

# SCIENCE NEWS

The Weekly Newsmagazine of Science

A Science Service Publication  
Volume 123, No. 7, February 12, 1983

E. G. Sherburne Jr. Publisher  
Joel Greenberg Editor  
Dietrick E. Thomsen Senior Editor/  
Physical Sciences  
Judy Klein Assistant Editor  
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  
Joanne Silbener Assistant to the Editor  
Ileana Mendez Art Director  
Allan Chen Science Writer Intern  
Jane M. Livermore Books  
Donald R. Harless Business Manager  
Schrago 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

### Biochemistry and behavior

In his letter (Jan. 1) critical of your article  
"Childhood Autism Linked to Brain Allergy" (SN:  
11/27/82, p. 340), Valentin Fikovsky expresses  
fears that a biochemical approach to behavior  
derives from "arbitrary" assumptions and  
"casual reasoning."

To the contrary, a biochemical explanation of  
psychiatric illness offers something that is tan-  
gible — it can be seen, tested, repeated, and  
probably changed. When were Freud's or any  
other psychological theories ever subjected to  
a double-blind crossover study? It has been dif-  
ficult for psychology to pass such tests, because  
its underlying assumption is one of psychogen-  
esis (originating in the mind). It can never be  
proved or disproved; one can only believe or  
disbelieve. I would hardly be the first to venture  
that the hundreds of psychological theories  
that abound originated with limited basis in the  
minds of therapists as well as patients. This  
brings psychology dangerously close to an un-  
provable belief system, otherwise known as re-  
ligion. It's time we distinguished between what

## This Week

- 100 Zapping Pain: Hot Prospects for the Cold Laser
- 101 Quiterons: Deep-freeze transistors
- 101 IRAS: Early looks at a bright future
- 101 Fore! Pulling turf from under a telescope
- 102 Charting 'deformed' electrons of a heavy
- 102 Runners and anorexics: An ascetic disorder?
- 103 A second cup of coffee
- 103 More debate over clay layer's origin
- 103 Biosynthesis of a rabies vaccine

## Research Notes

- 106 Chemistry
- 106 Science & Society
- 107 Technology
- 107 Earth Sciences

## Articles

- 108 The New Inflationary Nothing Universe
- 110 Super Squid Lies in State

Cover: Cast in science fiction as vicious sea monsters, few giant  
squid have been available for scientific study. This 450-pound  
specimen, stranded in 1980, is now on display at the Smithsonian  
Institution's Museum of Natural History. (Photograph by W.B. Coltin,  
Newburyport Daily News)



## Departments

- 98 Books
- 99 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*, Milton Harris;  
*Secretary*, Julius Duscha; Joseph W. Berg Jr.; Edward Bliss Jr.; Bowen C. Dees; David A. Goslin; Hilleary F.  
Hoskinson; Elizabeth F. Neufeld; O. W. Riegel; Willis Harlow Shapley; H. Guyford Stever; John Troan; Deborah  
P. Wolfe.

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

might be proved and what can only be guessed  
at.

This is meant to neither deny psychological  
causes or aspects of illness nor to deper-  
sonalize patients into nothing more than  
biochemicals. We are as individual in  
biochemistry as in personality, requiring the  
same nutrients and biochemicals but in greatly  
differing amounts. By recognizing and under-  
standing the chemical nature of behavior, we  
can treat many problems quickly instead of  
futilely asking someone to talk out their pro-  
blems for 20 years. Once the presence or absence  
of a chemical problem has been determined,  
that which has not been chemically induced  
can be treated in a variety of ways. Let's not ex-  
clude any single approach for another, regard-  
less of how convinced we are of its virtue.

Jack Challem  
Santa Fe, N.M.

### Too good to be true

Your article on caffeine ("Good news for caf-  
feine consumers," SN: 11/13/82, p. 311) was truly  
"almost too good to be true." Caffeine certainly  
can modify behavior, but not all of the changes

are for the good of the consumer. Significant al-  
terations of sleep patterns have been reported  
after consumption of only two or more cups of  
regular instant coffee at bedtime (Karacan, et  
al., *Pharmacol. Ther.*, 20: 682, 1976). It has been  
linked to restless leg syndrome and chronic an-  
xiety (Lutz, *J. Clin. Psychiatry*, 39: 693, 1978) and  
to the delayed sleep phase syndrome ... by  
other authors. Not all researchers are as en-  
thusiastic about its use by the ton in this coun-  
try as your report implies. Cancer is not the only  
area of concern for the caffeine consumer. Get-  
ting a good night's sleep on a regular basis can  
be precluded by inappropriate caffeine con-  
sumption. Your readers should be given a more  
balanced report in this area.

Edgar A. Lucas, Ph.D.  
Univ. of Ark. for Medical Sciences  
Little Rock, Ark.

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

FEBRUARY 12, 1983

99