

Science[®] News

A Science Service Publication
Vol. 105/May 18, 1974/No. 20
Incorporating Science News Letter

Of the Week

Early man in America	316
Deep drilling off Antarctica	317
Making milk digestible	317
Technology's slow spin-off	318
Looping asteroids	318
Public and the military	319
How Mariner 10 was saved	319

Research Notes

Meteorology	320
Astrophysics	320
Ecology	321
Botany	321

Articles

Solutions to world food shortages	322
Physicist turned immunologist	324

Departments

Books	314
Letters	315
Off the Beat: Plant talk	326

COVER: Spacious skies and amber waves of grain—source of America's virtual monopoly on world grain exports. Will the bounty be used to prevent famine or to ease a growing balance of payments deficit? Second article of a series, see p. 322. (Photo: USDA)

Publisher	E. G. Sherburne Jr.
Editor	Kendrick Frazier
Senior Editor and Physical Sciences	Dietrick E. Thomsen
Senior Editor and Behavioral Sciences	Robert J. Trotter
Biological Sciences	Joan Arehart-Treichel
Science and Society	John H. Douglas
Space Sciences	Jonathan Eberhart
Writer/Copy Editor	Lisa J. Shawver
Art Director	Dale Appleman
Assistant to the Editor	Esther Gilgoff
Books	Margit Friedrich
Advertising	Scherago Associates, Inc. 11 W. 42nd St. New York, N.Y. 10036 Fred W. Dieffenbach Sales Director

Copyright © 1974 by Science Service, Inc.,
1719 N St., N.W., Washington, D.C. 20036.
Republication of any portion of SCIENCE NEWS
is strictly prohibited.

Subscription Department
231 West Center Street
Marion, Ohio 43302

Subscription rate: 1 yr., \$10; 2 yrs., \$18; 3 yrs.,
\$25. (Add \$2 a year for Canada and Mexico, \$3
for all other countries.) Change of address:
Four to six weeks' notice is required. Please
state exactly how magazine is to be addressed.
Include zip code.

Printed in U.S.A. Second class postage paid at
Washington, D.C. Established as Science News
Letter ® in mimeograph form March 13, 1922.
Title registered as trademark U.S. and Canadian
Patent Offices.

Published every Saturday by SCIENCE SER-
VICE, Inc., 1719 N St., N.W., Washington, D.C.
20036. (202-785-2255). Cable SCIENSERV.

May 18, 1974

To the Editor

A matter of pressure

I've been a subscriber for seven years (approximately 37 percent of my lifetime) and SCIENCE NEWS is still my first-sought and favorite piece of mail. I think it's the best in its field. In your newsbrief "Conditions on Venus" (SN: 3/16/74, p. 176), you give a surface pressure of 93 kg/m². I'd always heard that Venus' atmosphere had a pressure 100 times earth's, but unless I can't convert properly, that figure is 1/100 of earth's. Could you have meant 93 kg/cm²? Please let me know which of us goofed.

Mark Pottenger
Los Angeles, Calif.

(We did. The figure should have been 93 kg/cm².—Ed.)

Writing about science

Your "Speaking Informally" comments (SN: 5/4/74, p. 283) remind me that I meant to write you in defense of your decision to publish the article about the Gnomes of D.O.S. While I agree with one of your readers that I would not want SCIENCE NEWS to become a collection of essays or a literary journal, I hope you will take every opportunity to emphasize the need for better writing about science—for that is, after all, how we learn about news in science. In fact, I hope you will give us more "essays" about better writing. We need to be constantly reminded that, as one of my friends has observed, "the trouble with communication is the illusion that it has been achieved." Thank you for your most welcome weekly demonstration of good communication.

M. O. Norby
Arlington, Va.

Free will

In the article on free will (SN: 4/20/74, p. 256) John Eccles seems to contradict himself on the idea of the uncertainty principle as an opening for free will. Although the gross physical event of a synapse firing is on too large a scale for the principle to be significant, he notes also that the question ultimately has to go back to the processes that lead up to the firing. These processes could quite reasonably involve systems small enough for the principle to operate sig-

nificantly. This suggests that chance events are the basic events in the operation of the brain. As for free will, however, there still remains the problem that although chance events cannot be predicted, they cannot be influenced either.

But perhaps the whole question of "free will" is irrelevant to man's mental well being: that is, the really fulfilling events in life are not, and cannot be, consciously willed as such. The artist cannot will himself to be creative, the scientist cannot will himself to make a discovery and people cannot will themselves to love other people.

Benjamin R. Irvin
Laurinburg, N.C.

Looking forward to Monday

I highly commend you on your weekly periodical SCIENCE NEWS which arrives faithfully every Monday to bring me the latest developments in the rapidly growing areas of science. Although I am just a freshman in high school the amount of information I gather weekly from your magazine far exceeds anything I'd ever learn in school. The articles are written on a level which I or one of my teachers can read and both understand. And the topics you report on are not the stale old facts of yesterday but the latest developments in the scientific world today. So, in conclusion, I would like to thank you and your highly qualified staff. Looking forward to next Monday.

Karen Sabolowsky
Ambridge, Pa.

Blood, Tswett and Strain

At the risk of over-working the "All in the Name" controversy, my final suggestion has to do with the arduous nature of chromatography. Two of the early workers in the field were "Tswett and Strain."

For skeptics:

Tswett, M. (See Ber. dent. bot.
Ges. (1906), 24, 384.)
Strain, H. ("Chromatographic, Ab-
sorption Analysis," In-
science Publishers, NY
1942)

Dr. Curtis B. Coleman
Director, Chemistry Division
Environmental Improvement Agency
State of New Mexico
Albuquerque, N.M.

Address communications to Editor,
Science News, 1719 N Street, N.W.
Washington, D. C. 20036

SCIENCE SERVICE

Institution for the Popularization of Science founded 1921; a nonprofit corporation

Board of Trustees—Nominated by the AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE: **Deborah P. Wolfe**, Queens College of City University of New York; **Bowen C. Dees**, The Franklin Institute; **Athelstan Spilhaus**, National Oceanic and Atmospheric Administration. Nominated by the NATIONAL ACADEMY OF SCIENCES: **Gerald F. Tape**, Associated Universities; **Allen V. Astin**, National Academy of Sciences; **Glenn T. Seaborg** (President), University of California, Berkeley. Nominated by the NATIONAL RESEARCH COUNCIL: **Gerald Holton**, Harvard University; **Joseph W. Berg Jr.**, National Research Council; **Aaron Rosenthal**, National Academy of Sciences. Nominated by the JOURNALISTIC PROFESSION: **Norman Cousins**, "World"; **Julius Duscha**, Washington Journalism Center; **O. W. Riegel** (Secretary), Washington and Lee University. Nominated by E. W. SCRIPPS TRUST: **Milton Harris** (Treasurer), Washington, D.C.; **Edward W. Scripps II** (Vice President and Chairman of the Executive Committee), Edward W. Scripps Trust; **John Troan**, Pittsburgh Press.

Director: E. G. Sherburne Jr.; Assistant Director: Dorothy Schriver; Business Manager: Donald R. Harless; Things of Science: Ruby Yoshioka.

315