

SCIENCE NEWS®

The Weekly Newsmagazine of Science

Science Service Publication
Volume 143, No. 6, February 6, 1993

Alfred Scott McLaren Publisher
Patrick Young Editor
Laurie Jackson Managing Editor
Vaughan Editor
Janice Rickerich Production/Design Director
Blair Burns Potter Associate Editor
Janet Raloff Senior Editor
Environment/Policy
Ron Cowen Astronomy
Bruce Bower Behavioral Sciences
Elizabeth Pennisi Chemistry/
Materials Science
Richard Monastersky Earth Sciences
Daniel Pendick General Science
Carol Ezzell Life Sciences/
Kathy A. Fackelmann Biomedicine
Ivars Peterson Mathematics/Physics
Larry Norland Editorial Assistant
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 \$39.50 for 1 year or \$68.00 for 2 years (foreign postage \$6.00 additional per year) by Science Service, Inc., 1719 N Street, N.W., Washington, DC 20036. Second-class postage paid at Washington, DC, and additional mailing office. **POSTMASTER:** Send address changes to SCIENCE NEWS, P.O. Box 1925, Marion, OH 43305. Change of address: Four to six weeks' notice is required — old and new addresses, including zip codes, must be provided.

Copyright © 1993 by Science Service, Inc. Title registered as trademark U.S. and Canadian Patent Offices. Printed in U.S.A.

Editorial and Business Offices:
1719 N St., N.W., Washington, DC 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, OH 43305
For new subscriptions only, call 1-800-247-2160.
For customer service, call 1-800-347-6969.

This Week

- 84 Beauty in the Eye of Neural Networks
- 84 Wood wins, plastic trashed for cutting meat
- 85 Dream sleep: A risk for heart patients?
- 86 Photon drag: New spin on making a black hole
- 86 Floods flow from small climatic shifts
- 86 Counting photons in a cleaned-up crystal
- 87 Flight: A bird hand is worthy in the bush

Research Notes

- 95 Earth Science
- 95 Environment

Articles

- 88 Marijuana and the Brain

Cover: The sea-horse-shaped object in this photo is the hippocampus, an area of the brain that may help process memories. The brightest colors (yellow and red-orange, respectively) represent areas rich in protein receptors that bind with THC, the active ingredient in marijuana. A research team now reports finding a marijuana-like substance manufactured by the brain itself. Aside from giving people a "natural high," this substance may play a role in regulating memory, mood, and motor control, the researchers say. (Photo: Miles Herkenham)



- 90 Captain of the Men of Death

Departments

- 83 Letters
- 94 Books

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 Program 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; 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

On media and (depressing) messages

The article "Depression rates rise over generations" (SN: 12/5/92, p.391) may indirectly verify Marshall McLuhan's predictions about electronic technology's effect on society. McLuhan held that all technologies (media) are extensions of human organs: Cars are extensions of our feet; telephones, our ears; print, our eyes; and so on. McLuhan gave special emphasis to electronic media because he considered them extensions of our nervous system.

The Weissman-Klerman study looked at succeeding generations born since 1915. This period has experienced the most dramatic explosion of technology in all of human history. With the ever-increasing speed at which we receive information, perhaps the nervous systems of succeeding generations of depression-predisposed persons may get stressed-

out sooner. For these people, depression may be an unfortunate consequence of our latest nervous system-extending technologies.

Lew Mermelstein
Palo Alto, Calif.

Matters of great gravity

Since the universe is still expanding subsequent to the Big Bang, wouldn't it make more sense to hypothesize that the large-scale flow of galaxy clusters described in "A River Runs Through It?" (SN: 12/12/92, p.408) is an artifact of expansion rather than a gravitational attraction? We would not, for example, explain the generally vertical motion of a large number of water droplets in a cumulus cloud by assuming that they were being pulled upwards.

Perhaps the "river" of galaxy clusters could better be described as one lobe of an expanding universe.

Robert E. Adler
Fremont, Calif.

As stated in the article, scientists believe the observed motion is above and beyond that expected from the expansion of the universe.

— R. Cowen

Reading your article brings back a few lines from *Hellas*, written by the poet Percy Bysshe Shelley:

Worlds on worlds are rolling ever
From creation to decay,
Like the bubbles on a river
Sparkling, bursting, borne away.

Burton E. Baer
Tryon, N.C.

CORRECTION & CLARIFICATION

B. Kathleen Jordan ("Vietnam combat trauma: A family affair," SN: 1/9/93, p.28) is a sociologist. All veterans in the study were men. The number 319 is a weighted sample that actually represents an estimated 176 veterans with post-traumatic stress disorder.