works, a substantial sounding sum of money, but Kennedy said that nearly twice as much, $600 million a year, is necessary just to keep pace with the growing rate of pollution.

The message charged that industry is "lagging far behind" in its treatment of wastes. It asked, as did the Eisenhower budget message, for stronger federal powers to deal with "serious pollution situations of national significance." It said air pollution is not only a growing health menace but that it causes an estimated $7.5 billion a year damage to vegetation, livestock, metals, and other materials, and although a great deal of this lies beyond any control measures now feasible or even imagined, Kennedy recommended a major research effort to see what can be done to lessen the damage. He proposed a special unit to be organized by the Public Health Service to devote itself to the problem of air and water pollution, and recommended increases in the levels of federal grants to city and state governments for pollution control projects.

The Eisenhower budget message included proposals, although on a smaller scale, along much the same lines. The idea of presenting a unified oceanography program to Congress, a proposal an Administration spokesman pointed to when asked what there was in Kennedy's message that was really new, grows out of an effort begun by the old Administration. Nearly all of the problems Kennedy described in his special message were touched on in Eisenhower's final budget.

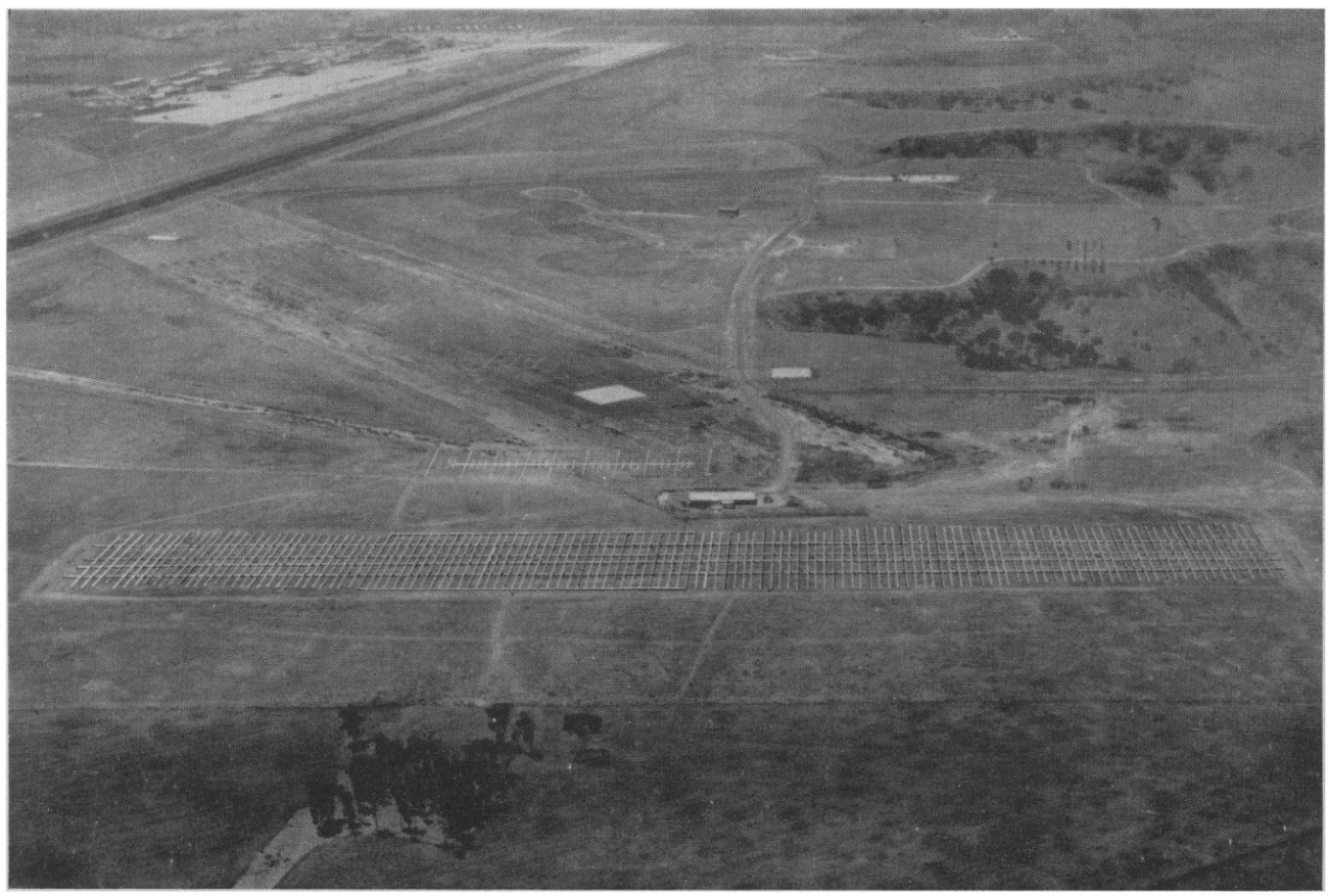
How then, the spokesman was asked at a background briefing for the press, did the Administration see its policies as compared to Eisenhower's. "The previous Administration," he said, "recognized problems, but then only did enough to be able to say they were doing something; this Administration is really addressing itself to the problem." The Eisenhower view was that his Administration was indeed addressing the problem but at the same time was preserving a "sound balance" in the role of the federal government by restricting the programs to what seemed "necessary rather than merely desirable."—H.M.

