

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Science serves its readers as a forum for the presentation and discussion of important issues related to the advancement of science, including the presentation of minority or conflicting points of view, rather than by publishing only material on which a consensus has been reached. Accordingly, all articles published in *Science*—including editorials, news and comment, and book reviews—are signed and reflect the individual views of the authors and not official points of view adopted by the AAAS or the institutions with which the authors are affiliated.

Editorial Board

ROBERT L. BOWMAN	WILLARD F. LIBBY
MELVIN CALVIN	GORDON J. F. MACDONALD
JOSEPH W. CHAMBERLAIN	EVERETT I. MENDELSON
FARRINGTON DANIELS	NEAL E. MILLER
JOHN T. EDSALL	JOHN R. PIERCE
DAVID R. GODDARD	COLIN S. PITTENDRIGH
EMIL HAURY	KENNETH S. PITZER
ALEXANDER HOLLAENDER	ALEXANDER RICH
ROBERT JASTROW	DEWITT STETTIN, JR.
EDWIN M. LERNER, II	EDWARD L. TATUM
CLARENCE M. ZENER	

Editorial Staff

Editor

PHILIP H. ABELSON

Publisher

DAEL WOLFE

Business Manager

HANS NUSSBAUM

Managing Editor: ROBERT V. ORMES

Assistant Editors: ELLEN E. MURPHY, JOHN E. RINGLE

Assistant to the Editor: NANCY TEIMOURIAN

News and Comment: DANIEL S. GREENBERG, JOHN WALSH, ELINOR LANGER, LUTHER J. CARTER, MARION ZEIGER, JANE AYRES

Europe: VICTOR K. McELHENY, Flat 3, 18 Kensington Court Place, London, W.8, England (Western 5360)

Book Reviews: SARAH S. DEES

Editorial Assistants: ISABELLA BOULDIN, ELEANORE BUTZ, BEN CARLIN, SYLVIA EBERHART, GRAYCE FINGER, NANCY HAMILTON, OLIVER HEATWOLE, ANNE HOLDSWORTH, ELLEN KOLANSKY, KATHERINE LIVINGSTON

Advertising Staff

Director

EARL J. SCHERAGO

Production Manager

RAYMONDE SALAMA

Sales: New York, N.Y., 11 W. 42 St. (212-PE-6-1858): RICHARD L. CHARLES, ROBERT S. BUGBEE
Scotch Plains, N.J., 12 Unami Lane (201-889-4873): C. RICHARD CALLIS

Chicago, Ill., 6 W. Ontario St. (312-DE-7-4973): HERBERT BURKLUND

Los Angeles 45, Calif., 8255 Beverly Blvd. (213-653-9817): WINN NANCE

EDITORIAL CORRESPONDENCE: 1515 Massachusetts Ave., NW, Washington, D.C. 20005. Phone: 202-387-7171. Cable: Advancesci. Washington. Copies of "Instructions for Contributors" can be obtained from the editorial office. ADVERTISING CORRESPONDENCE: Rm. 1740, 11 W. 42 St., New York, N.Y. 10036. Phone: 212-PE 6-1858.

After the Manned Lunar Landing?

Throughout history the moon has had a special place in man's consciousness. Archeological evidence indicates that prehistoric man was highly aware of the moon and its changing phases. The literature of all ages contains many references to the moon. Our satellite is still an object of unusual psychological significance. Who has not had a sense of awe and grandeur in watching a rising full moon? Its special role in emotional matters is evidenced by many popular songs of this era (see page 594). No other object in the sky—not even the sun—has received more attention. Small wonder that the adventure of traveling to the moon commands continuing interest and support. This backing seemed not to flag even when the Ranger pictures showed a desolate lunar landscape.

The deep world-wide interest in exploration of the moon gives the effort great propaganda value. Simultaneously, interest in scientific information concerning the satellite has been heightened. Such knowledge serves to increase the probability of successful missions. Also, the information is interesting in its own right. The results from unmanned missions so far have served more to stimulate curiosity than to provide answers. The pictures sent back by Rangers 8 and 9, while magnificent, have raised more questions than they have settled. It is clear that many features of the lunar surface were produced by meteorite impact. However, the pictures have not ruled out the possibility that volcanism has played a role. The presence of slump structures has been attributed by some to volcanism. Others think the structures have resulted from sub-surface sublimation of ice.

The major question of the origin of the moon is no closer to being answered. Was the moon captured by Earth, or was the satellite once part of Earth? Soft-landed unmanned vehicles will provide more information about the moon, while raising new questions. Manned exploration and the return of samples to Earth may be necessary to resolve some of the puzzles.

To date the purely scientific results from our manned space program have not been impressive. With good reason, the engineering and medical aspects have been given overriding priority. In effect, our manned space program has consisted of a series of great technological stunts. One is reminded of an acrobatic act where spectators are awed by a series of difficult feats. The acrobatic team must constantly increase the complexity of its act in order to hold the audience's attention. If the John Glenn mission were repeated today, how much attention would it receive?

The Space Agency is now well advanced in its progress toward a lunar landing. Increasingly, planners are considering follow-on programs. These include more grandiose efforts toward manned exploration of the moon and attempts to explore Mars. Will the Space Agency be able to devise a continuing series of spectaculars of ascending dramatic quality? I think not. The first successful landing on the moon will be a climax. Just as succeeding climbs of Mt. Everest, after the first ascent, have drawn diminishing attention, later lunar travel will lose its novelty.

As for Mars, how many popular songs have been written about it? On euphonic grounds alone, the paucity is not surprising—bars, chars, jars. More fundamental is the question, "How many people know where Mars is, or even care?" Perhaps man will one day go to the planet, but the psychological and emotional impact of the trip will be pale in comparison with that of the first successful landing on the moon.

—PHILIP H. ABELSON