

THIS WEEK

Gloomy forecast for nuclear power	228
Visually timing action	229
Ozone data by satellite	229
Combination cancer therapy effective	230
Zebus imported for breeding with cattle	230
Toxic shock: A media myth?	230
Brown lung agent synthesis	231
Counter Chagas chemicals in rats	231
Final Ariane test flight scheduled	231

RESEARCH NOTES

Biology	238
Earth Sciences	238

ARTICLES

Eastern shake up	232
Personality study: More than word play	235

DEPARTMENTS

Letters	227
---------	-----

COVER: Words that explain, retract and qualify spice speech with personal flair. By tallying the types of words a speaker uses and analyzing syntax, a University of Maryland psychiatrist has developed a new tool for diagnosing personality disorders. See page 235.

Publisher	E. G. Sherburne Jr.
Editor	Joel Greenberg
Senior Editor and Physical Sciences Biomedicine	Dietrick E. Thomsen
Chemistry	Joan Arehart-Treichel
Earth Sciences	Lisa M. Krieger
Life Sciences	Linda Garmon
Policy/Technology	Cheryl Simon
Space Sciences	Julie Ann Miller
Contributing Editors	Janet Raloff
	Jonathan Eberhart
	Lynn Arthur Steen (mathematics)
	Kendrick Frazier
	John H. Douglas
	Michael A. Guillen
Science Writer Interns	Deborah Franklin
	Ivars Peterson
Assistant Editor	Judy Klein
Art Director	Elizabeth G. Clark
Assistant to the Editor	Betsy Gordon
Books	Jane M. Livermore
Business Manager	Donald Harless
Advertising	Scherago Associates 1515 Broadway New York, N.Y. 10036 Fred W. Dieffenbach, Sales Director

Copyright © 1981 by Science Service, Inc., 1719 N St., N.W., Washington, D.C. 20036. Republication of any portion of SCIENCE NEWS without written permission of the publisher is prohibited.

Editorial and Business Offices
1719 N Street, N.W.
Washington, D.C. 20036

Subscription Department
231 West Center Street, Marion, Ohio 43302

Subscription rate: 1 yr., \$22.50; 2 yrs., \$39.00; 3 yrs., \$55.00 (Add \$3 a year for Canada and Mexico, \$4 for all other countries.) 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

Electrostatics and VDTs

I was gratified to see such excellent reportage on the Video Display Terminal symposium at the National Academy of Sciences last month (SN: 8/29/81, p. 137), and Janet Raloff is to be congratulated. It was a great pity, however, to watch such eminent scientists "analyzing the hailstones for the cause of the hail," when they might have been observing the clouds.

The visual and perception problems associated with vdt's have been very well defined, but the headaches, stress, and other discomforts remain because of a basic factor *common to all vdt's* — they change the electroclimate of the operator, thus upsetting certain biochemical systems.

Medical physicists have been vainly trudging up and down the frequency spectrum from 50 Hz to X-ray looking for operator discomfort causes without focusing on the biological effects of the DC potentials basic to vdt operation. Clinical psychologists have likewise been vainly pounding away at the old stimulus/response mechanisms in search of clues, without focusing on the effects of biochemical mediators which link stimulus to response; there was a brief mention of heightened catecholamine levels, but this was generally ignored as irrelevant.

By and large, the panels were excellent (with an unusually small sprinkling of bigots), but regrettably failed to include experts in either electrostatics or biochemistry — a serious omission which I trust will be rectified in the near future.

Charles Wallach
McLean, Va.

Life in the dark

The novel finding of a luminescence from dehydrating clay minerals by Coyne, Lahav and Lawless (SN: 9/12/81, p. 166) is indeed interesting. Its relevance to cyclic wetting and drying in the formation of peptide bonds necessary to the origin of life may be very important. But this can only be significant if currently accepted models of the earth's early atmosphere are changed to permit absorption of short wavelength UV radiation. In the absence of any oxygen (and hence any ozone) this UV radiation would rapidly destroy polypeptides proceeding toward the formation of primitive proteins exposed on the drying clays in evaporating lagoons. Terrestrial life today requires a protective ozone screen. Because of the importance of dehydration to their polymerization, it is likely that early evolving proteins and nucleic acids did also. Life can't be kept in the dark forever.

Kenneth M. Towe
Washington, D. C.

Evolutionary morphine in milk

The Wellcome scientists' discovery of naturally occurring morphine in milk (SN: 9/5/81, p. 149), together with the existence of morphine receptors in mammalian brains, suggests to me a possible evolutionary reason for the development of the latter.

Mammalian infants are very vulnerable, defenseless creatures. Part of their survival strategy consists of behavior which is geared to lessen the chance of detection by predators.

Morphine's calming effect (rather than its analgesic property) in small doses might aid in attaining the placidity needed to achieve this species-preserving behavior in infants. In relation to the small size of mammalian infants, the 200-500 nanograms/l of milk may be enough to suit the purpose.

My proposition would be strengthened if, indeed, "an active concentrating mechanism... in the mammary gland" could be found.

The question would remain, however, why the morphine receptors remain active after the infant has been weaned.