News Notes

"The Dark Fence": Radar Screen Detects Orbiting Objects

The Navy has announced that the so-called "dark fence" will be completed later this year. It has been in partial operation for some months.

The screen will be created by a 500,000-watt transmitter (three smaller transmitters are now in operation) emitting a broad, thin radio curtain across the continent from southern California to Georgia. Reflections of objects in near space are picked up by gigantic receiver arrays, such as that illustrated. Data are fed into computers, and the orbits can be calculated. The system makes it possible to detect and track nonradiating satellites passing over this country. Navy officials said that even in its present partially completed form the system has detected and tracked a piece of wire 15 feet long orbiting at a height of 400 miles. The wire was debris from U.S. satellite.



Receiving antenna of the "dark fence" satellite detecting system, near San Diego, Calif. [U.S. Navy]

News Briefs

Polish-English translation. One of the objections which has been raised to cover-to-cover translation of scientific periodicals has been the time lag between the issuance of the original and the appearance of the translation. A first attempt to accomplish simultaneous publication of an original and its translation has now become possible under a Polish-English translation program administered by the National Science Foundation.

Beginning with the January 1961 issue (vol. 8, No. 1), an English edition of each issue of *Acta Biochimica Polonica* will appear at the time that the issue in Polish is available. The English edition will be prepared and printed in Poland and will be distributed free to those libraries which now receive translations from the National Library of Medicine under the PL 480 program.

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Teen-agers. Teen-agers are bigger than they used to be. Insurance figures show that among boys 15 to 16 years of age there has been an average increase of 1.8 inches in height and 10 pounds in weight over a period of some 40 years; for boys of 17 to 19 the gain was 1.6 inches and about 10 pounds. Among girls of 15 to 16 the gain in average height was 0.6 inch and the gain in weight only a little over 1¼ pounds, while at 17 to 19 the girls gained, on an average, only 0.4 of an inch in height and actually showed a weight decrease of about 3 pounds. The Metropolitan Life Insurance Company reports that these facts are derived from a comparison of insured teen-agers in the Build and Blood Pressure Study, 1959, conducted by the Society of Actuaries, with teen-agers in an earlier study.

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Nutrition: Army retirement credit. Army reserve officers who register for, and attend, certain sessions of the 25th meeting of the American Institute of Nutrition, to be held in Atlantic City, N.J., 10–15 April, will receive retirement point credits for such attendance. For further information, communicate with Lt. Col. Ernest M. Parrott, who will be at the Hotel Ambassador during the meetings.

