

tion will amount to \$300,000, so that it will be possible to make awards of at least 15 fellowships each year for a period of ten years.

A meeting of the Board of Directors will be called soon to formulate announcements in regard to applications and awards and to make such regulations as may be thought necessary to initiate the work of the foundation.

Members of the board of scientific directors are: Dr. Philip Bard, Dr. Curtis F. Burnam, Dr. John M. T. Finney, Dr. William A. Fisher, Dr. Wade Hampton Frost, Dr. William H. Howell and Dr. Warren Lewis, of Baltimore; Dr. Evarts A. Graham, of St. Louis; Professor E. L. Kenneway, of London; Dr. Jonathan C. Meakins, of Montreal, and Dr. Florence Sabin, of New York. The financial directors of the foundation are: Jesse N. Bowen, Frederick G. Boyce, Jr., and Lee E. Daly, all of Baltimore.

#### THE AMERICAN PHILOSOPHICAL SOCIETY

At the annual meeting of the American Philosophical Society, held at Philadelphia on April 22, 23 and 24, the following members were elected:

*Class I—Mathematical and Physical Sciences:* Eric Temple Bell, Pasadena, Calif.; Vannevar Bush, Belmont, Mass.; James Franck, Baltimore; Ernest Orlando Lawrence, Berkeley; Charles Edward Kenneth Mees, Rochester, N. Y.; Otto Struve, Williams Bay, Wis. *Foreign Nominee:* Werner Heisenberg, Leipzig.

*Class II—Geological and Biological Sciences:* Thomas Barbour, Cambridge; Henry Bryant Bigelow, Cambridge; Herbert Spencer Gasser, New York; Ralph Stayner Lillie, Chicago; William Pepper, Philadelphia; Alfred Marston Tozzer, Cambridge; Hans Zinsser, Boston. *Foreign Nominees:* Sir Frederick Gowland Hopkins, Cambridge; Hans Spemann, Freiburg.

*Class III—Social Sciences:* Herbert Eugene Bolton, Berkeley; Edmund Ezra Day, New York; Herbert Funk Goodrich, Philadelphia; Nathan W. Hayward, Philadelphia; Samuel Elliot Morison, Boston; George W. Norris, Philadelphia. *Foreign Nominees:* William E. Rappard, Geneva; Charles Rist, Paris; Harold William Vazeille Temperley, Cambridge.

*Class IV—Humanities:* William Scott Ferguson, Cambridge; Robert Frost, S. Shaftsbury, Vt.; Herbert Putnam, Washington, D. C.; Edward Sapir, New Haven; Preserved Smith, Ithaca, N. Y.; John S. P. Tatlock, Berkeley. *Foreign Nominees:* Charles Marie Joseph Bédier, Paris; Sir Frederic George Kenyon, London.

Officers reelected were: *President*, Roland S. Morris; *Vice-presidents*, Edwin G. Conklin, Robert A. Millikan and Henry H. Donaldson; *Secretaries*, John A. Miller and William E. Lingelbach; *Curator*, Albert P. Brubaker; *Treasurer*, Fidelity-Philadelphia Trust Company; *Executive officer*, Edwin G. Conklin. Luther P. Eisenhart, Alfred N. Richards, John M. Scott and Edward Capps were elected members of the council.

#### RECENT DEATHS

DR. LEROY WILEY MCCAY, from 1892 to 1928, when he retired with the title emeritus, professor of chemistry at Princeton University, died on April 13. He was seventy-nine years old.

DR. ROBERT HEYWOOD FERNALD, director of the department of mechanical engineering and dean of the Towne Scientific School at the University of Pennsylvania, died on April 24 at the age of sixty-six years.

DR. O. P. HOOD, who retired last June as chief of the technological branch of the Bureau of Mines, died on April 22. He was seventy-one years old.

DR. HARRY L. HALL, from 1925 to 1929 assistant professor of physiology at the Emory University School of Medicine, died on April 22 at the age of sixty-four years.

CHARLES T. AMES, for thirty-one years director of the Holly Springs, Miss., Experiment Station, died suddenly on April 18.

THE death at the age of seventy-three years is announced of Professor Paul Janet, director of the School of Electricity, Paris, formerly professor of physics in the University of Paris.

## SCIENTIFIC NOTES AND NEWS

ON the occasion of the celebration of Founders' Day on June 1 at the University of Manchester, the honorary degree of doctor of science will be conferred on Sir Henry Dale, Nobel Laureate, director of the National Institute for Medical Research, Hampstead. As previously announced, Sir Henry will address the Academy of Medicine of Washington, D. C., on May 8 and will give the eighth Harvey lecture of the current series at the New York Academy of Medicine on May 20. He will speak on the chemical transmission of the nerve impulse from nerve to muscle.

