

Science Service Publication Volume 150, No. 20, November 16, 1996

Thomas Peter Bennett
Julie Ann Miller
Blair Burns Potter
Dan Skripkar
Production/Design
Director

 David Lindley
 Associate Editor

 Janet Raloff
 Senior Editor

 Environment/Policy

 Ivars Peterson
 Online Editor

 Mathematics/Physics

 Bruce Bower
 Behavioral Sciences

Internship Coordinator Earth Science

Biomedicine

Astronomy

Life Sciences

Bruce Bower Richard Monastersky

Kathleen Fackelmann, Steve Sternberg Ron Cowen Tina Adler John Travis Corinna Wu

John Travis Biology
Corinna Wu Chemistry/
Materials Science
Dan Vergano Science Writer Intern
Meghan Mitchell Editorial Assistant
Cait Anthony Books/Advertising

SCIENCE NEWS (ISSN 0036-8423) is published weekly on Saturday, except the last week in December, for \$49.50 for 1 year or \$88.00 for 2 years (foreign postage \$6.00 additional per year) by Science Service, Inc., 1719 N Street, N.W., Washington, D.C. 20036. Preferred Periodicals 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 © 1996 by Science Service, Inc. Title registered as trademark U.S. and Canadian Patent Offices. Printed in U.S.A. on recycled paper. Pepublication of any portion of Science News without written permission of the publisher is prohibited.

Editorial and Business Offices 1719 N St. N.W., Washington, D.C. 20036 202-785-2255; scinews@scisvc.org

Advertising Representative
Lewis Edge & Associates, Inc.

366 Wall St., Princeton, N.J. 08540, 609-683-7900 Subscription Department P.O. Box 1925, Marion, Ohio 43305

P.O. Box 1925, Marion, Ohio 43305 For new subscriptions only, call 1-800-247-2160. For customer service, call 1-800-552-4412.

Science News Online http://www.sciencenews.org

### **This Week**

308 Digging into Natural-World Insights 308 Electric blanket boils PCBs from soil 309 Light gets the bends in a photonic crystal 309 Distant galaxies dazzle in the infrared 310 Tying knots to tubular geometry, DNA loops Speedy galactic aluminum vexes astronomers 310 311 The Y copies another chromosome's gene 311 Early kin of vertebrates found in China

# **Research Notes**

314 Astronomy314 Environment316 Biology

#### **Articles**

312 Brave New World of Biosphere 2?

Cover: A team of researchers and educators from Columbia University aims to turn Biosphere 2 from a scientific flop into a center for studying the effects of greenhouse gases on the atmosphere. (Photo: T. Lamb)

318 Undesirable Sex Partners

# **Departments**

307 Letters 315 Books



Science Service, which publishes SCIENCE NEWS, is a nonprofit corporation founded in 1921 to increase the public understanding of science. Through its youth programs, it administers the International Science and Engineering Fair and the Science Talent Search for the Westinghouse science scholarships.

Board of Trustees — Chairman, Dudley Herschbach; Vice Chairman, Gerald F. Tape; Secretary, David A. Goslin; Treasurer, Willis Harlow Shapley; Joseph W. Berg Jr.; Robert W. Fri; J. David Hann; Shirley M. Malcom; Eve L. Menger, C. Bradley Moore; Ben Patrusky; H. Guyford Stever; Sanford J. Ungar; Deborah P. Wolfe.

Honorary Trustees — Chairman Emeritus, Glenn T. Seaborg; Edward Bliss Jr.; Bowen C. Dees; Elena O. Nightingale; O.W. Riegel; John Troan.

# **Letters**

# **Optical confusion**

In "Contacts for aging baby boomers' eyes?" (SN: 9/7/96, p. 159), you've confused two distinctly different optical conditions, presbyopia (the loss of near focusing ability) and hyperopia (far-sightedness). Contact lenses are indeed currently available for both of these refractive conditions, and, contrary to your report, they are not "impractically thick."

Larry Bickford Santa Barbara, Calif.

# Early learning?

Regarding "Infants tune up to music's core qualities" (SN: 9/7/96, p. 151): In light of the fact that an infant has the neurological mechanism of aural perception, exposure to sound, and direct experience of its mother's emotional response to sounds during the weeks prior to birth, there is no more reason

to interpret a 4-month-old's mirroring the musical tastes of his or her elders as indicative of "biological preparedness" than as indicative of learning in utero.

Kathleen Piper Chico, Calif.

## Overpowered plants

Hill's analysis of nuclear power is incomplete (Letters, SN: 9/7/96, p. 147). There are undoubtedly many needs for generating plants with outputs of 60 million kilowatthours per year or less. For many of these needs, solar power may be less expensive to build and operate and have less overall adverse ecological impact.

A comparable comparison would be a 5-ton truck with a capacity equal to that of 100 100-pound grocery shopping carts: Such a vehicle is neither usable nor useful in a supermarket.

Paul Purser Humble, Texas

## Soggy toast? Read on

The excellent article about Z-Trim ("No-Cal Powder May Sub for Food's Fat," (SN: 8/31/96, p. 132) concludes with a quote in which George Inglett says you can't sell water as a replacement for fat.

Actually, the dairy industry has been doing it for years in the form of soft-spread margarines. The average water content in most soft spreads is over 30 percent by weight—which is why they make hot toast soggy.

People also buy a lot of air in their products, but that's a topic for another letter.

T. Main Aberdeen, N.J.

Send communications to: Editor, SCIENCE NEWS 1719 N Street, N.W. Washington, D.C. 20036 or: scinews@scisvc.org All letters subject to editing.

**NOVEMBER 16, 1996** 

SCIENCE NEWS, VOL. 150

307