

# SCIENCE NEWS®

The Weekly Newsmagazine of Science

A Science Service Publication  
Volume 127, No. 16, April 20, 1985

E. G. Sherburne Jr. Publisher  
Joel Greenberg Editor  
Dietrick E. Thomsen Senior Editor/  
Physical Sciences  
Laurie Jackson Phillips Managing Editor  
Wendy McCarren Production/Design  
Director  
Bruce Bower Behavioral Sciences  
Joanne Silberner Biomedicine  
Stefi Weisburd Earth Sciences  
Julie Ann Miller Life Sciences  
Janet Raloff, Policy/Technology  
Ivars Peterson  
Jonathan Eberhart Space Sciences  
Susan Welch Assistant to  
the Editor  
Dawn D. Bennett Science Writer Intern  
Jane M. Livermore Books  
Donald R. Harless Business Manager  
Schicago Associates Advertising  
Fred Dieffenbach, Sales Director  
1515 Broadway, New York, N.Y. 10036

Copyright © 1985 by Science Service, Inc.,  
Editorial and Business Offices,  
1719 N St., N.W., Washington, D.C. 20036.  
Republication of any portion of SCIENCE NEWS  
without written permission of the publisher is  
prohibited.

Subscription Department  
231 West Center Street, Marion, Ohio 43305

Subscription rate: 1 yr., \$27.50; 2 yrs., \$47.50;  
3 yrs., \$67.00. (Foreign postage \$5.00 additional per  
year.) Change of address: Four to six weeks' notice  
is required. Please state exactly how magazine  
is to be addressed. Include zip code. For new  
subscriptions only call (1) 800-247-2160. Printed in  
U.S.A. Second class postage paid at Washington,  
D.C. Title registered as trademark U.S. and  
Canadian Patent Offices. Published every Saturday  
by SCIENCE SERVICE, Inc. 1719 N St., N.W.,  
Washington, D.C. 20036. (202-785-2255)  
ISSN 0036-8423

## Letters

### Point to consider

Your article on the shape of raindrops ("Rain-  
drop Oscillations," SN: 3/2/85, p. 136) intrigued  
me. As a skydiver who has encountered rain-  
drops in freefall, I always thought the stinging  
sensation on my face was caused by hitting  
them on their pointy ends.

Don Wright  
Erwinna, Pa.

### Breaking down bacterial DNA

"Do kinks and twists denote DNA damage?"  
(SN: 3/16/85, p. 166) is of great interest. The  
quinolone antibacterial agents, used often in  
urinary tract infections, affect susceptible bacte-  
ria by inhibiting DNA synthesis. This is ac-  
complished by inhibiting the adenosine  
triphosphate-dependent DNA supercoiling  
reaction catalyzed by DNA gyrase, by inhibiting  
the relaxation of supercoiled DNA and by pro-  
moting double-stranded DNA breakage. Thus

## This Week

- 244 Powerful Climb Toward Fusion Power
- 245 Examining the world of obsessive teens
- 245 Monkeys possible source of human AIDS
- 246 Bind-and-snip search for Z-DNA
- 246 Radiation therapy for arthritic joints
- 247 The trouble with technical data
- 247 Dirty tricks: Plant defense backfires

## Research Notes

- 248 Behavior
- 248 Biomedicine
- 249 Chemistry
- 249 Earth Sciences

## Articles

### 250 Source Terms: The New Reactor Safety Debate

Cover: Five years after a catastrophic accident crippled the Three Mile Island-2 reactor, its cooling towers, shown here, still stand idle. Among the more important lessons learned in that accident was how poorly reactor-accident analysts had predicted radioactive releases. Attempts to understand why the original estimates were so wrong have ushered in a major reevaluation of one of the more fundamental risk factors underpinning nuclear regulations. (Photo: GPU Nuclear Corp.)



## Departments

- 243 Letters
- 255 Books

**Science Service** Institution for the public understanding of science founded 1921; a nonprofit corporation.

**Board of Trustees**—*President*, Glenn T. Seaborg; *Vice President*, Gerald F. Tape; *Treasurer*, Willis Harlow Shapley; *Secretary*, Julius Duschka; Joseph W. Berg Jr.; Edward Bliss Jr.; Bowen C. Dees; David A. Goslin; Milton Harris; Hilleary F. Hoskinson; O. W. Riegel; H. Guyford Stever; John Troan; Deborah P. Wolfe.

**Director**: E. G. Sherburne Jr.; **Assistant Director**: Dorothy Schriver; **Business Manager**: Donald R. Harless.

are changes in DNA structure of therapeutic importance. New quinolones, such as ofloxacin, which work by the same mechanisms as older drugs but are 100-fold more active, look promising to medical clinicians.

Z.L.G. Stein  
Robert L. Barkin  
Assistant Directors of Pharmacy  
Faculty, Dept. of Pharmacology  
Rush-Presbyterian-St. Luke's Medical Center  
Chicago, Ill.

### Impromptu bounces

The article on the Soviet planetary plans was fascinating, but I must nitpick a small item it contained about the U.S. Surveyor program ("Ambitious Soviet planetary plans presented at U.S. meeting," SN: 3/23/85, p. 182).

Surveyor 3 did no deliberate hopping. Its venier descent engines failed to shut down as

scheduled immediately prior to lunar touchdown, with the result that it took a couple of long bounces down the inner slopes of the crater later visited by Apollo 12. It was Surveyor 6 that was relaunched for a 2.5-meter flight, after returning nearly 13,000 close-up pictures of the lunar surface. The spacecraft systems continued to function perfectly afterwards, and more than 17,000 post-hop pictures were returned.

R. M. Batson, Chief  
Planetary Cartography Section  
U.S. Geological Survey  
Flagstaff, Ariz.

Address communications to  
Editor, Science News,  
1719 N Street, N.W.  
Washington, D.C. 20036  
Please limit letters to 250 words.

APRIL 20, 1985

243