

SCIENCE NEWS®

The Weekly Newsmagazine of Science

A Science Service Publication
Volume 141, No. 18, May 2, 1992

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
Carol Ezzell,	Life Sciences/ Biomedicine
Kathy A. Fackelmann	Mathematics/Physics
Ivars Peterson	Editorial Assistant
Larry Norland	Science Writer Intern
Michael Stroh	Books/Resource Manager
Connie Williams	Advertising/Business Manager
Donald R. Harless	

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, 231 West Center Street, Marion, OH 43305. Change of address: Four to six weeks' notice is required — old and new addresses, including zip codes, must be provided.

Copyright © 1992 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:
231 West Center Street, Marion, OH 43305
For new subscriptions only, call 1-800-247-2160.
For customer service, call 1-800-347-6969.

Letters

Surfing dolphins

Wildlife physiologist Terrie Williams may have "long wondered why dolphins sometimes travel in bow wakes" ("Drafting dolphins ride the wakes with ease," SN: 3/7/92, p.149), but a lot of the rest of the scientific community had it figured out a long time ago.

As graduate students 20 years ago, Steve Kline and I tested the pressure gradient explanation by building a scale-model generic dolphin shape that could "swim" along a horizontal wire just below the surface of the water in a wave tank. We made steep narrow-spectrum waves that looked like bow wakes and accelerated the dolphin model with a tow carriage until it caught a wave. We could then stop the carriage and the model stayed with the wave for 30 meters or so to the end of the tank. In spite of the considerable friction of the wire, the dolphin model needed no other energy input. After we calibrated out the wire friction, we were able to predict where in the wave the model would ride — higher waves allowed the

This Week

- 292 COBE Causes Big Bang in Cosmology
- 292 Zeroing in on the elusive neutrino's mass
- 293 California faults unleash week of turmoil
- 293 Gravity lenses for peering into darkness
- 294 Monitoring memories moving in the brain
- 294 Radwastes may escape glass via new route
- 295 Culture puts unique spin on moral judgment
- 295 Vitamin D: Too much of a useful thing

Research Notes

- 300 Biomedicine
- 300 Technology
- 302 Earth Science
- 302 Physics
- 303 Science & Society

Articles

- 296 Hearing Gene

Cover: Despite its fancy coat, the pedigreed Turkish Van cat is sometimes born deaf. Researchers studying the genetics of hearing disorders now suspect that it carries a genetic mutation similar to one in people with Waardenburg's syndrome, which accounts for 2 to 3 percent of all cases of congenital deafness in humans. (Photo: Vickie W. Jackson)

- 298 Astronomers Watch a Star Age

Departments

- 290 Books
- 291 Letters

Science Service, a nonprofit corporation founded in 1921, 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 disadvantaged groups.

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.



dolphin to be farther behind the front face. We were able to predict quite accurately at what wave height the model would be unable to surf.

*Richard J. Seymour
La Jolla, Calif.*

Tails vs. trails

Present theory dictates that meteor showers are a result of the Earth passing through dust tails formed by sublimation of a comet's nucleus as it journeys through our solar system. The primary constituents of these visible tails are infinitesimal dust specks; many of these minute particles would reenter our atmosphere completely unnoticed.

Given the new information presented in "Comets: Muddballs of the Solar System?" (SN: 3/14/92, p.170), it is more likely that our planet is, in fact, passing through the dust *trails* outlined in your article. These centimeter-size particles would certainly explain the magnificence of such showers as the Perseids.

*Kevin L. Starnes
Editor, THE COLORADO SPACE REPORT
Denver, Colo.*

Beadblasting

William Jewell and his colleagues are to be congratulated on the bioremediation of PCEs and TCEs by way of a two-stage reactor ("Microbes to sup at Superfund sites," SN: 3/14/92, p.175). Our experiments show that two-stage remediation also works on methylene chloride and residue from paint stripped from aircraft.

Another means of stripping aircraft is the use of plastic media blasting (PMB), which is somewhat like sandblasting, but using plastic beads rather than sand. Our experiments in remediating the residue from this process indicate that a *three*-stage reactor is the way to go. In the first stage, polyurethane and epoxy paint are digested. In the second, Type 5 plastic and residual polyurethane paint are digested. In the third, residual Type 5 and to some extent Type 2 plastic are digested.

The advantage of the multistage approach is the bioremediation of a complex waste.

*Gail Bowers-Irons
Biotechnology Division Manager
Technical Research Associates, Inc.
Salt Lake City, Utah*

MAY 2, 1992

291