

SCIENCE NEWS®

The Weekly Newsmagazine of Science

A Science Service Publication
Volume 128, No. 11, September 14, 1985

E. G. Sherburne Jr.	Publisher
Joel Greenberg	Editor
Dietrick E. Thomsen	Senior Editor/ Physical Sciences
Laurie Jackson Phillips	Managing Editor
Wendy McCarren	Production/Design Director
Bruce Bower	Behavioral Sciences
Joanne Silberner	Biomedicine
Stefi Weisburd	Earth Sciences
Julie Ann Miller	Life Sciences
Janet Raloff, Ivars Peterson	Policy/Technology
Jonathan Eberhart	Space Sciences
Susan Welch Gilday	Assistant to the Editor
Judith Mathewson	Science Writer Intern
Jane M. Livermore	Books
Donald R. Harless	Advertising/Business Manager

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

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

Letters

Beware the spurious correlation

The letter entitled "Causal chain challenged" (SN: 8/17/85, p. 109) points out usefully the three common possibilities of mathematical correlation: A causes B; B causes A; A and B are both caused by C. But it overlooks one of the most frequent and most troublesome fourth situations, termed "spurious correlation," where there is no causal connection between elements happening to be mathematically correlated. Supposed miraculous "coincidences" can be considered illustrative. Being wary of the possibility of "spurious correlation" in any given case is essential for sound scientific thinking.

C.L. Hubbell
Chicago, Ill.

Truth decay

In "Aging and decay of beauty" (SN: 8/3/85, p. 76) you note the confirmation of the hypothesis in quantum chromodynamics that beauty decays into charm. Since symmetry is so funda-

This Week

- 164 Turnabout in Vision: Messenger Unmasked
- 164 Smoking and cancer: Value in paradox
- 165 Leg 104: Rifting, currents and climate north of the Arctic Circle
- 165 Ozone controversy lifts off in Congress
- 166 Social channels tune TV's effects
- 166 Micro-g earth lab for space studies
- 167 Tiniest tools probe a cell's molecules
- 167 Forcing an unexpected attraction

Research Notes

- 168 Behavior
- 168 Biology
- 169 Environment
- 169 Physical Sciences

Articles

- 170 Waiting for the Warming: The Catch-22 of CO₂
- 172 Nuclear Winter: Shutting Down the Farm?

Cover: Woman dries rice in Bangladesh. The fragility of agriculture to even minor climatic changes—unveiled in a study this week—raises questions about whether even those far removed from a nuclear war would lose the ability to feed themselves. (Photo: Kay Chernush, World Bank)



Departments

- 163 Letters
- 175 Books

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.

mental to the field, does this imply that truth decays into strangeness?

That might account for a lot!

Neil Rest
Chicago, Ill.

Cosmic dice

If the entire cosmos is a quantum mechanical fluctuation ("The Quantum Universe: A Zero-Point Fluctuation," SN: 8/3/85, p. 72), we've come a full 180 degrees since Einstein.

Dice play God with the universe.

Jim Loudon
Staff Astronomer
University of Michigan Exhibit Museum
Ann Arbor, Mich.

Over the barrel?

I agree emphatically with the overall message conveyed by "Portents of U.S. Oil Vulnerability" (SN: 8/3/85, p. 68), but the accompanying table indicates that U.S. proven reserves of oil cur-

rently are 34.5 billion barrels, which is, I think, incorrect. Various reliable sources including recent issues of OIL AND GAS JOURNAL and of WORLD OIL indicate current U.S. proven reserves of slightly more than 27 billion barrels. The last time our persistently diminishing oil reserves were as large as 34 billion barrels was in 1975.

This correction, of course, renders even stronger the ominous warning of oil depletion, which was the article's primary point.

Craig Bond Hatfield
Professor of Geology
The University of Toledo
Toledo, Ohio

Authoritative sources do vary, sometimes widely, on oil and gas reserve statistics. The figures used by the Worldwatch Institute study came from the 1985 British Petroleum Statistical Review of Energy. However, the latest (Dec. 31, 1983) U.S. Department of Energy estimates put proven U.S. oil reserves at 27.7 billion barrels, according to the (U.S.) National Energy Information Center.

—J. Raloff

SEPTEMBER 14, 1985

163