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Psychology journals. Elias Publications (P.O. Box 662, Washington 4, D.C.) has announced that the journal *Engineering and Industrial Psychology* will be published as two quarterly journals, beginning in 1962. *Engineering Psychology* will contain original investigations on the adaptation of human tasks and working environment to the psychological and physiological attributes of human beings. *Industrial Psychology* will publish studies reporting the results of the application of psychological principles and methodology to problems in personnel management. Submission of manuscripts is invited by both publications.

* * *

East German publications. The American Mathematical Society and the East German publishing house Deutsche Verlag der Wissenschaften have entered into an agreement under which scientific publications of the latter will be made readily available in this country. These include works on mathematics, physics, chemistry, biology, economy, geography, geology, meteorology, and philosophy, and 12 scientific journals.

Under the new arrangement, the AMS headquarters offices will process orders and undertake the billing and collection of amounts due the Deutsche Verlag der Wissenschaften. Delivery of publications will be made directly to the purchaser or subscriber via airmail from Leipzig, at list price plus cost of packing and shipping. Members of the AMS will be given a reduced rate. Deutsche Verlag der Wissenschaften catalogs may be obtained from the American Mathematical Society, 190 Hope St., Providence 6, R.I.

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Medical genetics. A short course in medical genetics (heredity and disease in man and animals) will be held for the second time in Bar Harbor, Me., 6–18 August. The course, which is supported by the National Science Foundation, is conducted through the collaboration of members of the faculty of the Johns Hopkins University and the staff of the Roscoe B. Jackson Memorial Laboratory.

The course is intended primarily for members of the faculty of medical schools; however, a few representatives from other areas will be accepted. Applications from recent medical school graduates interested in medical genetics will also be considered. Enrollment will be limited to 45. There is no registration fee. Application should be made to: Dr. Victor A. McKusick, The Johns Hopkins Hospital, Baltimore 5, Md.

Grants, Fellowships, and Awards

Algae. The Committee on the Darbaker Prize of the Botanical Society of America will accept nominations from both members and nonmembers for an award to be announced at this year's meeting of the society in Lafayette, Ind. Under the terms of the award bequest, approximately $250 will be given for meritorious work in the study of the algae.

The committee will base its judgment primarily on papers published in English by the nominee during the two calendar years previous to the closing date for nominations. At present, the award will be limited to residents of North America. Nominations, accompanied by a statement of the merits of the case and by reprints of the publications supporting the candidacy, should be received *before 1 June* by the chairman of the committee, Robert W. Krauss, Botany Department, University of Maryland, College Park, Md.

Marine biology. A postdoctoral fellowship program is being established in the Marine Laboratory of the University of Miami with the aid of a grant from the National Heart Institute. Objectives of the program will be to afford opportunities for those trained in other biological disciplines to acquire experience with marine organisms. Fellowships will be tenable for 1 year; stipends will be in the neighborhood of $5000, with suitable dependency allowance. Further details and application blanks may be obtained from Dr. Charles E. Lane, Program Director, The Marine Laboratory, 1 Rickenbacker Causeway, Miami 49, Fla.

Mathematics. The Mathematics Research Center of the United States Army at the University of Wisconsin, Madison, offers graduate fellowships in mathematics for 1961–62 to afford opportunity for study directed chiefly toward the fields of applied mathematics and the related fields of mathematical analysis. A candidate must be a U.S. citizen and have a bachelor's degree in mathematics, physics, or engineering, and he must obtain admission to the Graduate School of the University of Wisconsin. The proposed course of study must be approved by the director of the Mathematics Research Center.

