

lectures will deal with industrial operations in compressed air, the pneumoconioses and their prevention and the design, cost and operation of laboratories of industrial toxicology and industrial hygiene.

The visiting speakers will be: Ole Singstad, chief consulting engineer on tunnels, Port of New York Authority; William P. Yant, supervising chemist of the health laboratory section and supervising engineer of the Pittsburgh Experiment Station, U. S. Bureau of Mines; J. J. Bloomfield, sanitary engineer, U. S. Public Health Service, and W. F. von Oettingen, director of the Haskell Laboratory of Industrial Toxicology, Wilmington, Del.

The following members of the faculty of the Harvard School of Public Health will lecture: Cecil K. Drinker, professor of physiology and dean of the school; David B. Dill, assistant professor of biological chemistry; Wilson G. Smillie, professor of public health administration; William F. Wells, instructor in sanitary science; Laurence T. Fairhall, assistant professor of physiology; Constantin P. Yaglou, assistant professor of industrial hygiene; Louis A. Shaw, assistant professor of physiology; W. Irving Clark, physician to the Norton Company and assistant professor of the practice of industrial medicine; Theodore F. Hatch, instructor in industrial sanitation in the Harvard Schools of Engineering and of Public Health, and Arlie V. Bock, Oliver professor of hygiene.

OFFICERS OF THE NATIONAL RESEARCH COUNCIL—1936-1937

THE National Research Council announces the appointment of Dr. Ludvig Hektoen, director of the John McCormick Institute for Infectious Diseases in Chicago, as the chairman of the council for the year beginning July 1, 1936, in place of Dr. Frank R. Lillie, resigned. Dr. Lillie continues as president of the National Academy of Sciences.

The officers of the divisions of science and technology of the council for the coming year, among whom there are several replacements, are as follows:

Physical Sciences

R. A. Millikan, *chairman*; director of the Norman Bridge Laboratory of Physics and chairman of the executive council, California Institute of Technology, Pasadena.

H. A. Barton, *vice-chairman*; director of the American Institute of Physics, New York City.

Engineering and Industrial Research

Vannevar Bush, *chairman*; vice-president and dean of the Graduate School, Massachusetts Institute of Technology.

Howard Poillon, *vice-chairman*; president of the Research Corporation, New York City.

Chemistry and Chemical Technology

Herbert R. Moody, *chairman*; professor of chemistry and director of the chemical laboratories, College of the City of New York.

Geology and Geography

Edson S. Bastin, *chairman*; professor of economic geology, University of Chicago.

Robert S. Platt, *vice-chairman*; associate professor of geography, University of Chicago.

Medical Sciences

Esmond R. Long, *chairman*; professor of pathology, School of Medicine, and director, Henry Phipps Institute, University of Pennsylvania.

Howard T. Karsner, *vice-chairman*; professor of pathology and director of the Institute of Pathology, Western Reserve University.

Biology and Agriculture

R. E. Coker, *chairman*; professor of zoology and chairman of the Division of Natural Sciences, University of North Carolina.

H. P. Barss, *vice-chairman*; principal botanist and associate in experiment station administration, Office of Experiment Stations, U. S. Department of Agriculture.

Anthropology and Psychology

W. S. Hunter, *chairman*; professor of psychology, Brown University.

J. R. Swanton, *vice-chairman*; ethnologist, Bureau of American Ethnology, Smithsonian Institution.

SCIENTIFIC NOTES AND NEWS

At a meeting of the Royal Society held on June 25 the following were elected foreign members: Professor Siegmund Freud, the distinguished psychiatrist of Vienna; Professor Ludwig Jost, formerly of Heidelberg, "whose researches on the growth and irritability of plants have contributed much to the advancement of botany"; Professor F. A. Vening Meinesz, of Utrecht, "who devised a means of determining gravity at sea and has carried out a large amount of practical work on this subject in submarines"; Professor

Hermann Weyl, of Princeton, "well known for his work in mathematics and mechanics, and especially for his discovery of non-metrical space." At the same meeting of the society, Sir Thomas Middleton, formerly professor of agriculture at the University of Cambridge, later from 1906 to 1919 assistant secretary of the British Board of Agriculture, was elected a fellow under the statute which provides for the occasional election of "persons who either have rendered conspicuous service to the cause of science or are such

that their election would be of signal benefit to the society."

