

# SCIENCE NEWS®

A Science Service Publication  
Vol. 110/July 31, 1976/No. 5  
Incorporating Science News Letter

## OF THE WEEK

Viking's first week	68
Viking: Second to go	69
Interkingdom protoplasts	70
Science adviser appointed	70
Mammography: Benefits and risks	70
Four-color conjecture verified	71
Light on female reproduction	71
Radon: Quake prediction tool	71
Mountains and swamps undersea	71

## RESEARCH NOTES

Biomedicine	72
Physical sciences	72
Natural sciences	73

## ARTICLES

Largest laser: If Shiva creates	74
Mars Album 1	76

## DEPARTMENTS

Books	66
Letters	67

**COVER:** Rusty rocks under a pinkish sky, a barren, dusty, desiccated Marscape stretches in a three-kilometer swath from the Viking 1 lander. Yet instruments sense the elements necessary for life, so maybe there's something under a rock. Tune in next week, same time, same magazine for the next chapter in the amazing adventures of Viking. For Viking's first week see p. 68. (Photo: NASA)

<b>Publisher</b>	E. G. Sherburne Jr.
<b>Editor</b>	Kendrick Frazier
<b>Senior Editor and Physical Sciences</b>	Dietrick E. Thomsen
<b>Senior Editor and Behavioral Sciences</b>	Robert J. Trotter
<b>Biomedical Sciences</b>	Joan Arehart-Treichel
<b>Biology/Chemistry</b>	Janet L. Hopson
<b>Science and Society</b>	John H. Douglas
<b>Space Sciences</b>	Jonathan Eberhart
<b>Contributing Editor/ Mathematics</b>	Lynn Arthur Steen
<b>Copy Editor</b>	Michelle Galler Riegel
<b>Art Director</b>	Dale Appleman
<b>Assistant to the Editor</b>	Mary Kelly
<b>Books</b>	Margit Friedrich
<b>Business Manager</b>	Donald Harless
<b>Advertising</b>	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). Cable SCIENSERV. Telex 64227.

# LETTERS

## Genetic manipulation

It is very commendable that scientists are concerned about the dangers of genetic manipulations using recombinant DNA and feel that proper measures must be taken to ensure the safety of the future world (SN: 6/19/76, p. 389). I heartily endorse that viewpoint. However, there are dangers just as grave to the future of mankind which have been imposed inadvertently by entirely, uncontrolled genetic manipulation during the last fifteen years or so.

This uncontrolled genetic manipulation is the mass administration of attenuated viral vaccines to animal and human populations. Attenuated vaccine viruses are infectious, therefore, they infect the recipients' cells and can do so in a variety of ways. Attenuated vaccine viruses have the potential, also, to be transmitted vertically and these viruses, then, could be inherited through generations. Some of the genes of these viruses may become integrated with the genomes of the recipients. The damage that could result in the future from such uncontrolled genetic manipulation could be incredible. This is to say nothing whatever of the other potential dangers the vaccine recipients must bear as the result of other aspects of vaccine viral infection such as mutations, chromosomal aberrations, birth defects, cancer and reversion to virulence.

It would be magnificent if the Recombinant DNA Molecule Program Advisory Committee would recognize this problem, too, and use its influence to make the scientific community and governments cease administering and developing attenuated viral vaccines, since effective killed viral vaccines already exist, or could be developed for most viral diseases.

Richard de Long  
Department of Biology  
Del Mar College  
Corpus Christi, Tex.

## Physics and reality

Cheers for Mr. Thomsen's intriguing article, "Is Modern Physics for Real?" (SN: 5/22/76, p. 332). Here is one vote for more such broadly based, long-view pieces for the nonspecialist.

It is worth pointing out that Arthur Eddington's view of science as comprising subjective, rather than objective knowledge, which was elaborated in the 1930s, comes provocatively close to Wheeler's reported conclusion that "his choices of what to

measure will determine what he finds." Your interested readers may wish to turn to Eddington's *The Philosophy of Physical Science* (Ann Arbor Paperbacks).

The implications of this way of thinking for psychology, communications, history, religion and other fields are obviously profound, but perhaps it would take more of a genius than is currently available to do a roundup article on all that.

William Carter  
Palo Alto, Calif.

## Milwaukee project follow-up

As an eager follower of developments in the study of education and the development of consciousness, I was very interested in your article "Milwaukee project—Nine-year follow-up" (SN: 7/10/76, p. 21), but I feel I must comment on one very disturbing aspect mentioned.

The article states that children who were given intelligence-developmental assistance prior to entering school "are . . . having behavioral and social difficulty in school", explained by reference to the fact that they "talk too much." What clearer evidence could one hope for that our public school system, far from fostering the development of intelligence in individuals, is actually oriented to suppressing, from the start, all manifestations of creativity, experimentalism and individuality? Note that the children were not said to have educational or learning problems, but "behavioral" and "social" problems; in other words they are not passive enough or conforming to established norms fast enough to please their teacher/wardens.

When will people in general face the fact that public schools do not educate, but only indoctrinate? And when will persons and organizations with a professed commitment to science (and hopefully, therefore, to true learning) begin to fight this dehumanizing, antisocial and antilibertarian trend?

Patrick L. Lilly  
Colorado Springs, Colo.

## Homo erectus: Standup comedian

I have been following with interest your articles over the past year or so on the Leakeys' discoveries in Africa. Especially fascinating to me is the finding of *Homo erectus* in the spots that also yield *Australopithecus*. Many an idle moment has been spent wondering about what sort of interaction, if any, the two may have had. Suddenly it came to me: What did one *Homo erectus* say to the other? "Have you heard the latest *Australopithecus* joke?"

John Mapes  
Lincoln, Neb.

## 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 Spiilhaus**, 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.