sota, and Professor Hugh S. Taylor, of Princeton University.

In accordance with a recent change in its constitution, the society now elects each year a president and a president-elect, who serve in successive years. The society's membership of 18,000 in all parts of the country participate in the annual election.

Dr. W. D. Bigelow, director of research of the National Canners Association, Washington, D. C., and Walter A. Schmidt, president of the Western Precipitation Company, Los Angeles, were elected district directors: *Directors-at-large* were named as follows: Thomas Midgley, Worthington, Ohio, noted for his discovery in the laboratories of the General Motors Corporation at Dayton of ethyl gasoline and of a new non-toxic and non-inflammable refrigerant; George P. Adamson, of Searsport, Maine, long identified with chemical industries, including the Baker and Adamson Company, the General Chemical Company and the Allied Chemical and Dye Corporation; Milton C. Whitaker, New York, president of the Catalytic Process Corporation, formerly professor in Columbia University and vice-president of the U. S. Industrial Alcohol Company; R. E. Wilson, Chicago, assistant to the vice-president and in charge of development and patent department of the Standard Oil Company of Indiana.

Councilors-at-large are: F. C. Frary, director of research, Aluminum Company of America, New Kensington, Pa.; Professor H. N. Holmes, Oberlin College; Dr. E. H. Volwiler, director and chief chemist of the Abbott Laboratories, Chicago; R. E. Wilson.

The reserve fund of the society at the beginning of 1930 was just over $300,000 and its trust funds amounted to nearly $184,000. Through the will of W. H. Nichols, $50,000 will be added to the funds of the society. The expenditures of the year were estimated at $557,560.

SCIENTIFIC NOTES AND NEWS

MR. W. C. MENDENHALL, chief geologist of the U. S. Geological Survey, has been made acting director of the survey to succeed Dr. George Otis Smith, who was recently appointed chairman of the reorganized Federal Power Commission.

PROFESSOR ALBERT EINSTEIN has accepted an invitation to become Cecil Rhodes Memorial Lecturer at the University of Oxford, where he will reside during the summer term.

DR. WILLIAM H. WELCH, of the Johns Hopkins University, and Dr. John A. Hartwell, of Cornell University Medical College, were guests of honor at a dinner in New York City on December 6 to celebrate the seventieth anniversary of the German Medical Association of New York.

DR. WALTER B. CANNON, George Higginson professor of physiology at the Harvard Medical School, who recently became a foreign honorary fellow of the Royal Society of Edinburgh, received on November 15 the degree of doctor *honoris causa* from the University of Liége. On November 22 the same honorary degree was conferred on him by the University of Strasbourg.

DR. FREDERICK E. BREITHUT, president of the American Institute of Chemists, Inc., has been elected, *ex officio*, an honorary member of the Chemical, Metallurgical and Mining Societies of South Africa.

THE gold medal of the Radiological Society of North America has been awarded, for achievement in the science of radiology in its application to diseases of women, to Dr. Henry Schmitz, professor of gynecology and head of the department at the Loyola University School of Medicine, Chicago.

THE Mackenzie Davidson Medal of the British Institute of Radiology was awarded to Professor G. P. Thomson, of the Imperial College of Science and Technology, and the Silvanus Thompson Medal to Dr. A. E. Barclay, lecturer in medical radiology and electrology in the University of Cambridge, on the occasion of the recent annual congress and exhibition of the institute. Dr. Thomson and Dr. Barclay delivered memorial lectures.

THE Gedge Prize of the University of Cambridge for original observations in physiology has been awarded to Mr. H. Barcroft, B.A., of King's College, who gained first class honors in the Natural Sciences Tripos, Part II, in 1927.

LORD EUSTACE PERCY was elected president of the Royal Institution, London, on December 1, in succession to the late Duke of Northumberland. Lord Eustace was president of the Board of Education in 1924–29 and this year is president of Section L (Educational Science) of the British Association.

M. LE GÉNÉRAL BOURGEOIS has been elected vice-president of the Paris Academy of Sciences for the year 1931.

HONORARY doctorates have been conferred by the University of Liége on M. Emile Picard, permanent secretary of the Paris Academy of Sciences, on M. Jean Perrin, professor of physical chemistry, and M. Louis Lapicque, professor of physiology, of the Col-

lège de France, and on Dr. A. Calmette, of the Pasteur Institute, Paris.