J. F. Leo Sommerfeld
Coon Rapids, Minn.

It's not unique

The excellent article "Breaking the Sound Barrier" by Linda Garmon (SN: 8/8/81, p. 90) leaves the impression that William Washbaugh's observation of Providence Island Sign Language's acceptance by its hearing population as a second language is unique. I call your (and fellow readers') attention to Nora Groce's article "Everyone Here Spoke Sign Language" (Natural History 89(6): 10-16, June 1980), in which Martha's Vineyard is described as a community which accepted its deaf members, their language of signs, and their contributions as equal to any others.

Alan I. Kaplan,
Berkeley, Calif.

Hole-ly large name change

Regarding the article "Hole-ly large accelerations" (SN: 6/20/81, p. 392): I would just like to point out that the work referred to was done by Robert M. Wald, of the University of Chicago, and myself, William G. Unruh of the University of British Columbia, not by Jesse Unruh. The latter I know of only as a Democratic House leader in California in the 60s. As far as I know he has not done any work on black holes.

W. G. Unruh
Vancouver, British Columbia

Correction: Photos illustrating "Colorful Views of Vision" (SN: 10/3/81, p. 221) should have carried the additional credit Copyright 1981 by the American Association for the Advancement of Science.

U.S. POSTAL SERVICE STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION (Required by 39 U.S.C. 3685)		
1. TITLE OF PUBLICATION	2. PUBLICATION NO.	3. DATE OF FILING
SCIENCE NEWS	6 0 3 6 8 1 2 3	Oct. 1, 1981
4. FREQUENCY OF ISSUE	5. NO. OF ISSUES PUBLISHED ANNUALLY	6. ANNUAL SUBSCRIPTION PRICE
Weekly	52	\$22.50
7. COMPLETE MAILING ADDRESS OF KNOWN OFFICE OF PUBLICATION (Street, City, County, State and ZIP Code) (Not printer)		
1719 N Street, N.W., Washington, D.C. 20036		
8. COMPLETE MAILING ADDRESS OF THE HEADQUARTERS OR GENERAL BUSINESS OFFICES OF THE PUBLISHERS (Not printer)		
1719 N Street, N.W., Washington, D.C. 20036		
9. FULL NAME AND COMPLETE MAILING ADDRESS OF PUBLISHER, EDITOR, AND MANAGING EDITOR (For non-profit organizations, the name and address must be stated)		
E. G. Sherburne, Jr., 3110 Hawthorne St., N.W., Washington, D.C. 20008		
10. EDITOR (Name and Complete Mailing Address)		
Joel P. Greenberg, 2447 40th St., N.W., Washington, D.C. 20007		
11. MANAGING EDITOR (Name and Complete Mailing Address)		
12. OWNER (If owned by a corporation, its name and address should be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual must be given. If the publication is published by a nonprofit organization, its name and address must be stated.) (Form must be completed)		
13. FULL NAME AND COMPLETE MAILING ADDRESS		
Science Service, Inc., 1719 N Street, N.W., Washington, D.C. 20036		
14. KNOWN BONDHOLDERS, MORTGAGEES, AND OTHER SECURITY HOLDERS OWNING OR HOLDING 1 PERCENT OR MORE OF TOTAL AMOUNT OF BONDS, MORTGAGES OR OTHER SECURITIES (Name and address in full)		
None		
15. FOR COMPLETION BY NONPROFIT ORGANIZATIONS AUTHORIZED TO MAIL AT SPECIAL RATE (Section 4112, Code only) (The purpose, function, and nonprofit status of this organization and the exempt status for Federal income tax purposes should be stated)		
16. EXTENT AND NATURE OF CIRCULATION (If not completed by nonprofit organizations, see instructions on reverse of this form)		
A. TOTAL NO. COPIES (Net press run)	B. SALES THROUGH DEALERS AND CARRIERS (Net press run)	C. SALES THROUGH OTHER SALES CHANNELS (Net press run)
193,492	193,192	0
D. MAIL SUBSCRIPTIONS (Net press run)	E. MAIL SUBSCRIPTIONS (Net press run)	F. MAIL SUBSCRIPTIONS (Net press run)
189,181	189,181	189,181
G. TOTAL PAID CIRCULATION (Sum of D, E, and F)	H. TOTAL PAID CIRCULATION (Sum of D, E, and F)	I. TOTAL PAID CIRCULATION (Sum of D, E, and F)
189,181	189,181	189,181
J. COPIES NOT PAID FOR (Net press run)	K. COPIES NOT PAID FOR (Net press run)	L. COPIES NOT PAID FOR (Net press run)
830	830	868
M. TOTAL DISTRIBUTION (Sum of G and J)	N. TOTAL DISTRIBUTION (Sum of G and J)	O. TOTAL DISTRIBUTION (Sum of G and J)
190,011	190,011	189,631
P. COPIES OF SINGLE ISSUES (Net press run)	Q. COPIES OF SINGLE ISSUES (Net press run)	R. COPIES OF SINGLE ISSUES (Net press run)
3,681	3,681	3,561
S. RETURN FROM ADVERTISERS	T. RETURN FROM ADVERTISERS	U. RETURN FROM ADVERTISERS
0	0	0
V. Total (Sum of L, P, and S) should equal net press run shown in 14	V. Total (Sum of L, P, and S) should equal net press run shown in 14	V. Total (Sum of L, P, and S) should equal net press run shown in 14
193,492	193,492	193,192
17. I certify that the statements made by me above are correct and complete		
Signature and Title of Editor, Publisher, Business Manager, or Owner E. G. Sherburne, Jr., President		

