

A Science Service Publication Volume 128, No. 13, September 28, 1985

E.G. Sherburne Jr. Publisher Joel Greenberg Editor Dietrick E. Thomsen

Senior Editor/ Physical Sciences Laurie Jackson Phillips Managing Editor Production/Design Wendy McCarren Director **Behavioral Sciences**

Bruce Bower Joanne Silberner Biomedicine Earth Sciences Stefi Weisburd Julie Ann Miller Life Sciences Janet Raloff, Ivars Peterson Jonathan Eberhart

Space Sciences Susan Welch Gilday Assistant to the Editor Science Writer Interns

Diane D. Edwards, Judith Mathewson Jane M. Livermore Donald R. Harless

prohibited.

Advertising/Business Manager

Policy/Technology

Copyright \$1985 by Science Service, Inc., Editorial and Business Offices, 1719 N St., N.W., Washington, D. C. 20036. Republication of any portion of SCIENCE NEWS without written permission of the publisher is

Subscription Department 231 West Center Street, Marion, Ohio 43305

Subscription rate: 1 yr., \$29.50; 2 yrs., \$50.00. (Foreign postage \$5.00 additional per year.) Change of address: Four to six weeks' notice is required. Please state exactly how magazine is to be addressed. Include zip code. For new subscriptions only call (1) 800-247-2160. Printed in U.S.A. Second class postage paid at Washington, D. C. Title registered as trademark U.S. and Canadian Patent Offices. Published every Saturday by SCIENCE SERVICE, Inc. 1719 N St., N.W., Washington, D. C. 20036. (202-785-2255) ISSN 0036-8423

This Week

A Large and Late Quake 196 Collisions in the Fermilab Tevatron 196 197 ASAT target was working research satellite 197 A hot vent find in the Atlantic Is air pollution worse indoors than out? 198 Gene splicing: 'Final' federal plan 198 Prime time for supercomputers 199 Toward a 'magic bullet' for melanoma 199 Diet allowances to slim down? 199 Block releases diet report 199

Research Notes

200 Chemistry 200 Technology

Articles

Annihilations at 2 Trillion Volts 202 204 Redesigning Molecules Nature's Way

> Cover: Computer simulation of a protein's structure is often the first step in protein engineering. In this representation of the enzyme called lysozyme, the active site, the catalytic region, is the triangular indentation at the bottom. (Computer graphic: Richard Feldmann, National Institutes of Health)



Departments

194 Science on the Air

194 **Books** 195 Letters

Science Service Institution for the public understanding of science founded 1921; a nonprofit corporation. Board of Trustees—*President*, Glenn T. Seaborg; *Vice President*, Gerald F. Tape; *Treasurer*, Willis Harlow Shapley; *Secretary*, Hilleary F. Hoskinson; Joseph W. Berg Jr.; Edward Bliss Jr.; Bowen C. Dees; David A. Goslin; Milton Harris; Elena O. Nightingale; O. W. Riegel; H. Guyford Stever; John Troan; Deborah P. Wolfe. Director: E. G. Sherburne Jr.; Assistant Director: Dorothy Schriver; Business Manager: Donald R. Harless.

Letters

Test blood, not people

Synthesizing information from two studies reported in "AIDS Blood Test: Qualified Success" (SN: 8/10/85, p. 84), I conclude that for every 1 million people whose blood is tested for AIDS, about 8,500 will test positive. Of those about 575 will also test positive on the Western blot test. Assuming the Western blot test is 100 percent specific and 100 percent sensitive, it would appear that 93 percent of those blood samples that originally tested positive are in fact false positive.

Health professionals should keep this in mind when deciding whether or not to tell blood donors of positive results. The overwhelming majority will be needlessly worried or, worse, victimized by those terrified by this horrible

killer It must be remembered that this test is meant to clean up the blood supply, not diagnose AIDS.

Jim Girves Columbus, Ohio

Disguising risks with jargon

"Ruling on nuclear waste" (SN: 8/24/85, p. 119) exposes the typical jargon that has been developed over the last 40 years and is presented to the mass media to protect the operations by the Atomic Energy Commission, Nuclear Regulatory Commission, Department of Defense and Department of Energy, disguising real risks from operations of commercial reactors and the development of nuclear weapons.

"Depleted" or spent nuclear fuel is not de-

pleted or spent, because these ionizing materials contain a larger proportion of dangerous fissile materials. "Isolate" should not imply safe disposal or storage of radionuclides, because no geologist is able to guarantee constant failsafe conditions for 10,000 years, while these radionuclides will be ionizing their environments for millions of years.

Unmined uranium ore is a poor standard for estimating leakage from a "repository" that would contain many toxic and hazardous stable chemicals as well as ionizing radwaste. After going through a nuclear fuel or weapons cycle, radionuclides are more contaminating simply because they have been disseminated into the environment occupied by biota, some of which greatly accumulate.

Louis G. Williams Northport, Ala.

195 **SEPTEMBER 28, 1985**