# SEKENES® The Weekly Newsmagazine of Science

A Science Service Publication Volume 130, No. 11, September 13, 1986

E.G. Sherburne Jr. Joel Greenberg Dietrick E. Thomsen

Editor Senior Editor/ Physical Sciences Managing Editor Production/Design Director

Publisher

Bruce Bower Joanne Silberner Stefi Weisburd Julie Ann Miller, Lisa Davis

Laurie Jackson

Wendy McCarren

Behavioral Sciences Biomedicine Earth Sciences Life Sciences Policy/Technology

Janet Raloff, Ivars Peterson Jonathan Eberhart Richard Monastersky

Space Sciences
Assistant to
the Editor
Science Writer
Interns

Ivan Amato, Trina Kleist Jane M. Livermore Donald R. Harless

Books Advertising/Business Manager

Copyright © 1986 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., \$29.50; 2 yrs., \$50.00. (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., and additional mailing offices. 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

#### **This Week**

Ocean Anti-Inflammatory Agents
Even low lead levels in mom affect baby
Growing edge of a Caribbean wedge
Knocking the lead out of gasoline
Spectral variations on a universal theme
Bird's-eye view of early primate scene
Quasar missing link colored infrared
A U.S. rocket does something right
Common herbicide linked to cancer

#### **Research Notes**

170 Biomedicine170 Technology

#### **Articles**

168 A High-Strung Theory171 Warning: This Software May Be Unsafe

Cover: The first computer "bug," discovered in 1945 and preserved in Navy records, may have been this moth, which jammed a relay in the Navy's electromechanical Mark II computer. Since then, "debugging" has become an unavoidable part of using computers and computer programs. Finding errors in complex computer programs is particularly difficult. This raises questions about how to prevent catastrophic failures in software that controls such critical functions as banking transactions, space shuttle launches and nuclear missile firings. (Photo courtesy of Naval Surface Weapons Center)



#### **Departments**

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, Willis Harlow Shapley; Secretary, Hilleary F. Hoskinson; Joseph W. Berg Jr.; Edward Bliss Jr.; Bowen C. Dees; David A. Goslin; Milton Harris; Elena O. Nightingale; 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.

## Letters

## Computer skills: Choosing sides

I propose another test to challenge the "wrongheaded" assumption regarding the division of duties and capabilities between brain hemispheres ("Left brain reigns over sign language," SN:8/2/86,p.7). Why not consider computer programming skills in much the same way that sign language was studied?

Computer programming languages have components of a syntactical and/or grammatical nature not unlike spoken and written "human" language. However, the symbols and references contained in programs can only be interpreted in a mathematical context. I have often read that mathematics is another of the right hemisphere's domains of expertise, related as it is to spatial relations, geometry and the like. In cases of separation of brain hemispheres, I wonder what test results would indi-

cate for a subject's ability to read/write/interpret computer programs (given that the subject was "fluent" in the use of a programming language before the separation). Logically, there should be consistency between such results and those reported for sign language.

Andy Watson Engineer/programmer Englewood, Colo.

### No scientific desert here

Every time I read an article about the Continuous Electron Beam Accelerator Facility (CEBAF), planned for construction in Newport

News, Va., it pains me to read that "no university is located nearby" ("Single-File Electrons," SN:8/9/86,p.90). My graduate school alma mater, Old Dominion University, one of Virginia's finest state universities, is only 30 minutes away by car.

While I was completing a master's degree in physics at Old Dominion in Norfolk, I conducted part of my thesis research at the CEBAF site itself, which used to be the Space Radiations Effects Laboratory (SREL) run by NASA (NASA's Langley Research Center is practically next door). SREL's linear electron accelerator had an energy range of 3 to 10 MeV. Southeastern Virginia is certainly not the scientific desert that certain "Ivy Leaguers" will have us believe.

Marcia F. Bartusiak Norfolk, Va.

SEPTEMBER 13, 1986 163