THE King of England's birthday honor list includes the conferring of knighthood on Dr. G. T. Morgan, of the Department of Scientific and Industrial Research; Dr. A. C. Seward, master of Downing College and professor of botany at the University of Cambridge; Dr. James Morton, a pioneer in the dye and color industries, and Dr. C. S. Hicks, professor of human physiology at the University of Adelaide.

THE doctorate of science was conferred on June 14 by Dartmouth College on Dr. Thomas Barbour, director of the Museum of Comparative Zoology at Harvard University, and on Dr. Francis G. Blake, professor of medicine at Yale University.

AMONG the honorary degrees conferred at the commencement of Syracuse University was the doctorate of science on Dr. William L. Bray, professor of botany and dean of the Graduate School.

THE Polytechnic Institute of Brooklyn conferred on June 17 the honorary degree of engineering on Morris Evans Leeds, president of the Leeds and Northrup Company of Philadelphia. President Harry S. Rogers, who gave the citation, said: "Morris Evans Leeds, scientist, inventor and preeminent industrial leader, builder of precision instruments for scientific measurements and control, in the industry which you lead you have united the highest craftsmanship with the deepest scientific theories; around both you have organized human effort inspired by the loftiest social ideals. Public servant in industry, in education and in labor relationships, you have won the affection and high regard of craftsmen, scientists, engineers, managers and the public."

THE Award of Merit for 1936 of the University of Louisville has been bestowed upon Dr. John Walker Moore, dean of the School of Medicine, for "Significant contribution through research upon cardio-vascular functions; establishment a decade ago of the student unit system of clinical instruction, original features of which have been incorporated into the curricula of other medical schools; effective and stimulating teaching; distinction conferred by election to chairmanship of the section on medical education of the Southern Medical Association, 1932-1934; distinction conferred by election to membership among the two hundred physicians nationally outstanding in research and practice, who constitute the Association of American Physicians."

As a mark of affection and esteem for Professor Gomberg, who recently retired at the age of seventy years, a group of his friends and former students have presented his portrait to the University of Michigan.

The portrait was painted by Isabel Branson Cartwright, of Philadelphia, and is temporarily hung in Alumni Memorial Hall.

DR. ALICE HAMILTON, who recently retired from an assistant professorship of industrial medicine at the Harvard Medical School, was presented on June 22 at White Sulphur Springs, W. Va., with the gold medal of the Chi Omega Sorority. The medal, which is given annually to an American woman for public achievement, was presented by Mrs. Roosevelt, who represents the field of public affairs on the committee of awards.

DR. ROGER JOHN WILLIAMS, professor of chemistry at Oregon State College, has been presented with the scroll given annually by the University of Oregon Chapter of Sigma Xi to an "outstanding man of science in Oregon," for his work on "pantothenic acid." The Rockefeller Foundation has appropriated \$20,000 for further research in this field.

A. M. MACCUTCHEON, engineering vice-president of the Reliance Electric and Engineering Company, Cleveland, Ohio, was elected at the Pasadena meeting president of the American Institute of Electrical Engineers for the year beginning August 1. Other officers elected were: *Vice-presidents*, A. C. Stevens, Schenectady, N. Y.; O. B. Blackwell, New York, N. Y.; C. Francis Harding, Lafayette, Ind.; L. T. Blaisdell, Dallas, Texas; C. E. Rogers, Seattle, Wash.; *Directors*, K. B. McEachron, Pittsfield, Mass.; C. A. Powel, East Pittsburgh, Pa.; R. W. Sorensen, Pasadena, Calif.

FRANCIS C. FLINT, Zanesville, Ohio, chief chemist of the Hazel-Atlas Glass Company, has been elected president of the American Ceramic Society.

At the thirty-first semi-annual meeting of the Central New York State Branch of the Society of American Bacteriologists at Rochester, N. Y., Dr. C. N. Stark, Cornell University, was elected *chairman* for 1936-37; Dr. C. S. Pederson, New York State Agricultural Experiment Station, *vice-chairman*, and Dr. Ralph P. Tittsler, University of Rochester, *secretary-treasurer*.

MAJOR JAMES STEVENS SIMMONS, of the Army Medical Research Board, Ancon, C. Z., was elected president at the meeting on June 16 of the Medical Association of the Isthmian Canal Zone.

PROFESSOR DONALD H. ANDREWS has been appointed chairman of the department of chemistry and director of the Chemical Laboratory at the Johns Hopkins University.