A fellowship holder is expected to devote his full time to study that leads to a master's or doctor's degree. The fellowships pay tuition and university fees and provide annual basic stipends

of either $2250 or $2500, depending on whether or not the recipient holds a master's degree. These stipends are increased by $500 for fellows with children. A fellow may not engage in other regular remunerative employment or receive other concurrent fellowship aid.

Mycology. The Gertrude S. Burlingham scholarship in mycology for advanced predoctoral study at the New York Botanical Garden will be available for the summer of 1961. The stipend is $700. Work under this appointment may begin at any time after 1 June and should continue for approximately 3 months. Nominations or applications should be sent *before 15 April* to the Director, The New York Botanical Garden, New York 58, N.Y.

Nutritional science. Applications for traineeships in experimental nutritional science at Philadelphia General Hospital are now being accepted, according to Henry W. Kolbe, executive director. Trainees selected will work under Paul Gyorgy, director of the PGH department of pediatrics, who was recently awarded a 4½-year grant of $274,806 by the National Institutes of Health.

Applicants, either men or women, must have a doctorate in medicine or a related scientific field. Stipends of from $3000 to $8000 will be paid, depending upon the qualifications and academic position of the trainees. For information write to Dr. Paul Gyorgy, Department of Pediatrics, Philadelphia General Hospital, 34th and Curie Avenues, Philadelphia, Pa.

Psychoanalysis. The Association for Group Psychoanalysis, Inc., is offering a limited number of scholarships for its basic course in group psychoanalysis, to be provided for the seventh season in 1961–1962. For further information, write to the association at Apt. 4B, 50 E. 72nd St., New York 21, N.Y.

Radiological physics. A 1-year course in radiological physics, leading to the degree of master of science, is offered under the auspices of the department of radiology of the College of Physicians and Surgeons of Columbia University. The course is designed to prepare candidates to carry out all the functions of a physicist in a hospital department of radiology; it would also provide a foundation for those who wish to engage in research or applications in radiologic physics, radiation protection, and dosimetry.

As part of its national program for the training of radiological health specialists, the Division of Radiological Health of the U.S. Public Health Service has awarded a grant to the university that will provide financial assistance to qualified candidates. This aid will be in the form of tuition waivers, as well as monthly stipend allowances. Applicants must be citizens of the United States or must have filed a Declaration of Intent. Preference will be given to candidates who are sponsored by public health agencies for work in their area of responsibility or in closely related fields. Inquiries should be addressed to Dr. H. H. Rossi, 630 W. 168th St., New York 32, N.Y.

New Journals

Journal of The Forensic Science Society, vol. 1, No. 1, Sept. 1960. S. S. Kind, Ed. Forensic Science Society, c/o Rossett Holt, Pannal Ash Road, Harrogate, Yorkshire, England. Semiannual (September and March). £2 per year.

Journal of Chemical Documentation. 1961. H. Skolnik, Ed. American Chemical Society, 1155 16th St. NW, Washington 6, D.C. Semiannual. Nonmembers, $10 per year; members, $7.

Nuclear Fusion, vol. 1, No. 1, Sept. 1960. J. G. Beckerley, Ed. International Atomic Energy Agency, Kärntner Ring 11, Vienna, Austria. Quarterly. S. 250 per year.

Botanical Bulletin of Academia Sinica, vol. 1, No. 1, June 1960. H. W. Li, director. Institute of Botany, Academia Sinica, Nankang, Taipei, Taiwan. Irregular, $2 per volume (one or two issues).

Pure and Applied Chemistry, vol. 1, No. 1, Sept. 1960. Official Journal of the International Union of Pure and Applied Chemistry. B. C. L. Weedon, Ed. Butterworth Inc., 7235 Wisconsin Ave. NW, Washington 14, D.C. Irregular. $18 per volume (four issues).

Journal of Theoretical Biology, vol. 1, No. 1, Feb. 1961. J. F. Danielli, Ed. Academic Press, 111 5th Ave., New York 3, N.Y. $17 per year.

