

SCIENCE NEWS®

A Science Service Publication
Vol. 110/October 16, 1976/No. 16
Incorporating Science News Letter

OF THE WEEK

Curbing nuclear proliferation	244
Toxic substances act signed	244
Quantized light-emitting diode	245
Mars's homogeneous soil	245
Hermaphrodite genes	246
Hooked handedness	247
Accelerated iron nuclei	247
Steady gamma-ray source	247

RESEARCH NOTES

Astronomy	250
Biomedicine	250

ARTICLES

New kind of nova	251
The promise of oxygen	254

DEPARTMENTS

Books	242
Letters	243

COVER: Grooves in low-lying valleys at latitude 34°N in the Nilosyrtis region of Mars are, according to one geologist, "the best photographic evidence we've ever had of real, large-scale glacial flow on Mars." They resemble earth features where near-surface materials flow in their entirety very slowly, aided by the freeze-thaw of interstitial ice. Photo, taken during Viking 1 orbiter's September "walk" around Mars, covers an area 90 by 80 kilometers. See p. 245 for latest Viking news. (Photo: NASA/Viking 1)

Publisher	E. G. Sherburne Jr.
Editor	Kendrick Frazier
Senior Editor and Physical Sciences	Dietrick E. Thomsen
Senior Editor and Behavioral Sciences	Robert J. Trotter
Biomedical Sciences	Joan Arehart-Treichel
Life Sciences	Julie Ann Miller
Science and Society	John H. Douglas
Space Sciences	Jonathan Eberhart
Contributing Editors:	
Biology	Janet L. Hopson
Mathematics	Lynn Arthur Steen
Copy Editor	Michelle Galler Riegel
Art Director	Dale Appleman
Assistant to the Editor	Evelyn Harris
Books	Margit Friedrich
Business Manager	Donald Harless
Advertising	Scherago Associates, Inc. 11 W. 42nd St. New York, N.Y. 10036 Fred W. Dieffenbach Sales Director

Copyright © 1976 by Science Service, Inc., 1719 N St., N.W., Washington, D.C. 20036. Republication of any portion of SCIENCE NEWS 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., \$10; 2 yrs., \$18; 3 yrs., \$25. (Add \$2 a year for Canada and Mexico, \$3 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.

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) TWX 710-822-9433 SCIEN NEWS.

LETTERS

Science court

On the "Science Court" idea (SN: 9/25/76, p. 198), I found myself agreeing wholeheartedly with Margaret Mead. Much to my surprise I encountered additional support in a writing of Aristotle (Guthrie, 1939): "And indeed it is arbiters, not litigants who are wanted for the obtaining of an adequate recognition of the truth" (p. 97). Those who search for truth must not be bound by a legal pronouncement. Instead, let each be guided by their creative spirit, and in disputes let truth arbitrate.

Gregory Wheeler
Pasadena, Calif.

Electronic learning

The article on electronic learning (SN: 9/11/76, p. 170) brings up a point.

In "Stability and Change in Human Characteristics," Dr. Benjamin Bloom states that by age four, 50 percent of a child's IQ improvement capability has been used, or lost. By 8: 30 percent, 13: 12 percent and by 17: 8 percent. All this means that by the time a child is sent to school, or is introduced to the new teaching technologies, the "bright ones" have already been determined from the "dull ones." And nothing can be done to change this much.

Thus, the crucial and revolutionary prospects for this new technology are the possibilities of wide-spread use in the nursery and the living room to upgrade the child's IQ environment.

In such a way, the child that would otherwise have become "dull," may have the chance, due to the new teaching machines, to develop more fully into a "bright one."

David Park
Dix Hills, N.Y.

Pitfalls of small samples

It disturbs me that more and more often reports appear in which conclusions are drawn from such small samplings that the significance of the results is doubtful. I realize that SCIENCE NEWS only reports upon the research. Nevertheless, it worries me that many readers with inadequate understanding of the problem may consider research valid however small the sampling.

Your article "XYY: No link to aggressive crime" (SN: 8/14/76, p. 103) is a case in point. The researchers found approximately 13 people with XYY chromosomes, according to your article (2.9 XYY's per 1000 in their sampling of 4,558 tall subjects). I

would not be willing to base any conclusions regarding this sort of psychological tendencies on a sampling of 13 people.

I think you would do a great service to young readers and readers not trained in science if you would include an editor's note in such reports calling attention to the danger of being misled by such a small sampling.

Madeline Love Wilson
Atascadero, Calif.

Illusions with Mars photos

Is anybody else having the same problems as I with the photographs of Mars's surface taken from the orbiters? Sometimes when the caption says volcanoes, I see pimples: That is, I see rounded mounds where there are actually cup-shaped depressions.

I discovered that by turning the picture upside down, my senses returned to normal: The pimples became depressions. In turning the page around I had, in each case changed the direction of light from bottom to top. This suggested that our earthly perception of roundness vs. hollowness is dependent on overhead illumination, at least in photographs.

I have noticed this illusion in earth terrain photographs, too, where river valleys and mountain ridges tended to exchange places for the same reason.

Stuart Grover
Lincoln, Mass.

Animal research

It ill-behoves scientists like Mary and Robert Tyson to react as they did on your Oct. 2 letters page, with an angry outburst, to the genuine concerns of the public about animals involved in research.

Do the Tysons believe that all but 5 percent of scientists don't continually feel empathy for their animal subjects and doubts about their right to inflict discomfort on these creatures in human interests? As one who for several years had to face mice burdened with tumors, I'd be concerned if most scientists don't have doubts.

It's the duty of publicly supported researchers who understand the complexities of the issue to carefully and clearly explain, again and again, why such research is unfortunately unavoidable. And it is the responsibility of newswriters to facilitate such communication.

Lois Wingerson
Flushing, N.Y.

(For a thoughtful and detailed report on this particular dispute, see the News and Comment section of the Oct. 8 SCIENCE.—Ed.)

Address communications to Editor,
Science News, 1719 N Street, N.W.
Washington, D.C. 20036

SCIENCE SERVICE

Institution for the Popularization of Science founded 1921; a nonprofit corporation

Board of Trustees—Nominated by the AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE: **Deborah P. Wolfe**, Queens College of City University of New York; **Bowen C. Dees**, The Franklin Institute; **Athelstan Spihaus**, National Oceanic and Atmospheric Administration. Nominated by the NATIONAL ACADEMY OF SCIENCES: **Gerald F. Tape**, Associated Universities; **Allen V. Astin**, Bethesda, Md.; **Glenn T. Seaborg** (President), University of California, Berkeley. Nominated by the NATIONAL RESEARCH COUNCIL: **Gerald Holton**, Harvard University; **Joseph W. Berg Jr.**, National Research Council; **Aaron Rosenthal**, National Academy of Sciences. Nominated by the JOURNALISTIC PROFESSION: **Edward Bliss Jr.**, American University; **Julius Duscha**, Washington Journalism Center; **O. W. Riegel** (Secretary), Washington and Lee University. Nominated by E. W. Scripps Trust: **Milton Harris** (Treasurer), Washington, D.C.; **Edward W. Scripps II** (Vice President and Chairman of the Executive Committee), Edward W. Scripps Trust; **John Troan**, Pittsburgh Press.

Director: E. G. Sherburne Jr.; Assistant Director: Dorothy Schriver; Business Manager: Donald R. Harless; Things of Science: Ruby Yoshioka.