

# SCIENCE NEWS

The Weekly Newsmagazine of Science

A Science Service Publication  
Volume 124, No. 13, September 24, 1983

E. G. Sherburne Jr. Publisher  
Joel Greenberg Editor  
Dietrick E. Thomsen Senior Editor/  
Physical Sciences  
Joanne Silberner Managing Editor  
Judy Klein Production/Design  
Director  
Wray Herbert Behavioral Sciences  
Joan Arehart-Treichel Biomedicine  
Linda Garmon Chemistry  
Cheryl Simon Earth Sciences  
Julie Ann Miller Life Sciences  
Janet Raloff, Policy/Technology  
Ivars Peterson  
Jonathan Eberhart Space Sciences  
Wendy McCarren Assistant to the  
Editor  
Sarah Steinberg 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 © 1983 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 43302

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

### Pronouncing a particle

Now that it's official and physicists at CERN  
definitely claim to have found the particle  $Z^0$ ,  
(SN: 6/18/83, p. 388) the question arises, "How  
do you say it?"

Surely it's not "Z to the zero power," although  
that's what it looks like. If the zero were level  
with the bottom of the Z, like this:  $Z_0$ , it would be  
"Z sub zero."

I'm therefore tempted to read  $Z^0$  as "Z super  
zero."

But that's only my weak interaction. Am I cor-  
rect?

Arthur J. Morgan  
New York, N.Y.

It's "zed-zero." —Ed.

### The speed of light

The introductory paragraphs to the article  
"Tomorrow's Telephony: Light and Clear" (SN:  
5/21/83, p. 330) seem to imply that light travels  
faster through optical fibers than electricity  
flows through copper wires.

SEPTEMBER 24, 1983

## This Week

- 196 Stray Jets: The Human Factor
- 196 PET scans brain pathways
- 196 The Northern Lights — in the daytime
- 197 Arctic evolution for land plants, animals?
- 197 A possible X-ray lasing transition
- 198 Monkeying with mother-infant bonds
- 198 NIH is sued over gene-altering issue
- 198 Fetal vaccination found possible
- 199 Pesticides: The human body burden
- 199 NAS panel sees 'no scientific need' yet for a U.S. space station

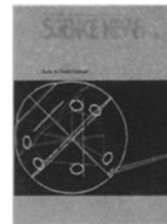
## Research Notes

- 206 Earth Sciences
- 207 Chemistry
- 207 Behavior

## Articles

- 202 Computer Languages: In Search of a Better Bug Finder
- 204 Ions and Computers Fight Cancer

Cover: Computer graphic from radiation treatment program is a lateral  
view of a cancerous eye. Green outlines the iris, yellow the lens. The  
blue bundle is the optic nerve, orange the tumor. White circles are  
metal rings attached as references. (Photo courtesy of Lawrence  
Berkeley Laboratory)



## Departments

- 195 Letters

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 Duscha; *Joseph W. Berg Jr.*; *Edward Bliss Jr.*; *Bowen C. Dees*; *David A. Goslin*; *Milton Harris*; *Hilleary F. Hoskinson*; *Elizabeth F. Neufeld*; *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.

Since light and electricity are both elec-  
tromagnetic wave phenomena, their wave ve-  
locities are identical (in a vacuum). Both of  
these forms of electromagnetic waves travel  
through "waveguides," the optical fiber being a  
waveguide for light energy and wires for electrical  
energy. Any difference in velocity between  
the two could be a function of the material  
within the waveguide; however, over distances  
of tens or hundreds of kilometers this difference  
would not be appreciable....

Hans J. Togenes  
West Richland, Wash.

### More on rape season

I was disappointed to see a serious review of  
pseudoscientific research in your generally  
careful publication ("Rape season: Legacy of  
our past?" SN: 7/23/83, p. 53).

This type of research (selective statistical  
analysis; inappropriate controls) gives a bad  
name to federally funded research as well as to  
careful sociobiological research.

Crimes against persons increase as personal  
interaction and availability increase (warm

weather). Homicide has no relationship as the  
perpetrators are usually friends or family. Rob-  
bery increases as weapon concealment be-  
comes more practical (cold weather). These  
trends have been known by criminologists and  
the beat cop for many years.

Do you suppose that the change in the earth's  
axis and gravitational pull of the sun has some  
effects? How about increased volatility of  
female hormones during the summer months? I  
wonder if the reviewed research article is not  
really a hoax.

Mark Fox  
Temple Hills, Md.

*Corrections: In the cover photo accompanying  
"Dioxin Digest" (SN: 9/13/83, p. 145), the aircraft  
spraying Agent Orange were mistakenly  
identified as fighters. They are C-123s, accom-  
panied by an escort plane.*

*The article about the natural laser in the Mar-  
tian atmosphere (SN: 9/17/83, p. 181) incorrectly  
described a pair of mirrors as being 50 kilome-  
ters in diameter. Their size should have been 50  
meters.*

195