Journal of Atherosclerosis Research and *Scientific Reports of the Istituto Superiore di Sanità*, 1961. Elsevier Publishing Company, Spuistraat 110–112, Amsterdam, Holland.

Polymer Science U.S.S.R., Sept. 1960. G. M. Burnett, trans. Pergamon Institute, 122 E. 55th St., New York 22, N.Y. $60 per year. Single issue, $15.

Studdi si Cercetari de Biochimie, No. 1, 1960. E. Macovschi, Ed. Academiei Republicii Populare Romine, str. Popovici nr. 20, Bucharest, Romania. 5 lei.

Physics and Chemistry of Glasses, vol. 1, No. 1, Feb. 1960, and *Glass Technology*, vol. 1, No. 1, Feb. 1960. R. W. Douglas, Ed. Society of Glass Technology, Thornton, Hallam Gate Road, Sheffield 10, England. Bimonthly. Each £6 15s a year; joint annual subscription, £10.

Scientists in the News

Pierre Dansereau, dean of the science faculty and director of the Botanical Institute of the University of Montreal, has been appointed assistant director of the New York Botanical Garden, effective 1 April.

Dansereau has done extensive work in botany in Quebec Province, in several western states of the United States, and in South America and Europe. He will go to New Zealand in April for several months' research and lecturing before taking over his new duties.

Judson Hardy, public affairs officer of the Division of Radiological Health, Public Health Service, has been appointed chief of the public information section in the Office of Research Information, National Institutes of Health. He assumed his new duties on 27 February. He succeeds **Clifford F. Johnson**, recently named chief of the Office of Research Information.

Frank W. Newell, professor and chairman of ophthalmology at the University of Chicago, has been named a founding member from the United States on the international Problem Commission in Neuro-ophthalmology. The first meeting of the newly formed commission will be held 18 and 19 March in Geneva.

Nathaniel Arbiter, professor of mineral engineering at Columbia University, received the 1961 Robert H. Richards award of the American Institute of Mining, Metallurgical and Petroleum Engineers on 1 March for his contributions to the mineral industries.

Arnoldo Gabaldón, malariologist and Venezuela's Minister of Health and Welfare, and Sir **Gordon Covell** of the United Kingdom have been named corecipients of the seventh Darling Foundation medal and prize for their work on malaria. The award, which was pre-

sented during the 15th World Health Assembly, held in New Delhi in February, honors the memory of Samuel Taylor Darling, malariologist who died in the service of the Malaria Commission of the League of Nations.

Gabaldón was director of, and later consultant to, the Division of Malariology at Maracay, Venezuela, for several years. He organized international courses in the study of malaria and insect-borne diseases.

Covell, author of numerous works on malaria, was director of the Malaria Institute of India from 1936 until 1947. He has also been adviser on malaria to the British Ministry of Health and director of the Malaria Reference Laboratory at Horton Hospital, Epsom, Surrey.

Theos J. Thompson, professor of nuclear engineering at Massachusetts Institute of Technology, director of the M.I.T. Reactor Project, and a member of the Atomic Energy Commission's Advisory Committee on Reactor Safeguards since 1959, has been named chairman of the committee for a 1-year term. He succeeds **Leslie Silverman**, professor of engineering in environmental hygiene at Harvard University School of Public Health, who served as chairman during 1960.

Choh-Yi Ang, director of materials laboratories for P. R. Mallory and Company, Indianapolis, has been appointed manager of Telecomputing Corporation's physics research laboratory in San Diego.

Richard A. Colgan, Jr., general manager of the Shasta Forests Company, Redding, Calif., was recently elected president of the Forest Genetics Research Foundation at Berkeley. Colgan was formerly associated with Diamond Match Company and the National Lumber Manufacturers Association.