DR. FRIEDRICH STOTZ, of Heilbronn, the inventor of synthetic adrenaline, who recently celebrated his seventieth birthday, has been named doctor *honoris causa* by the medical faculty of the University of Marburg.

THE General Board of the University of Cambridge has recommended that a professorship of geography be created as from January 1, 1931, and that the present reader in geography, Mr. F. Debenham, be the first holder of the chair. A professorship of experimental psychology will also be created, the present reader in experimental psychology, Mr. F. C. Bartlett, to be the first incumbent. The stipend attached to these professorships is £1,200.

THE chair of zoology in the University of Capetown, vacated by Mr. L. Hogben on his appointment as professor of social biology in the University of London, has been filled by the election of Dr. T. A. Stephenson. Dr. Stephenson has been for some years a lecturer in the department of zoology at University College, London, and was a member of the recent research expedition to the Great Barrier Reef.

DR. WILHELM SCHMIDT has been appointed to succeed the late Professor F. M. Exner as professor of geophysics at the University of Vienna and director of the Institute of Meteorology and Geodynamics.

DR. CARLETON R. BALL, until recently principal agronomist in charge of the office of cereal crops and diseases of the Bureau of Plant Industry of the U. S. Department of Agriculture, has been appointed research associate in the University of California, effective on January 1. He will take up a survey of the relationships of the federal, state and local county or city governments in the numerous and varied agricultural activities in California. This survey will be conducted by the Bureau of Public Administration of the Department of Political Science, with funds provided by the Rockefeller Foundation. It is one, and the first, of a series designed to cover these relationships in all human activities in the state.

DR. NEIL E. STEVENS, of the U. S. Department of Agriculture, has been transferred from the office of horticultural crops and diseases to the office of mycology and disease survey of the Bureau of Plant Industry. In his new assignment Dr. Stevens will conduct research on epidemiology of plant diseases, and will also direct the plant disease survey, formerly under the supervision of Dr. R. J. Haskell. The survey, in cooperation with the state agricultural college experiment stations, extension services and other agencies, will continue to collect, summarize and interpret data on the occurrence and distribution of plant diseases for use by workers in the department and state experiment stations.

VICTOR O. HOMERBERG, associate professor of physical metallurgy at the Massachusetts Institute of Technology, has been appointed technical director of the Nitralloy Corporation, New York City.

MR. P. H. GRIMSHAW has been appointed keeper of the Natural History Department in the Royal Scottish Museum in succession to Dr. J. Ritchie, who was recently appointed Regius professor of natural history in the University of Aberdeen.

PRESIDENT KARL T. COMPTON, of Massachusetts Institute of Technology, addressed the Western Society of Engineers in Chicago on December 1 on "Electron Emission from Metals." He also addressed the alumni of the College of the City of New York at their annual dinner at the Hotel Biltmore on Saturday, November 15, on "What can be Expected of Scientific Research?" On Friday, October 24, he gave the dedication address for the new physical laboratory at the University of Richmond on "Civilization and the Physical Laboratory."

DR. JAMES EWING, professor of pathology at Cornell University Medical College, New York, will give the tenth annual Beaumont lectures on January 26 and 27, in Detroit, under the auspices of the Wayne County Medical Society. The lectures will treat the causation, diagnosis and treatment of cancer.

DR. WALTER B. CANNON addressed the Harvard Medical Society, on December 9, on "The Emotional Increase of Heart Rate."

DR. J. BRONTË GATENBY, of Trinity College, Dublin, lectured at the University of Michigan, under the auspices of the department of zoology, on December 4 and 5, on "X-rays, Radium and Phosphorus, and the Cell," "Review of Various Theories of the Structure of the Cell," "Cytoplasmic Inclusions in the Germ-cell Cycle" and "Lines for Further Research."

PROFESSOR ARTHUR A. ALLEN, of Cornell University, lectured on December 11 and 12 at the University of Michigan under the auspices of the department of zoology on the following subjects: "Courtship and Home Life of Birds," "The Ruffed-Grouse—a Cooperative Investigation" and "The University and the Conservation of Wild Life."

PROFESSOR DOUGLAS JOHNSON, of Columbia University, addressed the Geographic Society of Chicago on December 9 on "The Unresting Sea." The previous day he discussed "Shore Benches of the Pacific Coasts" at a meeting of graduate students and faculty members of the Department of Geology and Geography at Northwestern University, and on December 10 lec-

tured at Wooster College, Ohio, on "Interpretations of Coastal Scenery."