DR. WALTER E. GARREY, professor of physiology at the Vanderbilt University School of Medicine, was elected president of the American Physiological Society at the recent meeting at Memphis.

OFFICERS of the American Society for Pharmacology and Experimental Therapeutics have been elected as follows: *President*, Professor A. L. Tatum, the University of Wisconsin; *Vice-president*, Professor E. M. K. Geiling, the University of Chicago; *Secretary*, Dr. G. Philip Grabfield, Harvard Medical School; *Trea-*

surer, Professor Charles M. Gruber, Jefferson Medical College. Professor Paul D. Lamson, of the Vanderbilt University School of Medicine, was elected to succeed Professor E. K. Marshall, Jr., of the Johns Hopkins University, as editor of the journal of the society.

At the St. Louis meeting of the American College of Physicians Dr. William J. Kerr, professor of medicine in the School of Medicine of the University of California, San Francisco, was named president-elect, to serve in 1938-1939. President-elect Dr. James H. Means, of the Harvard Medical School, was inducted into office as president, succeeding Dr. Ernest B. Bradley, of Lexington, Ky. It was voted to hold the twenty-second annual convention next spring in New York City.

DR. RALPH E. CLELAND, professor of biology at Goucher College, is the first recipient of the John F. Lewis Award of the American Philosophical Society. The award, consisting of a diploma and the interest from a fund of \$10,000, established by Mrs. Lewis, will be given annually for the "discovery of a truth in the field of knowledge deemed to be of real significance."

THE John Phillips Memorial Medal of the American College of Physicians was presented to Dr. Richard E. Shope, of the Rockefeller Institute for Medical Research, at the St. Louis meeting. The medal was awarded to Dr. Shope for his research work on the virus which causes human influenza and its close relationship to influenza in swine.

THE National Institute of Immigrant Welfare presented its annual awards to three "foreign-born citizens who have made significant contributions to American life," at a dinner in New York City on April 22. The recipients were Henry Morgenthau, Dr. Aleš Hrdlička and Dr. Leo Hendrik Baekeland. The award to Mr. Morgenthau was for his public service; to Dr. Hrdlička, curator of anthropology of the Smithsonian Institution, for his contributions to anthropology, and to Dr. Baekeland, "inventor of bakelite—a discoverer of resourcefulness and distinction," for his services to science.

THE first Albert Ketcham annual award was conferred at the Chicago meeting of the American Society of Orthodontists on Dr. John V. Mershon, of Chicago, past-president of the society, who from 1916 to 1924 was head of the department of orthodontia at the University of Pennsylvania.

THE Comet Medal of the Astronomical Society of the Pacific has been awarded to Leslie C. Peltier, of Delphos, Ohio, for his independent discovery of Wilk's comet on February 27.

THE John Hunter Medal and Triennial Prize of the Royal College of Surgeons has been awarded to Laurence Frederick O'Shaughnessy, for his work on the surgery of the thorax.

DR. ATHERTON SEIDELL, of the National Institute of Health, U. S. Public Health Service, has been promoted by the French Government from the rank of chevalier to that of officer of the Legion of Honor.

DR. JAMES BRYANT CONANT, president of Harvard University, has been elected to honorary membership in the Chemists' Club, New York, N. Y.

DR. A. S. EVE, who retired two years ago as Macdonald professor of physics at McGill University, has been made president of the newly organized McGill Society of Great Britain.

DR. LOUIS F. FIESER, associate professor of chemistry at Harvard University, has been promoted to a professorship.

RECENT appointments of visiting professors at Yale University include: Dr. Robert H. Lowie, of the University of California, to serve as professor of anthropology for the first term of 1937-38; Dr. Charles G. Seligman, professor of anthropology at the London School of Economics, as Bishop Museum professor of anthropology for the second term, and Joseph W. Roe, of New York University, as professor of industrial management in the School of Engineering.

At the University of Cincinnati, Dr. Charles N. Moore, professor of mathematics, will fill the newly established position of director of graduate studies in mathematics; Dr. Louis Brand, professor of mathematics and head of the department of mathematics in the College of Engineering and Commerce, will be chairman of the combined departments of engineering and of mathematics in the College of Liberal Arts; Dr. Walter H. Bucher, professor of historical geology, will become chairman of the department of geology and geography, and Dr. Arthur G. Bills, since 1927 assistant professor of psychology at the University of Chicago, has been appointed professor of psychology and head of the department of psychology in the College of Liberal Arts.