The State University of New York Downstate Medical Center, Brooklyn, has announced the appointment of two visiting faculty members for March 1961. Sir **Dugald Baird**, Regius professor of midwifery and gynecology at the University of Aberdeen, will be visiting professor of obstetrics and gynecology, and **Margery Grace Ord**, fellow at Lady Margaret Hall College and member of the university demonstrator's department of biochemistry at Oxford University, will be visiting senior lecturer in pathology.

Max M. Marsh, head of Eli Lilly and Company's analytical research department since 1956, has been named a control associate. Marsh has established several methods for automatic analysis of amino acids, cholesterol, and other materials and was instrumental in developing a method for determining diethylstilbestrol in pharmaceuticals.

Richard S. Morse, former director of Army Research and Development, has been appointed Assistant Secretary of the Army (Research and Development). The newly created position includes responsibility for Research and Development Tests and Evaluations procurement and budget monitoring. Heretofore these responsibilities have been divided among several agencies, each responsible to the Secretary of the Army.

Before he joined the Department of the Army, in June 1959, Morse was president of the National Research Corporation, Cambridge, Mass., which he organized in 1940.

The Bureau of Commercial Fisheries, Fish and Wildlife Service, has presented two fishery biologists with citations for meritorious publications.

Winner of the top award was **Elbert H. Ahlstrom**, director of the Bureau's Biological Laboratory at La Jolla, Calif., for his work on the vertical distribution of fish eggs and larvae in the California current system.

The second award went to **Fred Berry**, who was staff biologist at the Bureau's Biological Laboratory at Brunswick, Ga., when selected. He is now with the La Jolla Laboratory. Berry's work was an extensive study of the jack family, an important group of forage and predatory fishes.

Robert B. Howell, Lockheed Missiles and Space Division engineer, was honored at the Institute of Aerospace Sciences' annual meeting in New York for "outstanding scientific contributions in the art of advanced theoretical guidance and control, and development of digital trajectory programs." He received the Lawrence Sperry Award and was cited for his work on the Polaris missile, for which Lockheed is prime contractor.

Jay L. Lush, professor in the department of animal husbandry at Iowa State University, received the Hermann von Nathusius Medal from the Deutsche Gesellschaft für Züchtungskunde last fall in Hannover, Germany.

John Buck of the National Institutes of Health is the new president of the Society of General Physiologists.

Sheldon Cholst, practicing psychiatrist formerly associated with New York University's School of Medicine and with the Institute of Physical Medicine and Rehabilitation at the university's medical center, has been chosen as producer, writer, and narrator of *International Science and Technology Review*, a weekly radio program. The program, which summarizes outstanding scientific events in 12 nations, is distributed by the Broadcasting Foundation of America, the international division of the National Educational Television and Radio Center.

Recent Deaths

Andrew W. Contratto, Brookline, Mass.; 54; associate director and chief of medicine of the Harvard University Health Services and senior associate in medicine at Peter Bent Brigham Hospital, Boston; 21 Feb.

Emile Henriot; professor emeritus of physics at the Université Libre de Bruxelles; prior to his retirement, was director of the physics department of the Faculté des Sciences; known for the creation of the rapidly rotating tops from which the Beams ultracentrifuge was developed; Feb.

Albert G. Hogan, Columbia, Mo.; 76; professor emeritus of animal nutrition at the University of Missouri; held academic posts at Kansas State University and Alabama Medical School; made numerous contributions to the field of nutrition; his studies led to the recognition of folic acid as a vitamin and the development of an assay for it; 25 Jan.

Howard R. Lillie, Brussels, Belgium; 58; president of the International Commission on Glass and staff research manager in the research and development division of Corning Glass Works; recognized for his research on glass viscosity; 15 Feb.

William D. Reeve, New York, N.Y.; 77; retired professor of mathematics and former head of the department of mathematics at Teachers College, Columbia University; author or coauthor of 16 textbooks on mathematics teaching; Feb.

Thomas O. Walton, Bryan, Tex.; 77; president of Texas Agricultural and Mechanical College from 1925 to 1943; 18 Feb.