THE International Exhibition of Hygiene at Dresden, which was closed on October 13, will be reopened next year from May 15 to September 30.

Nature reports that an international celebration and exhibition to mark the three hundredth anniversary of the first recognized use of cinchona by Europeans was held at the Wellcome Historical Medical Museum, London, on December 8 and 10. Addresses were given by the Marquis de Merry del Val, Ambassador for Spain; Archbishop Goodier, formerly Archbishop of Bombay; Sir David Prain, formerly director of the Royal Botanic Gardens, Kew, and Sir Humphry Rolleston, Regius professor of physic in the University of Cambridge. There was an extensive collection of exhibits arranged to illustrate the history of cinchona.

WE learn from the *Journal* of the American Medical Association that a microscope thought to be nearly 200 years old has been presented to the New York Academy of Medicine by Dr. Warren Coleman. The case bears a brass plate on which is engraved: "This Microscope brought from Holland by Jan Evertson Keteltas in the year 1649 is given by his Descendant Henry Keteltas Aug 12th 1895 to Doctor Warren Coleman as a pleasant remembrance." According to a plate inside the case, the instrument was made by Benjamin Cole, who is known to have entered business in London in 1751. Authorities believe, therefore, that the microscope given to Dr. Coleman was not the one originally brought to this country in 1649, but one that replaced it about 100 years later.

THE Royal Institution, London, has received an intimation from the Pilgrim Trust that the trustees have allocated the sum of £16,000 to meet the deficiency on the fund for the reconstruction of the institution. The trustees state that, in making this grant, they had regard to the distinguished scientific services rendered to the whole community by the Royal Institution for over a century, and to the approaching Faraday celebrations. They were also not unmindful that the founder of the Royal Institution, Count Rumford, was of American origin.

FOR the purpose of providing adequate laboratory facilities for the departments of medicine, surgery, pathology, bacteriology and allied subjects of the medical curriculum, the Rockefeller Foundation of New York has contributed £100,000 to the University of Sydney. Since the establishment of full-time chairs in medicine, surgery and bacteriology, made possible by the generosity of Mr. George Bosch, of Sydney, the medical school of the university has been brought within the scope of the activities of the Rockefeller Foundation. This gift to the university was the outcome of the visit of Mr. Bosch and Professor Stump to America last January, when they explained in person the plans which the university had in view.

THE committee on pharmacology and therapeutics of the Council on Dental Therapeutics of the American Dental Association announces that it has at its disposal a small fund to aid investigations which may be of therapeutic interest in the field of dentistry. The grants will be limited to the purchase of materials or special equipment. Applications should be addressed to the secretary, Dr. S. M. Gordon, 58 East Washington Street, Chicago, Illinois.

THE *ex-officio* Montana State Board of Entomology, set up in 1913, has devoted itself to the study of Rocky Mountain spotted fever, the tick which carries it and, in recent years, to tick parasites. It now desires to turn over the entire research program, as well as the new laboratory erected by the State of Montana, to the National Institute of Health, created by the Congress in May, 1930. In this plan the Board of Entomology has the support of the American Public Health Association, many state and city health officers and many interested individuals in both the eastern and western United States. The United States Public Health Service has been engaged in the study of this human disease in Montana for many years and has a staff of workers at the board's laboratory at Hamilton, Montana. The Public Health Service has discovered an effective spotted-fever vaccine and has been making it at the Montana laboratory and supplying it to the some thirteen states which need it. The problem of the control of Rocky Mountain spotted fever is much more than a local one and it is believed that it will be more appropriate for the National Institute of Health to have entire charge, thereby relieving the State of Montana, and at the same time making it possible to enlarge the studies and extend them into the other affected states.

AT the anniversary meeting of the Royal Society, Sir Ernest Rutherford, the retiring president, announced that by an alteration of the existing statute regulating the election of fifteen fellows annually, and enacted in 1847, the number to be recommended for election in future would be seventeen.

THE Royal Anthropological Institute, according to *Nature,* has created a class of associates with the object of bringing its facilities for study and research within the reach of the younger workers in anthropological subjects. Associates must be less than twenty-six years of age, they will pay an annual subscription of one guinea only, will receive the institute's monthly publication (*Man*), and will have access to the library and ordinary meetings.

