

# SCIENCE NEWS

The Weekly Newsmagazine of Science

A Science Service Publication  
Volume 123, No. 11, March 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, Ivars Peterson	Policy/Technology
Jonathan Eberhart	Space Sciences
Joanne Silberner	Assistant to the Editor
Ileana Mendez	Art Director
Allan Chen	Science Writer Intern
Jane M. Livermore	Books
Donald R. Harless	Business Manager
Scherago 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

### A different approach

"Luring engineers back to academia" (SN: 2/12/83, p. 106) probably requires some very different approach from "enriching the research environment with awards of up to \$100,000. . . ." Since it is unlikely that in the near future the academic environment will be as rich materially as its business competition, there can be no hope of attracting and retaining people of quality by such material enticement. Instead, the schools of engineering must develop and emphasize their realistic attractions. In my opinion these attractions are formidable, including intellectual and practical challenge, stimulating contact with students and other bearers of new ideas, practically unencumbered opportunity to be self-directing and responsible, and other intangibles.

Universities are a haven for those who seek elegance rather than luxury in their lives as scholars, and engineers, and the universities must learn to promote their real richness in the terms which best define our culture (or which define the best in our culture).

Roger D. Nelson, Ph.D.  
Princeton, N.J.

MARCH 12, 1983

## This Week

- 164 California's Ups and Downs
- 164 Seafloor spreading ridges that overlap
- 165 Crystals worth millions of sneezes
- 165 New height-weight chart: It's OK to weigh a little more than before
- 166 Shuttle and Ariane: The hard road to orbit
- 166 Undersea optical fiber cables tested
- 167 Ten talented youths win science awards
- 167 Computing a competitive advantage
- 168 Machine tools: Symptom of America's waning competitive edge

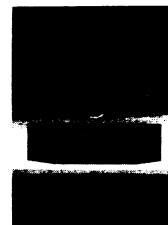
## Research Notes

- 169 Computers
- 169 Behavior

## Articles

- 170 Analog 'Apples' and Digital 'Oranges'

Cover: Recording the complex waveforms of musical sounds as strings of 1s and 0s using a digital audio processor like the one shown seems to promise more realistic sound reproduction than do older analog recording techniques. However, testing and comparing sound quality turns out to be a complicated affair. (Illustration courtesy of dbx, Inc.)



- 173 Happy Birthday, Joseph Priestley

## Departments

- 162 Books
- 163 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.

### The state of Soviet psychiatry

Joel Greenberg's commentary concerning the resignation of the Soviet All-Union Society of Psychiatrists and Neuropathologists from the World Psychiatric Association (SN: 2/26/83, p. 138) was both on-target and extremely thought-provoking. During the course of his dissertation, however, Mr. Greenberg made a couple of observations that are especially worthy of further exploration.

In the first place, the actions attributed to Soviet psychiatrists must be viewed within the appropriate context. All professional organizations in the Soviet Union operate under the constraints imposed by a politically restrictive government. Such being the case, the Soviet psychiatric community cannot be held totally accountable for "the systematic abuse of psychiatry for political purposes." By design, they do not have the freedom to pursue their work within a framework of objectivity.

The Soviet government presently exercises both overt and covert control over any and all scientific enterprises. If the Soviet psychiatrists were allowed to practice their trade in the proper environment, then one could hardly ex-

pect them to conduct themselves in the same manner as they do now. More than the instrument of oppression, they are in reality the victims of an even greater conspiracy.

Blame for the Soviet move should be directed toward its true source — those who pressured the psychiatrists into taking such a drastic measure. By initiating proceedings against the Soviets, the responsible parties demonstrated a clear lack of understanding toward the entire situation. The full implications of this ignorance remain to be seen.

As Mr. Greenberg so aptly pointed out, everyone stands to lose whenever open lines of communication are severed. Progressive research in any discipline is intrinsically dependent upon a free exchange of ideas. It is indeed unfortunate that the Soviet delegation will no longer be actively participating in the World Psychiatric Association. They have made many significant contributions to the field over the years and their input at this year's conference will be noticeably missed.

Aaron Wilson Hughey  
Bowling Green, Ky.

163