AAAS Election Results

The AAAS Council by mail vote has elected Paul E. Klopsteg, associate director of the National Science Foundation, as president-elect of the American Association for the Advancement of Science. Dr. Klopsteg has been a member of the AAAS Board of Directors since 1949.

William W. Rubey, research geologist with the U.S. Geological Survey, and Thomas Park, professor of zoology at the University of Chicago, were re-elected to the Board of Directors. Both terms are for four years.

Formal announcement of the election was made today at the AAAS Council meeting in Indianapolis.

British Pamphlet on Hydrogen Bomb

The British Government has issued a handbook on what to do if hydrogen bombs fall. The pamphlet, entitled *The Hydrogen Bomb,* says:

"Not only would death and destruction be on a greater scale than ever before but also there would be no easy return to normal life for the survivors. It would mean a long struggle to keep life going, and the bulk of the country's resources would be concentrated on relief and rescue in the worst stricken areas."

The pamphlet reports further that the ground burst might dig a crater about a mile across and as deep as 200 feet. "It must be recognized that within three or four miles of the hydrogen bomb all buildings would be completely, or almost completely, destroyed."

Readers are advised that woolen clothes would be less likely to catch fire than others, that windows should be whitewashed, that flammable objects should be kept away from windows and doorways, and that heating plants should be turned off. Much of the advice given is almost identical with that provided by the British Government in the autumn of 1940 when the first German bombs—the biggest then were about 550 pounds—began to fall on London.

AEC Finances

The financial report of the Atomic Energy Commission for fiscal year 1957 (year ending 30 June 1957) shows that the total investment in plant and equipment increased from $6.6 to $6.9 billion during the year. Plant retirements because of obsolescence amounted to $83 million. Other comparative expenditures and assets were as follows (figures for 1956 in parentheses): inventories of nuclear materials, $1.7 billion ($1.6 billion); cost of operations, $1.97 billion ($1.61 billion). The costs of operation included the following: procurement and production of materials, $1.2 billion ($1 billion); weapons development and fabrication, $337 million ($281 million); development of nuclear reactors, $276 million ($170 million); research in chemistry, metallurgy, and physics, $59 million ($52 million); research in cancer, medicine, and biology, $33 million ($30 million); administrative expenses, $38.5 million ($38.2 million).

During the year the AEC purchased 32.4 million pounds of uranium concentrates at a cost of $355.8 million as compared with 20.1 million pounds at $238 million in 1956. The purchase of additional source materials brought the totals up to $402 million and $281 million, respectively. Slightly more than half (53 percent) of the uranium concentrates were procured from other countries.

Research and development costs for power reactors rose from $45.8 million in 1956 to $56.7 million in 1957, and reactor construction costs rose from $9.4 to $33.3 million.

Operating costs of the AEC research laboratories increased from $233.1 to $289.3 million. Some of the allocations for research in special fields were as follows (in millions): chemistry, $19.4; metallurgy, $6.1; physics, $28.7; cancer, $3.4; medicine, $9.2; biology, $11.6; biophysics, $4.4; dosimetry and instrumentation, $1.9.

Visiting Professors in Astronomy

The American Astronomical Society has announced the inauguration of a program of Visiting Professors in Astronomy for the first half of 1958. The program, made possible by a grant from the National Science Foundation, aims to strengthen and stimulate college programs in astronomy and in the other physical sciences; to give astronomers and other scientists opportunity for contact with creative astronomers from other universities and observatories; and to motivate good college students to consider careers in astronomy or one of the other physical sciences.

The visiting professors are ready to give general college addresses or lectures to astronomy classes, or to participate in seminars. They will be glad to advise students on opportunities for advanced study and employment in astronomy, and to discuss teaching problems and curriculum with members of the faculty. In short, the lecturers will cooperate with the colleges in all ways they can to further the aims of the program. A normal visit by a professor will last for two or three days.

There will be three professors in the spring of 1958: Paul W. Merrill, Seth B. Nicholson, and Harlow Shapley. Merrill will be available from February through May in the Far West. Nicholson will tour the Midwest from February through May. Shapley will lecture in the East during February and March. For further information, communicate with Dr. William Liller, the Observatory, University of Michigan, Ann Arbor, Mich.

Radiation Level Lowered

On 10 December the Atomic Energy Commission reduced by two-thirds the level of radiation exposure permitted for workers in the atomic facilities of the commission, the people living near those facilities, and workers in the atomic facilities of the commission's contractors. The new standards do not affect the operations of private companies licensed to use radioactive materials, but the commission said that it will amend the regulations governing private companies so that they will conform to the new standards.

The new levels follow the recommendations made in January 1957 by the National Committee on Radiation Protection and Measurement, an intergovernment committee that has been advising on radiation exposure for more than twenty years. The national committee stated that "changes in the accumulated maximum permissible dose are not the result of evidence of damage due to the use of earlier permissible dose levels, but rather are based on the desire to bring the maximum permissible dose into accord with the trends of scientific opinion."

For the first time atomic workers are placed on a schedule that limits the accumulated radiation exposure over the years. A worker may receive an average exposure of 5 rem per year and not more than 15 rem in any one year. (The term *rem,* which stands for roentgen equivalent man, is used for a radiation dose of any ionizing radiation which is estimated to produce a biological effect equivalent to that produced by one roentgen of x-rays.) In the past, workers could receive up to 15 rem every year; there was no provision to control the accumulated exposure over the years. The commission said that, in practice, the radiation exposure of nearly all the workers in commission facilities has been below the new standards. People living near atomic facilities may receive one-tenth of the exposure permitted atomic workers, which is the same ratio employed in the earlier regulations.