THE East Malling Horticultural Research Station, Kent, England, has arranged for the investigations of six fruit experts from the Dominions to work at the station. The plan is financed by the Empire Marketing Board, and aims at helping fruit production in the Empire by enabling investigators who are taking up fruit research in the Dominions to see at first hand what is being done by their fellow-workers in the home country. Post-graduate workers will be invited to carry out individual research at the station for a period of two years. The East Malling Research Station is the present headquarters of the Imperial Bureau of Fruit Production, one of the eight agricultural research bureaus recently set up to coordinate fruit research throughout the Empire. Mr. R. G. Hatton, director of the station, is at present on an Empire tour, under the auspices of the Empire Marketing Board, during which he will visit Canada, Australia, New Zealand and Ceylon. The research station at East Malling has recently been enlarged as an Empire center for the study of all aspects of fruit culture under temperate conditions. The largest experimental cold store in the world, known as the Ditton Laboratory, has been opened for research into the cold storage of fruit. It contains a "model ship's hold," capable of taking 120 tons of apples, in which conditions on board ship can be almost exactly imitated.

Industrial and Engineering Chemistry reports that the Chung Hua Chemical Research Laboratory was founded in Shanghai in 1929 by the joint effort of the Tienchu Manufacturing Company and P. N. Woo, superintendent and chemical engineer of that concern. The motive for founding this laboratory was to stimulate industrial chemical research and to arouse interest among manufacturers in China to establish industrial fellowships similar to those of the Mellon Institute. At present it has two such fellowships. The laboratory employs three chemists with its annual fund mostly contributed from the founders. The administration is vested in the hands of a board of directors, consisting of nine members, one of whom is the director of the laboratory. Besides cooperating with other parties in solving their chemical and technical problems, the junior staff is doing general analytical work for business people. As a side issue, the laboratory is also acting as purchasing agent for those who wish to buy foreign scientific apparatus and factory equipment. In any case, only a nominal fee is charged and that is utilized solely for the expansion of the laboratory.

DISCUSSION

OUR FAUNA

GATES[1] has recently pointed out how little we know what earthworms may be found in that part of America whose fauna has been studied for the longest period of time, not to mention our lack of knowledge concerning their distribution, life history and ecology.

What is true of earthworms, a group of particular economic importance, is even more true of the moss mites (Oribatoidea). For instance, in one subfamily but one species had been recorded from New York and New England until the writer in 1929 added ten, chiefly from Connecticut. Among the Phthiracaridae but one species had been recorded from New England when in 1930 the same worker added sixteen, of which ten came from one locality. What is true of the above subfamilies, chosen at random, is true of others.

Not only are the species unknown, but in all papers that have come to my attention which claim to analyze or summarize the fauna of a given tract or area the Oribatoidea are ignored, or rarely a generic name appears. Even such "monographs" as Weese's[2] and Blake's,[3] which include turf and soil population, entirely ignore this group. Yet every cubic foot of forest floor contains dozens if not a hundred to two hundred, while no cubic foot of meadowland is without them if present random collections are indicative of general conditions. Furthermore, these animals are visible to a sharp eye.

What is true of the moss mites is equally true of other groups of Acarina, of Tardigrades and of other inconspicuous groups.

Undoubtedly, to know one's fauna is a fundamental necessity and is the only reason for the existence of a national Biological Survey. Were our fauna better known we would not have anatomists, histologists and experimental biologists working on material which represents two or three species (as has been done on Amoeba,[4] Paramecium[5] and even some fishes, or on wrongly identified material as in the case of Hydra,[6] numerous parasites and arthropods).

When one reviews such admirable, comprehensive faunal works as the "Tierwelt Mitteleuropas," "Faune de France," etc., one realizes how far behind is New England, even New York State (not to mention the rest of our extensive domain), in knowing the animal life available for advanced studies. Why should the Biological Survey confine its interest to flowering plants, mammals, birds and a little of other conspicuous forms while all the rest of the plant and

[1] SCIENCE, 60: 266–267, September 13, 1929.
[2] Illinois Biol. Monog., 9: no. 4, 1924.
[3] *Ibid.*, 10: no. 4, 1926.
[4] Schaeffer, Carnegie Inst. Pub. no. 345, p. 3.
[5] Wenrich, *Trans. Am. Micr. Soc.*, 47: 275.
[6] Hyman, *Trans. Am. Micr. Soc.*, 48: 242, ¶ 2.