the 1957 accident, as apparently did Velikhov (*4*), but Soviet deputy minister Boris Nikipelov said that none occurred. We were unable to reconcile the apparent levels of radioactivity with reports of large numbers of casualties, but noted the many uncertainties involved—not the least of which was whether or not prompt evacuation and personnel decontamination occurred. As reported by Dickson, Medvedev believed that "many villages and towns were not evacuated on time."

Use by the Soviets of lessons learned from the 1957 accident in dealing with the Chernobyl aftermath has already been acknowledged. We pointed out in our 1980 article the need for the rest of the world to have the benefit of this knowledge base in planning countermeasures for future nuclear accidents. We applaud these Soviet first steps. We also continue to urge that all relevant information be made available and that scientists from outside the Soviet Union be granted access to the Kasli-Kyshtym area to obtain first-hand information. Until then, we appear to have little choice other than to reserve judgment on the meaning of recent Soviet revelations about the events of 32 years ago.

JOHN R. TRABALKA
STANLEY I. AUERBACH
Environmental Sciences Divison, Oak Ridge National Laboratory, Post Office Box 2008, Oak Ridge, TN 37831–6036
L. DEAN EYMAN
Hazardous Wastes Remedial Action Program, Martin Marietta Energy Systems, Inc., Oak Ridge, TN 37831

REFERENCES

1. J. R. Trabalka, L. D. Eyman, S. I. Auerbach, *Science* **209**, 345 (1980).
2. ———, *ibid.* **217**, 198 (1982).
3. C. Norman, *ibid.*, **216**, 274 (1982); *ibid.* **221**, 138 (1983).
4. N. Usui, *Nucleon. Week*, 8 December 1988, p. 3.
5. R. J. Smith, *Washington Post*, 10 July 1989, p. 1.

Erratum: The following references were inadvertently omitted from the end of the Perspective "AIDS and IV drug use" by Don C. Des Jarlais and Samuel R. Friedman (11 Aug., p. 578).

REFERENCES AND NOTES

1. *AIDS Weekly Surveillance Report* (Centers for Disease Control, Atlanta, GA, January 1989); WHO Collaborating Centre on AIDS, *AIDS Surveillance in Europe Quarterly Report No. 19* (1988).
2. D. C. Des Jarlais, S. R. Freidman, J. S. Woods, in preparation; *V International Conference on AIDS: The Scientific and Social Challenge, Abstracts* (International Development Research Centre, Health and Welfare, Canada, and WHO, Montreal, Canada, 1989).
3. C. F. Turner, H. G. Miller, L. E. Moses, Eds., *AIDS Sexual Behavior and Intravenous Drug Use* (National Academy Press, Washington, DC, 1989).
4. D. C. Des Jarlais and S. R. Freidman, *J. AIDS* **1**, 267 (1988).
5. ———, *Am. Psychol.* **43**, 865 (1988).
6. D. D. Simpson, J. L. Savage, S. B. Sells, *Data Book on Drug Treatment Outcomes; Follow-up Study of 1969–1972 Admissions to the Drug Abuse Reporting Program (DARP) Report 78–10* (Texas Christian University, Fort Worth, TX, 1978); R. L. Hubbard *et al., Drug Abuse Treatment: A National Study of Effectiveness*, in press.
7. Supported by grant DA05360 from the National Institute of Drug Abuse.

Erratum: In the article "The applications of closure phase to astronomical imaging" by T. J. Cornwell (21 July, p. 263), the caption of figure 3 (p. 265) incorrectly gives the diameter of each of the 27 radio telescopes in the Very Large Array radio-interferometric telescope as 25 km. The telescopes are 25 meters in diameter.

Erratum: The article by Marjorie Sun "Virginia OKs rabies vaccine test" (News & Comment, 14 July, p. 126) states that the first outdoor experiment with a genetically engineered virus is expected to be conducted by the Boyce Thompson Institute for Plant Research at Cornell University. The first outdoor test of a genetically modified virus actually took place in 1984, when Saul Kit of Baylor College tested an altered pseudorabies virus on pigs.