DR. JOHN N. SWAN, head of the department of chemistry at the University of Mississippi since 1915, having reached the age of seventy-five years, will retire at the close of the present academic year.

THE Chemical Foundation, Inc., of New York City, has appropriated \$5,000 in support of the research work of Dr. Ernest O. Lawrence, professor of physics at the University of California.

DR. PHILIP FOX, director of the Adler Planetarium, has been elected director of the Museum of Science

and Industry, Chicago, to fill the position left vacant by the resignation of O. T. Kreusser, who recently joined the research staff of the General Motors Corporation.

MERRILL BERNARD, hydraulic engineer, has been appointed chief of the River and Flood Division of the U. S. Weather Bureau, to fill the vacancy caused by the death of M. W. Hayes. Mr. Bernard was with the U. S. Geological Survey from April, 1934, until June, 1935, on special hydrologic studies for the Mississippi Valley Committee, and with the Soil Conservation Service of the U. S. Department of Agriculture from December, 1935, until his transfer to the Weather Bureau.

DR. LIBERTY HYDE BAILEY, professor of agriculture emeritus at Cornell University and director of the Bailey Hortorium, has gone to Haiti, where he is making a collection of palms.

DR. HERBERT FRANCIS MARCO, of the U. S. Forest Service, is spending several months at the New York Botanical Garden doing laboratory research in connection with special studies in the breeding of forest trees, a work in which Dr. A. B. Stout is cooperating.

DR. ELSDON DEW and J. de Bruijne, of the South African Institute of Medical Research, left Johannesburg on April 6 to investigate blood groups among native tribes in the two Rhodesias, Nyasaland, Tanganyika, Kenya, the Anglo-Egyptian Sudan, Uganda and the Belgian Congo. They are traveling in a motor-caravan and will be away six months.

THE Edgar Fahs Smith Memorial Lecture will be given at the University of Pennsylvania by Dr. Charles H. Herty on Friday, May 21, at 8:15 P. M. He will speak on "Research the Guide for Sound Industrial Development."

DR. FREDERICK TILNEY, professor of neurology at Columbia University, will give the address at the annual initiation dinner of the Kappa Chapter of Sigma Xi at Columbia University on May 4. His subject will be "The Brain from Fish to Man."

DR. GEORGE H. A. CLOWES, director of research of the Lilly Laboratories, will give the eleventh annual series of Priestley lectures at the Pennsylvania State College from May 4 to 7. His subject will be "The Chemical and Physical Characteristics of Cell Structure and Function." The Priestley lectures, inaugurated in 1926 by members of the faculty of the School of Chemistry and Physics, constitute a memorial at Pennsylvania State College to Joseph Priestley. Since 1931 Phi Lambda Upsilon, honorary chemical fraternity, has cooperated in the presentation of the lecture series.

DR. LEO FROBENIUS, founder and president of the

Institute for the Morphology of Culture at Frankfort-on-the-Main, will give a lecture at the American Museum of Natural History on May 5 at 8:15 P. M. He will speak on "Prehistoric Art in Africa."

JAMES A. G. REHN, curator of entomology and secretary of the Academy of Natural Sciences of Philadelphia, addressed the Lancaster Branch of the American Association for the Advancement of Science on April 29. The lecture was entitled "Hunting Animals in Africa."

DR. MADGE THURLOW MACKLIN, of the University of Western Ontario, gave on April 15 the Catherine Miligan McLane Lecture at Goucher College, Baltimore. Her subject was "The Inheritance of Disease and its Relation to the Practice of Medicine."

THE summer convention of the American Institute of Electrical Engineers will be held in Milwaukee from June 21 to 25.

THE annual meeting of the American Pharmaceutical Association and its affiliated groups will be held in New York City during the week of August 16.

THE twenty-fifth annual meeting of the Eugenics Research Association will be held at the American Museum of Natural History on June 5.

THE annual meeting of the board of trustees of the National Park Association will be held on May 14 at the Cosmos Club, Washington, D. C.

THE Museums Association of Great Britain will hold its annual meeting from July 5 to 9 at Newcastle-upon-Tyne.

THE annual report of the Brooklyn Botanic Garden for 1936 records an attendance of nearly 1,600,000—an increase of 200 per cent. over 1926; an attendance of more than 54,000 in visiting classes from schools (increase in ten years, 44 per cent.), and an attendance of more than 67,700 at other classes and lectures—an increase of 146 per cent. Twenty-four pages are devoted to research in progress during the year. Of the year's budget, 51 per cent. was provided from private funds income and 49 per cent. from the tax budget appropriation of New York City. For a number of years the trustees of the garden have provided 50 per cent. or more of the operating budget.

