

SCIENCE NEWS®

The Weekly Newsmagazine of Science

Science Service Publication
Volume 147, No. 1, January 7, 1995

Alfred Scott McLaren	Publisher	
Patrick Young	Editor	
Blair Burns Potter	Managing Editor	
Dan Skripkar	Production/Design Director	
Greg W. Pearson	Associate Editor	
Janet Raloff	Senior Editor Environment/Policy	
Ron Cowen	Astronomy	
Bruce Bower	Behavioral Sciences	
Richard Lipkin	Chemistry/ Materials Science	
Richard Monastersky	Earth Sciences	
Tina Adler	General Science	
Kathy A. Fackelmann,	Life Sciences/ Elizabeth Pennisi	Biomedicine
Ivars Peterson	Mathematics/Physics	
Larry Norland	Editorial Assistant	
Adrienne C. Brooks	Science Writer Intern	
Cait Anthony	Books/Resource Manager	
Donald R. Harless	Advertising/Business Manager	

SCIENCE NEWS (ISSN 0036-8423) is published weekly on Saturday, except the last week in December, for \$44.50 for 1 year or \$78.00 for 2 years (foreign postage \$6.00 additional per year) by Science Service, Inc., 1719 N Street, N.W., Washington, D.C. 20036. Second-class postage paid at Washington, D.C., and additional mailing office. **POSTMASTER:** Send address changes to SCIENCE NEWS, P.O. Box 1925, Marion, Ohio 43305. Change of address: Four to six weeks' notice is required — old and new addresses, including zip codes, must be provided.

Copyright © 1995 by Science Service, Inc. Title registered as trademark U.S. and Canadian Patent Offices. Printed in U.S.A. on recycled paper. ♻️

Editorial and Business Offices:
1719 N St. N.W., Washington, D.C. 20036
(202-785-2255)

Republication of any portion of SCIENCE NEWS without written permission of the publisher is prohibited.

Subscription Department:
P.O. Box 1925, Marion, Ohio 43305
For new subscriptions only, call 1-800-247-2160.
For customer service, call 1-800-347-6969.

This Week

- 4 Seeds of Warfare Precede Agriculture
- 4 Colliding protons: Building CERN's LHC
- 5 Hubble telescope eyes a Milky Way squirt
- 5 Physicists spot element 111
- 5 Swimmers may get hefty chloroform dose
- 6 Counting neutrinos from an 'artificial sun'
- 6 Study sizes up fetal cells for transplant
- 7 As the globe warms, keep an eye on storms
- 7 Menstrual cycles may affect cancer risk

Research Notes

- 11 Behavior
- 11 Biomedicine
- 15 Biology
- 15 Technology

Articles

- 8 Law and Disorders
- 12 Sowing Hope

Cover: Rwandan women harvesting sorghum during happier times — before the recent fighting that killed thousands and devastated farms. With help from a seed protection program, farmers are bringing their fields back to life. (Photo: International Crops Research Institute for the Semi-Arid Tropics)



Departments

- 2 Books
- 3 Letters

Science Service, which publishes SCIENCE NEWS, is a nonprofit corporation founded in 1921. It gratefully accepts tax-deductible contributions and bequests to assist its efforts to increase the public understanding of science, with special emphasis on young people. More recently, it has included in its mission increasing scientific literacy among members of underrepresented groups. Through its Youth Programs it administers the International Science and Engineering Fair, the Science Talent Search for the Westinghouse Science Scholarships, and publishes and distributes the *Directory of Student Science Training Programs for Precollege Students*.

Board of Trustees — *Chairman*, Glenn T. Seaborg; *Vice Chairman*, Gerald F. Tape; *Secretary*, David A. Goslin; *Treasurer*, Willis Harlow Shapley; Joseph W. Berg Jr.; Robert W. Fri; J. David Hann; Dudley Herschbach; Shirley M. Malcom; Elena O. Nightingale; Ben Patrusky; Peter H. Raven; H. Guyford Stever; Sanford J. Ungar; Deborah P. Wolfe. **Honorary Trustees** — Edward Bliss Jr.; Bowen C. Dees; O.W. Riegel; John Troan. **President**: Alfred Scott McLaren; **Vice President and Business Manager**: Donald R. Harless.

Letters

Fiery emissions debate

"Radioactivity from burning coal" (SN: 10/1/94, p.223) quotes an Oak Ridge National Laboratory nuclear physicist as deploring the fact that coal plants can release radionuclides in quantities not allowed from nuclear facilities.

This "smokescreen" argument has been emanating in one fashion or another from the nuclear establishment for decades. Only by comparing the total releases in the entire cycle of coal versus nuclear plants can one arrive at an accurate comparative estimate of radionuclide release.

CORRECTION

In "One HIV strain defends against another" (SN: 11/26/94, p.360), the chimps that developed "sky-high" concentrations of antibodies were the control animals, not the vaccinated chimps.

Since nuclear energy production starts with the mining of uranium, it would be far more accurate to estimate the radioactivity from the mined ore, fissioning and the creation of new radionuclides, and the final decay of the final atom of the final ton of nuclear waste.

Adding these up and assuming dispersal (after all, NRC regulation allows dispersal from nuclear reactors at specified amounts within specified time limits), one arrives at a figure that dwarfs the coal-generated radionuclides.

So when physicist Gabbard deplores the fact that people are exposed "to increasing quantities of radioactive isotopes through air and water movement and the food chain" from coal burning, but neglects to say that this is precisely what the nuclear fuel cycle does at orders of magnitude greater, one scarcely knows whether to attribute his statement to ignorance or deception.

Lorna Salzman
New York, N.Y.

EPA analysis of fly ash samples taken from the environment surrounding coal-burning power plants in the early 1970's showed uranium and thorium concentrations 8.5 times higher than those in coal ("Trace Elements in Fuel," Advances in Chemistry Series, 141, American Chemical Society, 1975).

Since EPA has had the data for 20 years and neither it nor the NRC is concerned from a regulatory standpoint, one can only assume that areas downwind of coal-fired plants will continue to be bathed in unregulated radioactive materials. These agencies apparently do not perceive this as a public health and safety issue.

Dean Sheibley
Sandusky, Ohio

Address communications to:
Editor, SCIENCE NEWS
1719 N Street, N.W.
Washington, D.C. 20036
All letters subject to editing.

JANUARY 7, 1995

3