In line with another recommendation by the national committee, the commis-

sion established, also for the first time, regulations designed to limit the radiation exposure received from atomic operations by the population as a whole. The commission said that its industrial operations must not release any radiation that might be expected to expose members of the populace to an average whole body dosage exceeding 0.5 rem per year.

News Briefs

The Institute of Mathematical Sciences at New York University offers temporary memberships to mathematicians and other scientists holding the Ph.D. degree who intend to study and do research in the fields of mathematical physics, applied mathematics, and related fields of mathematical analysis. The program is being supported by the National Science Foundation and also by funds contributed by industrial firms.

Requests for information and for application blanks should be addressed to the Membership Committee, Institute of Mathematical Sciences, 25 Waverly Place, New York 3, N.Y.

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The name of the Bioacoustics Laboratory of the University of Illinois has been changed to the Biophysical Research Laboratory of the College of Engineering.

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The United States, Great Britain, and the Soviet Union have set off more than twice as many atomic explosions this year as in any other year since the start of the nuclear age. So far there have been 42 announced atomic explosions—24 by the United States, 12 by the Soviet Union, and 6 by Great Britain.

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The filming of the first complete course in high school chemistry will be carried out at the University of Florida. The film will be produced by the Encyclopaedia Britannica Films in time for distribution to high schools next September. The project will be financed by the Ford Fund for the Advancement of Education.

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The ninth Pacific Science Congress of the Pacific Science Association opened on 18 November 1957 in Bangkok, Thailand. Orders for the Proceedings of the Congress may be placed with the Secretary-General, Dr. Charng Ratanarat, Department of Science, Ministry of Industry, Rama VI Road, Bangkok, Thailand.

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The Smithsonian Institution's new Hall of North American Eskimos and Indians was opened to the public on 9 December. The new hall completes the Smithsonian's modernization of its exhibits on native peoples of the Western Hemisphere. It portrays the traditional cultures of the Indians from the eastern woodlands to the Pacific Northwest and of the Eskimos from Alaska to Greenland.

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Philco TechRep Division of Philco Corporation, Philadelphia, Pa., has announced that it is making the training facilities of the Philco Technological Center available to help meet the manpower shortage in technology. Among the technical training services available are specialized correspondence courses, technical books, and training devices.

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Seven million dollars were contributed recently by the U.S. Government to the heads of the World Health Organization and the Pan American Sanitary Organization to further their work in assisting governments throughout the world to eradicate malaria, which infects 250 million persons each year.

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General Dynamics Corporation has begun distribution to 3500 colleges and secondary schools of a long-playing record by Edward Teller on "The Size and Nature of the Universe" and "The Theory of Relativity." Included with the recording is a new "Map of the Heavens" prepared by the National Geographic Society, and a picture-caption booklet, "The Atomic Revolution," published by the corporation, which explains the theory and peaceful uses of nuclear fission and fusion.

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Establishment of the Space Technology Laboratories as an autonomous operating division of the Ramo-Wooldridge Corporation, Los Angeles, Calif., was announced recently by Dean E. Wooldridge, president. The new division is an outgrowth and extension of the former Guided Missile Research Division.

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Announcement has been made by United ElectroDynamics, Pasadena, Calif., of the opening of a new facility to be called the United Testing Laboratories. This is reported to be the first integrated electronic and mechanical testing laboratory on the West Coast capable of conducting performance tests on inertial guidance systems for missiles and aircraft as well as conducting complete test programs on explosive and fusing systems.

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Next summer about 2500 high school and about 250 college teachers will take part in teacher-training programs at 108 summer institutes sponsored by the National Science Foundation at a cost of $5,340,000. The Atomic Energy Commission is jointly sponsoring 12 of the institutes, which are offering courses in radiation biology for high school teachers. The foundation grants will cover tuition costs and other fees. Most institutes will pay a weekly stipend of $75 to participants; additional allowances for travel and for dependents will be made available. The program was started with two institutes in 1953 and expanded to 96 last summer.

Scientists in the News

On 7 November, the 100th anniversary of the birth of Bernard Nocht, the Bernard Nocht Medaille of the Hamburg Institut für Schiffs- und Tropenkrankheiten was given to ERNEST C. FAUST for his contributions to tropical medicine. Faust is William Vincent professor of tropical diseases and hygiene at Tulane University, and visiting professor on the medical faculty of the University of Valle, Cali, Colombia. He is serving as field coordinator in the Tulane–Colombia program in medical education, which is sponsored by the U.S. International Cooperation Administration and the Colombian Government to improve curricula in the seven medical schools in Colombia.

On 31 December ALAN T. WATERMAN, director of the National Science Foundation, will assume the chairmanship of the Interdepartmental Committee on Scientific Research and Development. The committee has the task of coordinating the scientific activities of a number of Government agencies, including those of the Atomic Energy Commission, the Department of Defense, and the National Science Foundation.

SAMUEL L. BUKER has joined the staff of the National Institute of Mental Health. He has been assigned to duty as mental health consultant in psychology in the Kansas City regional office of the Public Health Service, which serves Iowa, Kansas, Missouri, Nebraska, and North and South Dakota. Formerly Buker was chief clinical psychologist, Montana State Hospital and Department of Mental Hygiene.

MAURICE HILLEMAN, chief of the department of respiratory diseases at the Walter Reed Army Institute of Research in Washington, D.C., has accepted an appointment as a director of the Merck Institute for Therapeutic Research, effective 1 February. He will serve also as a member of the Scientific Operating Committee of the Merck, Sharp & Dohme Research Laboratories, a division of Merck.

In his new post, Hilleman will be responsible for the company's expanding research program in virology at West Point, Pa.