water seems truer to his convictions than most, and there is reason to think that, if elected, he would try to implement the changes for which he has so long agitated.

The most recent statement of the Senator's views on the space program appeared in the June issue of *Science and Mechanics*, a nontechnical digest customarily devoted to less political topics. (The August issue, for example, features the following articles: "New rifle shoots steel darts"; "You don't have to stay bald!"; "Can your dog read your mind?"; "Looking for a job?"; "Machines that make super muscles"; and "Return of the small screen.") Goldwater suffers from a peculiar liability in that, when his remarks are paraphrased, it almost always sounds as if the person doing the paraphrasing is exaggerating, fabricating, or being invidious. We therefore quote from his recent article, which is entitled "A realistic space program for America."

1) *The moon race.* "The idea that we can cooperate with the Russians to do the job quicker and cheaper and at the same time gain their goodwill is too ludicrous for comment. We are spending entirely too much money on the manned moon program when a carefully plotted program using unmanned lunar landing equipment could steadily build up a body of scientific knowledge about the lunar environment that would increase the safety factor for astronauts much later. . . ."

2) *The military role in space.* "All manned space research should be directed by the military, with national security and control of the access to space as primary goals. The threat from space now and in the foreseeable future is from spatial regions within a thousand miles of Earth and not from lunar distances. Routine daily surveillance of these regions must be established. . . . An immediate initial step of any effective military space program must be a manned station in near orbit about the Earth. . . ."

3) *The nuclear test-ban treaty.* "This treaty is a concession to the Kremlin and thereby gives both political and psychological strength to Khrushchev. He has more than won his demand for a ban on nuclear testing without on-the-spot inspection to safeguard against cheating. Actually there are four basic advantages Khrushchev has achieved through the treaty. Each is reason enough for the treaty to be reconsidered. . . .

". . . Underground nuclear testing . . . provides the Soviet Union with an opportunity to fill a gap in its own nuclear capabilities. . . .

"The development of possible new countermeasure techniques is stymied by the treaty. . . .

"We cannot develop nuclear weapons systems for the control of enemy access to space. . . .

"The Soviets could clandestinely test in the atmosphere, in space, and under water by way of Red China. . . ."

4) *Space and the treaty.* "The argument for the treaty is, of course, that if we cannot test in space, neither can the Soviets. But a possible answer to such an argument is: We have to catch them before we know they're doing it. Although our detection and tracking equipment is tremendously effective, space is unutterably vast. . . . The nation that controls its access, if hostile, could control the world. Control of the world is a stated purpose of the Communists. Control of space in the military sense requires long lead times involving painstaking tests, research and development. When the time comes, we may have effective space systems to deliver nuclear weapons—but not the weapons. The Soviets might have both."

—E.L.

Announcements

Iowa State University will begin a graduate program in **psychology** this fall, leading to the Ph.D. degree with specialization in experimental, quantitative, industrial, counseling, or educational psychology. Emphasis will be on research training, with opportunities for supervised work in the application of psychology in industry and education. Some fellowships and assistantships are available. Additional information may be obtained from W. L. Layton, head of the psychology department, Iowa State University, Ames.

Meeting Notes

Papers are invited for the third symposium on **remote sensing of environment**, scheduled at the University of Michigan, Ann Arbor, 14–16 October. The topics to be included will cover applications for remote sensing, design considerations for sensors and carrying vehicles, and data analysis programs and techniques. Deadline for receipt of abstracts: *1 September.* (D. C. Parker, University of Michigan, P.O. Box 618, Ann Arbor)

The call for papers has been issued for the 1965 **aerospace** conference, next 20–24 June, in Houston, Texas. The meeting will be sponsored by the Institute of Electrical and Electronics Engineers, and will stress aerospace electrical and electronic equipment and systems. Four copies of a 250-word abstract are required. Deadline: *30 September.* (T. B. Owen, Douglas Aircraft Co., Inc., 300 Ocean Park Blvd., Dept. A2-260, Santa Monica, California)

The French section of the Health Physics Society is planning an international symposium on the **dosimetry of irradiations from external sources**, 23–27 November, in Paris. The meeting will consider methods and apparatus for measuring irradiation in man from such sources. The official languages of the symposium will be English, French, and German. (M. Gras, 5 rue Armand Gauthier, Paris 18)

The 24th congress of the International Psycho-Analytical Association will be held in Amsterdam, Netherlands, 25–30 July 1965. The emphasis of the meeting will be on **clinical psychoanalysis**, particularly on technical problems in the psychoanalysis of the obsessional neurosis. Papers may be submitted dealing with theoretical or clinical aspects. A statement of intent, and three copies of a 200-word abstract, preferably in English, are required. Deadline: *15 September*; for completed papers, in the language of the authors' choice: *12 November.* (R. P. Knight, Austin Riggs Center, Stockbridge, Massachusetts)

A symposium on **diffusion in oceans and fresh waters** is scheduled 26–28 August at Columbia's Lamont Geological Observatory, Palisades, New York. It will include papers on diffusion theories, reports of experiments, and special sessions on large-scale oceanic diffusion determined by radiochemical methods. (T. Ichiye, Oceanography Department, Lamont Geological Observatory, Palisades, New York)

A symposium on **marine geochemistry** will be sponsored by the University of Rhode Island, Kingston, 29–30 October. Papers will stress radioisotopes, stable isotope studies, and trace

element geochemistry. Attendance is open. (Symposium Committee, Graduate School of Oceanography, University of Rhode Island, Kingston)

Grants, Fellowships, and Awards

The American Heart Association is accepting applications for **heart research fellowships** to start 1 July 1965.