DR. MORLEY A. JULL, senior poultry husbandman of the U. S. Department of Agriculture, has been

appointed head of the poultry department of the University of Maryland.

R. J. GARBER has resigned as head of the department of agronomy and genetics of West Virginia University to become a principal agronomist in the Division of Forage Crops and Diseases of the Bureau of Plant Industry, U. S. Department of Agriculture. He will be director of the Regional Laboratory for Pasture Research in the northeastern states. Headquarters have been established at the Pennsylvania State College of Agriculture.

DR. HENRY STEVENS, biochemist of the Protein and Nutrition Division of the Bureau of Chemistry and Soils, has been placed in charge of a chemical study of substances in agricultural products and by-products that contribute to the allergic disturbances—hay fever, asthma, hives and related afflictions. Dr. Harry S. Bernton, professor of hygiene at the Georgetown University Medical School, has been appointed consulting specialist and will participate in studies of the allergens. Funds for this investigation have been provided by the Bankhead-Jones act, signed by the President a year ago.

DRS. ARTHUR B. CLEAVES, Donald Fraser and E. H. Watson have been appointed cooperative geologists of the Pennsylvania Topographic and Geologic Survey for the summer of 1936.

DR. CLARENCE J. WEST, since 1925 director of the Research Information Service of the National Research Council, has accepted appointment to the newly established position of technical editor of the Institute of Paper Chemistry, which is affiliated with Lawrence College at Appleton, Wis. He will be in charge of all publications, bibliographies and preliminary researches at the institute.

AT Kansas State College sabbatical leave for 1936-37 has been granted to the following members of the scientific staff: Roger C. Smith, entomology; A. O. Flinner, mechanical engineering; Gerald Pickett, applied mechanics; C. E. Pearce, machine design; H. E. Myers, agronomy; H. M. Scott, poultry husbandry; Gladys E. Vail, food economics and nutrition; A. C. Andrews, chemistry, and E. R. Lyon, physics.

THE award by the Fox Trust Fund of three research fellowships for the year beginning June 1 has been announced by the New Hampshire State Forestry and Recreation Department. Dr. Richard G. Wood, of Manchester; Alan A. Beetle, of Hanover, and Livingston Lansing, of Salisbury, Conn., were elected fellows. The fellowships are awarded each year for research in forestry and subjects allied with forestry in New Hampshire. The fund was established by the late Caroline A. Fox and is administered under the Fox Research Forest in Hillsboro.

DR. WENDELL H. GRIFFITH, associate professor of biochemistry at the St. Louis University School of Medicine, has received a grant from the Rockefeller Foundation to enable him to continue at the University of Oxford his work in the field of nutrition.

THE Committee on Scientific Research of the American Medical Association has made a grant to Dr. Gordon H. Scott, of the department of anatomy of Washington University School of Medicine, St. Louis, to aid his work on lead and aluminum in the cerebrospinal fluid. Professor Jean Broadhurst, of Teachers College, Columbia University, has received a grant for further investigations concerning the presence and significance of cytoplasmic inclusion bodies in the epithelial cells of the genital area.

DEAN HARRIETT M. ALLYN, professor of anthropology at Mount Holyoke College, has been appointed by the Department of State to represent the Government at the second International Congress of Prehistoric and Protohistoric Sciences, to be held at Oslo from August 3 to 9. After the congress, she will visit prehistoric sites in Norway and Sweden, and during September and October will take part in an excavation at Staré Hradisko, Czechoslovakia, returning to Mount Holyoke in January.

THE third Denver-Wyoming Expedition, directed by Dr. E. B. Renaud, of the University of Denver, left on June 15 to continue the archeological survey of the High Western Plains. The expedition will explore the basin of the Green River, Black's Fork and tributaries. Dr. Renaud expects to make a collection of paleolithic implements.

DR. KARL T. COMPTON, president of the Massachusetts Institute of Technology, addressed the sixty-fourth meeting of the Manufacturing Chemists' Association recently at Absecon, N. J. He spoke on "Dangers of Regimentation and Complacency."

DR. KIRTLEY F. MATHER, professor of geology at Harvard University, addressed the graduates at the one hundred and fifteenth commencement exercises of Colby College.

DR. PAUL F. RUSSELL, of the field staff of the International Health Division of the Rockefeller Foundation, recently gave a series of lectures on the epidemiology of malaria at the third International Malaria Course of the Health Section, League of Nations, in Singapore. On completion of the course Dr. Russell returned to the King Institute of Preventive Medicine, Guindy, Madras, India, where he is officer-in-charge of malaria investigations.

