

The Weekly Newsmagazine of Science

Science Service Publication Volume 149, No. 14, April 6, 1996

Donald R. Harless Julie Ann Miller Blair Burns Potter Dan Skripkar Publisher Editor Managing Editor Production/Design Director

David Lindley Janet Raloff Ron Cowen

Bruce Bower

Associate Editor Senior Editor Environment/Policy Astronomy Behavioral Sciences

Richard Lipkin
Richard Monastersky
John Travis
Kathleen Fackelmann,

Chemistry/ Materials Science Earth Science Biology Biomedicine

Steve Sternberg Tina Adler Ivars Peterson Damaris Christensen Cait Anthony

Life Sciences Mathematics/Physics Editorial Assistant Books/Resource Manager

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. 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 © 1996 by Science Service, Inc. Title registered as trademark U.S. and Canadian Patent Offices. Printed in U.S.A. on recycled paper. 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; 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 For new subscriptions only, call 1-800-247-2160. For customer service, call 1-800-347-6969.

This Week

212 New Molecules Harness the Energy of Light

212 Global positioning for all

213 Chance reveals deadly rotavirus secret
213 Finding fault with Midwest seismic maps
214 Estrogenic agents leach from dental sealant
214 Toward a U.S. role at CERN'S new collider
215 Bringing bold color to chromosomes

Research Notes

221 Behavior221 Biomedicine223 Chemistry223 Paleontology

Articles

216 Only the Strong Survive218 Health in the Hot Zone

Cover: Climatologists have long warned that greenhouse gases will raise Earth's temperature by significant amounts. Now, public health researchers have started looking at how these warmer conditions would affect the spread of tropical disease and other medical problems. They foresee multiple threats on the horizon. (Illustration: Design Imaging)



Departments

210 Books211 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, 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; C. Bradley Moore; Elena O. Nightingale; Ben Patrusky; H. Guyford Stever; Sanford J. Ungar; Deborah P. Wolfe.

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

Letters

Self-awareness in primates

Scientists who conduct experiments on primates to see how "humanlike" they are are wasting their time ("Probing Primate Thoughts," SN: 1/20/96, p. 42).

We don't understand our own self-awareness well enough to test it in other animals. We still have a lot to learn about primates by observing their behavior in their natural surroundings. And the use of primates in captivity for experiments and observations won't mean anything when it comes to analyzing results—the environment is just too foreign.

David Smith Belfast Me

Many experiments designed by humans to test how nonhuman animals think are flawed by the experimenters' inability to step out of a human mindset. For example, Povinelli concludes that "chimps appear not to understand that the eyes can be deployed to signal a mental state of attention."

Does this conclusion overlook the possibility that the chimps' choices, which appeared "random" to the experimenters, may have been based on other cues? The chimps may have been responding to body posture, subtle facial expression, or nonvisual cues (hearing or olfaction).

As a veterinarian and lifelong animal handler, it has been my experience that animals are much better at reading human body language than people are at reading the body language of animals!

Barbara Corson Kennett Square, Pa.

Where credit's due

"Shocking Rhythms" (SN: 1/27/96, p. 56) did an excellent job of summarizing in a small amount of space our knowledge about the mechanisms of defibrillation. Because of its brevity, however, many investigators performing important research in this area were not mentioned.

For example, the article gave our laborato-

ry sole credit for the development of the biphasic waveform. John Schuder of the University of Missouri in Columbia and Janice Jones of Georgetown University in Washington, D.C., performed studies dealing with biphasic waveforms before we did.

Raymond E. Ideker Professor of Medicine University of Alabama Birmingham, Ala.

Not so fast, there!

There is one statement in the article on wakefield accelerators (SN: 2/10/96, p. 95) that is somewhat inaccurate. We have not yet accelerated electrons to 1 gigaelectron-volt in 1 centimeter, although we plan to do so in the near future. We have claimed only that we can get that kind of field gradient.

Thus far, we have only accelerated electrons to the megaelectronvolt level (but in much less than 1 millimeter).

Donald Umstadter Ann Arbor, Mich.

APRIL 6, 1996

SCIENCE NEWS, VOL. 149

211