"Established investigatorships," open to experienced scientists capable of independent research, are awarded for 5 years. They carry stipends of $8500 to $12,500 a year, plus dependency allowances, and $1000 a year to each recipient's institution to be at the disposal of the department head.

"Advanced research fellowships" are available to postdoctoral applicants who have had at least a year's research training and experience. The fellowships are for 1 to 2 years, renewable for an additional 2 years; annual stipends start at $6500 plus dependency allowances and annual increments. An additional $500 a year will be granted to each recipient's institution. Deadline for applications: *15 September*. (Director of Research, American Heart Association, 44 East 23 St., New York 10010)

Nominations are being solicited for the 1965 American Physical Society **high-polymer physics** prize. The $1000 award, sponsored by Ford Motor Company, is presented "for outstanding accomplishment and excellence of contributions in high-polymer physics." Suggestions of candidates, and supporting material, are required by *10 October*. (R. S. Stein, Polymer Research Institute, University of Massachusetts, Amherst 01003)

The National Academy of Sciences–National Research Council is accepting applications for grants and fellowships in **radiology and nuclear medicine**, to begin with the 1965–1966 academic year. The awards are in four categories, and are provided through the James Picker Foundation.

"Advanced fellowships in academic radiology" will provide course and research work emphasizing a broad background in the basic sciences related to radiology. The stipends are $12,000 the first year, $13,500 the second, and $15,000 the third, all plus dependency allowances. Applicants must have completed their clinical training in radiology and be prepared to devote at least 2 years to the fellowships; preference will be given to persons under 34 years of age. Applications will be accepted on nomination by a clinical adviser, who should be on the staff of a medical school radiology department.

"Postdoctoral research fellowships" are open to recent graduates for work in nuclear medicine or radiology. The grants are for 1 year, with a $6000 stipend plus dependency allowances. They may be renewed with stipends for the second year of $6750, for the third, $7500.

"Grants for scholars" must be applied for by a medical school, hospital, or research institute on behalf of a junior staff member. The award, $6000 a year, is made directly to the institution to help support the scholar and/or his research. The grants are for 2 years, renewable for a third.

"Research grants" are oriented, although they need not be limited, to the diagnostic aspects of radiology or nuclear medicine research. Applicants must submit their research proposals and proposed budgets with their applications. The grants, of $1000 to $10,000 annually, are awarded to the institution, initially for 2 years.

Applicants for the awards need not be U.S. citizens, nor need the institutions be in the U.S. Deadline for submitting applications: *1 October*. (Committee on Radiology, NAS–NRC, 2101 Constitution Ave., NW, Washington, D.C. 20418)

131st Annual AAAS Meeting, Montreal, 26–31 December

Call for Papers by AAAS Sections

Six sections of the Association will arrange sessions for contributed papers at the Montreal meeting. The secretaries or program chairmen to whom titles and abstracts of papers should be sent, *not later than 30 September*, are as follows:

E-Geology and Geography. Richard H. Mahard, Department of Geology and Geography, Denison University, Granville, Ohio.

F-Zoological Sciences. David W. Bishop, Carnegie Institution of Washington, Department of Embryology, 115 West University Parkway, Baltimore 10, Md.

G-Botanical Sciences. Warren H. Wagner, Jr., Department of Botany, University of Michigan, Ann Arbor, Mich.

H-Anthropology. Eleanor Leacock, Bank Street College of Education, 69 Bank Street, New York 14, N.Y.

Np-Pharmaceutical Sciences. Joseph P. Buckley, School of Pharmacy, University of Pittsburgh, Pittsburgh, Pa.

Q-Education. F. B. Dutton, Science and Mathematics Teaching Center, Michigan State University, East Lansing.

Although the general deadline is 30 September, most sections, and subsequently the AAAS office, would be most happy to receive titles as much in advance of that date as possible.

Recent Deaths

Joseph Z. Biegeleisen, Jr., 42; research microbiologist at the Communicable Disease Center, Atlanta, Ga.; 6 July.

Arthur S. Gale, 87; former chairman of the mathematics department and dean of men at the University of Rochester, N.Y.; 6 July.

Max Adams McCall, 75; retired assistant chief of the Bureau of Plant Industry, U.S. Department of Agriculture; in Ireland; 22 June.

E. G. D. Murray, 74; retired head of the department of bacteriology and immunology at McGill University, and guest professor of medical research at the University of Western Ontario; 6 July.

Peter K. Olitsky, 76; pioneer in virus research and member emeritus of the Rockefeller Institute; 20 July.

Lucille Wendt, 54; adviser on chemistry, bacteriology, and pharmacology to the Senate Subcommittee on Antitrust and Monopoly; 22 July.

Erratum: In the report "Neutron and proton dosages in the upper atmosphere from solar flare radiation" by E. J. Flamm and R. E. Lingenfelter (26 June, p. 1566), the factor $1/\mu$ should be eliminated from Eqs. 2, 3a, and 3b. This correction reduces the calculated neutron and proton doses by approximately 50 percent but does not otherwise alter the conclusions drawn from the calculation. The authors thank Dr. I. M. Karp for pointing out this error.