At the twenty-fourth International Flower Show held in Grand Central Palace from March 15 to 20, the Brooklyn Botanic Garden installed an extensive exhibit of xerophytes, illustrating various ways in which plants meet the problem of drought. This exhibit included many plants from South Africa and various semi-arid regions. It was awarded the gold

medal and a special cash award, also an award of merit from the Garden Club of America. The Botanic Garden also exhibited four specimens, in flower, of the Devil's Tongue, *Amorphophallus (Hydrosme) Rivieri*. This exhibit, also, received a special award.

THE International Cancer Research Foundation has awarded to the School of Medicine of Temple University \$6,000 to further the study started more than three years ago by Dr. Temple Fay, investigating the relationships between body segmental temperatures and the incidence of malignancy. Clinical observation has indicated that sub-normal temperatures and tissue refrigeration tend to inhibit abnormal cellular growth. The committee to administer this fund is composed of Dr. Temple Fay, professor and head of the departments of neurology and neurosurgery; Dr. Lawrence Weld Smith, professor of pathology, and Dr. William N. Parkinson, dean.

ANNOUNCEMENT of the gift of two telescopes which have been added to the equipment of the department of astronomy at Radcliffe College has been made by the

trustees of the college. One is a photographic telescope made by Felker. The second is a Bausch and Lomb four-inch visual refractor. Both telescopes are mounted equatorially and have been erected in a small observatory on the roof of Byerly Hall, the science building where courses in elementary astronomy are conducted. Advanced students are privileged to use the facilities of the Harvard University Observatory.

THE Printing Industry Research Association has been founded in Great Britain for the purpose of supplying the trade with technical knowledge not only of type, paper and ink, but of the illustration processes most widely used—photo-engraving, lithography, photogravure. Bookbinding and box-making are also included. Printers vexed with problems arising from their work in any of these categories will be given specialist guidance on application to Patra House, the headquarters of the new association, which is maintained by the printing and allied trades in conjunction with the Government Department of Scientific and Industrial Research. The laboratories were opened by the Duke of Gloucester on March 9.

## DISCUSSION

### SEDIMENTATION IN A SMALL ARTIFICIAL LAKE

LAKES and reservoirs are often seriously affected by sediments which collect in them and which diminish their storage capacity. If erosion loss from the farms—sheet and gully wash—is not controlled, will sedimentation injure or destroy the work of the government in the great dams of the Muskingum Conservancy District and similar projects? If the water storage capacity of lakes and reservoirs is being seriously decreased by sedimentation, can this sedimentation be prevented or decreased? What factors are involved in the silting of reservoirs? These are some of the questions which may be raised in connection with observations of lake and reservoir silting. Obviously, the answer to these and other questions must be made from data collected from a number of different lakes and reservoirs. We, therefore, submit some observations taken in a small artificial lake in the hope that our observations, together with many other such observations, may prove of value.

On the campus of Muskingum College there is a small artificial lake, which has an area of about 40,750 square feet and a volume of about 410,000 cubic feet. In the fall of 1935 we made a study of the amount of silting which had taken place in the lake since its construction in 1915.

Before 1915 the site of the lake was occupied by two small streams which joined where the lake is now located. About 300 feet below the junction of these two

streams an earth dam, 150 feet long and 75 feet wide at its base, was constructed across the valley. For a distance of 200 feet above the dam an area 150 feet wide was excavated for the purpose of forming a basin and in order to obtain earth for the dam. A vertical cement outlet which stands near the lateral center of the lake, 30 feet from the dam, has been provided to take care of the overflow.

As the lake was constructed it is an almost perfect settling basin; the only materials which escape are particles so fine that they do not settle out before the water goes over the outlet and material in solution.

A plane-table survey was made in order to obtain a map upon which the data were placed and from which the area of the lake was calculated. A silt rod was then used and the depth of the silt on the bed of the lake was determined as well as the depth of the water in the lake.

A mechanical analysis of the sediment was not undertaken, but note was made that where the two streams enter the lake the material was of visible shape, while farther from the streams the sediment was composed of fine material such as silt.

The coarser sediment was naturally deposited where the incoming streams dropped the heaviest portions of their load as their velocities were decreased upon entering the lake. While the total volume of this type of material is not as great as the volume of the finer materials the effect is more noticeable because of the concentration of the material near the mouths of the streams. At the mouth of one of the streams a delta