

SCIENCE NEWS®

A Science Service Publication
Vol. 113/January 21, 1978/No. 3

OF THE WEEK

Space candidates chosen	36
Soyuz 27 cosmonauts join predecessors	36
First earth-moon photo	37
Missing: The rings of Uranus	37
Phobos photos	37
Reverse gene-splicing performed	37
Argo Merchant findings inconclusive	38
A shot for multiple sclerosis	38
Effects of weight loss on hypertension	39
Nicotine found in breast fluid	39
"Revolutionary" alcoholism treatment	39

RESEARCH NOTES

Behavior	40
Space Sciences	40
Environment	41
Science & Society	41

ARTICLES

Mars Album 8	42
The mind-cancer link	44

DEPARTMENTS

Letters	35
Off the Beat	46
Books	47

COVER: This photo of Phobos, the larger Martian moon, was taken by Viking Orbiter 1 to show the sunlit portion (the bright part of the image) at the highest possible "phase angle" between the sun and the spacecraft, important to the study of its surface composition. Careful computer processing, however, revealed that the rest of the disk—the night side—could actually be seen by the pale glow of sunlight reflected from Mars. This yields the disk's complete outline, valuable in calculating Phobos's precise shape and volume and hence, combined with gravity data, its density. See p. 37. For Viking views of Mars itself, see p. 42. (Photo: T.C. Duxbury, Veverka/JPL)

Publisher	E. G. Sherburne Jr.
Editor	Robert J. Trotter
Senior Editor and Physical Sciences	Dietrick E. Thomsen
Behavioral Sciences	Joel Greenberg
Biomedicine	Joan Arehart-Treichel
Life Sciences	Julie Ann Miller
Policy/Technology	Janet Raloff
Space Sciences	Jonathan Eberhart
Contributing Editors	Lynn Arthur Steen (mathematics) Kendrick Frazier John H. Douglas Susan West
Science Writer Intern	Judy Klein
Assistant Editor	Dale Appleman
Art Director	Evelyn Harris
Assistant to the Editor	Jane M. Livermore
Books	Donald Harless
Business Manager	Scherago Associates 1515 Broadway New York, N.Y. 10036
Advertising	Fred W. Dieffenbach, Sales Director

Copyright © 1978 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., \$12.50; 2 yrs., \$22; 3 yrs., \$30. (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. ISSN 0036-8423

LETTERS

Japan's challenge

John Douglas (SN: 12/3/77, p. 378) rightly attributes the competitive challenge of Japanese science and technology to their patient determination, irresistible energy, public discipline and superior technological progress. Some of the Japanese ability to compete with the energy field, however, is derived from the very cheap metallurgical-grade coal and enriched uranium, which Japan gets from the United States. The Japanese own their coal mines in Alabama, and TVA has been supplying large amounts of inexpensive electricity to the Oak Ridge National Laboratory for the enrichment of Japanese uranium ore into reactor-grade fuel, which is shipped to Japan.

Louis G. Williams, Ph.D.
Tuscaloosa, Ala.

John H. Douglas's article on Japan was one of the most thought-provoking pieces you've carried since Jonathan Eberhart's editorial on the space program and the purposes of man (SN: 7/27/74, p. 51).

But how can one man be capable of the real insights displayed in the second and third paragraphs of page 380 and still chalk up the lack of water-flush toilets in Japan to "sadly neglected . . . public works and private amenities" (p. 381)? Tut tut. Could his cultural hang-ups be showing? How long is it going to be before the folly of the water-flush toilet and all of its attendant technology, pollution and tragic loss to agriculture is universally recognized? Is Sweden (where there are at least a dozen different manufacturers of composting toilets) sadly lacking in public works and private amenities?

Gregory B. Wise
Keyser, W. Va.

John H. Douglas's report, "The safest country," includes the questionable statement that "some reasons for the low crime rate are obvious: Japan has strict gun control laws and even laws controlling toy guns." Perhaps the implied comparison between domestic and Japanese crime rates could be made more reliably with removal of the ethnic variable.

Such a study, made in 1975, concluded:

1) Of the listed American ethnic groups in FBI statistics, those of Japanese heritage had the lowest murder rate, even though they had equal opportunity to exercise their constitutional right of gun ownership.

2) This rate was even lower than Tokyo's— .8/100,000 as compared to 1.9/100,000, though in Japan only the military, police, target shooters, and researchers have access to guns.

3) All types of murder are less prevalent in Japan, not only those involving firearms.

The 1977 Japan Society seminar, titled "Police and the People, a Comparison of Japanese and American Police Behavior," revealed that of all offenses known to police, only 20 percent lead to arrests in this country, compared to 57 percent in Japan. Of these arrests, 13 percent lead to convictions in the United States, while Japan's conviction rate is 35 percent. Thus, a criminal has eight times the chance of being punished for a crime in Japan as in the United States.

I have also been told that Japanese citizens undergo a periodic (yearly) personal police investigation, a process that most consider to be "traditional neighborhood government." A sample question is, "Have you seen any suspicious behavior?" Shades of 1984. Studies show an almost incredible respect for authority, and there is a police station or post within, at most, seven or eight blocks from anywhere.

Mr. Douglas, while suggesting an "obvious" connection between crime and gun laws, seems oblivious to the true causes of Japan's relatively low crime rate.

Thaddeus K. Chmielak
Minneapolis, Minn.

Not so long distance

In SCIENCE NEWS, mention was made of travel between southern Mesopotamia and the Arabian areas of Qatar and Bahrain c. 7500 B.P. (SN: 11/26/77, p. 360). Correct me if I'm wrong, but shouldn't the distances mentioned be more like 600 to 700 kilometers and not 6000 to 7000? Southern Mesopotamia is hardly a long way off from the Arabian Gulf, and I hardly think this can be called "... an early example of long distance sea travel. . ."

Salvatore DeMaria
Albuquerque, N.M.

(The paper's lead author, Diana Kamilli, says there were typographical errors in the distance figures in her published abstract, and they were carried through into our article. The correct figures are 600 to 700 kilometers. The conclusion that this is an example of early (about 5500 B.C.) long-distance sea travel still stands, she says, although it was hardly as far as we said. A full report by her research group was to appear in the November ANTIQUITY. —Ed.)

Correction:

A study by Stephanie B. Stolz and Donald M. Baer on est (SN: 1/14/78, p. 27) was neither funded nor endorsed by the National Institute of Mental Health. Both Stolz, who works for NIMH, and Baer, conducted the study privately.

SCIENCE SERVICE

Institution for the public understanding 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 Spilhaus**, National Oceanic and Atmospheric Administration. Nominated by the NATIONAL ACADEMY OF SCIENCES: **Gerald F. Tape** (Vice President), 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**, Washington, D.C. Nominated by the JOURNALISTIC PROFESSION: **Edward Bliss Jr.**, Newburyport, Mass.; **Julius Duscha**, Washington Journalism Center; **O. W. Riegel** (Secretary), Glasgow, Va. Nominated by E. W. SCRIPPS TRUST: **Milton Harris** (Treasurer), Washington, D.C.; **Edward 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.