DR. I. M. KOLTHOFF, head of the division of analytical chemistry in the University of Minnesota, delivered a series of lectures on chemistry at the Uni-

versity of Prague, Czechoslovakia, in June, after which he left for Holland, where he will represent the University of Minnesota at the tercentenary exercises of the University of Utrecht.

PROFESSOR F. S. KIPPING delivered the Bakerian lecture before the Royal Society at Burlington House on June 25. He spoke on "Organic Derivatives of Silicon."

THE Academy of Medicine of Washington, D. C., whose organization was recently announced in this JOURNAL, has adopted the following plan for its programs. For each subject a committee of both laboratory and clinical men is appointed. The committee consists of those members who are qualified by special experience with the subject in one or another of its aspects, with, in addition, one or more members representing the academy at large. The committee in preliminary meetings studies and organizes the subject, and at a subsequent scientific meeting presents it to the academy. The reports of committee members and the discussion by the academy are informal. The first committee on subjects for study is one on "High Energy Particles and Radiations." It consists of Drs. Merle A. Tuve, Carnegie Institution, Department of Terrestrial Magnetism; Lyman J. Briggs and Lauriston S. Taylor, Bureau of Standards; George W. McCoy, National Institute of Health; Edwin A. Merritt, clinical radiology, and William J. Mallory, George Washington University School of Medicine. The first

report of this committee was heard and discussed as the scientific program of the academy meeting of June 9, 1936.

Nature states that a Czechoslovak Microchemical Society was founded on April 25 in Prague at a gathering of about two hundred chemists, from both Czech and German scientific and industrial circles. Professor J. Heyrovský, professor of physical chemistry at the Charles University, known for his microchemical polarographic studies, has been elected president. The society's activities were inaugurated by a lecture by Dr. C. J. van Nieuwenburg, professor of analytical chemistry in the Delft Technical High School, on "Why and Where Microchemistry?" Austrian microchemists were represented by Professor Fritz Feigl, professor of chemistry in the University of Vienna. The society intends to cooperate with microchemical societies and clubs of England, America, Holland and Austria with the view of establishing an International Microchemical Society.

THE summer meeting of the Pennsylvania Academy of Science is scheduled to be held at Somerset on August 14 and 15. Biological and geological field trips are planned. Further particulars can be obtained from the secretary, Dr. V. Earl Light, Lebanon Valley College, Annville, Pa.

THE Biological Photographic Association will hold its sixth annual convention in Boston on September 24, 25 and 26, at the Hotel Lenox.

DISCUSSION

THE EFFECT OF IRRIGATION UPON SOIL TEXTURE

THE effect of irrigation upon soil texture has been noted in the Salt River Valley, Arizona. A soil survey was made of certain areas in 1899 and another covering much larger areas in 1927. The two surveys, where they cover the same territory, have little resemblance to each other. The first survey, made by the writer, was one of the first soil surveys made by the Bureau of Soils and would to-day be regarded as a crude reconnaissance. It did not go into detail but roughly classified the soils into sands, sandy loams, etc., to clays. The most recent survey goes into great detail and maps soils which can not be differentiated in the field by the non-scientific man. There were, however, great differences in the two surveys which can not be explained by anything but changes in the character of soils. For example, in the area around Tempe, covered by both surveys, 21 per cent. of the soils were classed as clay loams and clays in 1899, while in 1927 the maps show 82 per cent. of the same soil grades.

Such great differences can not be explained by improved methods of surveying or classifying soils. Deposition of sediment from irrigation with muddy water does not explain the differences, because no such great amount of sediment has been available in the water.

The difference between the irrigated and desert soils is more strikingly shown in the recent soil surveys where the area extends beyond the limits of irrigation. In the Buckeye region, shown on the Buckeye-Beardsley Area map, the Buckeye canal for long distances follows across unbroken desert the boundary between sandy loams and heavier soils—clay loams or silty clays. In 1899 no such difference existed; there was little difference between the soils above and below the canal.

The Paradise Verde Area map extends down to the Arizona canal, the uppermost irrigating the Salt River project. Above the canal light soils predominate. On the Salt River Valley Area sheet, which extends up to the same Arizona canal, heavy soils predominate below the canal. No such differences existed in 1899, and