data should be furnished as will enable the expert in charge of this class of data to evaluate critically the new in comparison with the older data. Manuscript or corrected page proofs should be furnished where possible.

Any data belonging to class I, received prior to January 1, 1925, and any data belonging to class II, received before July 1, 1924, will be in time for inclusion in International Critical Tables, and the source of all data so included will be indicated by "Private Communication from, etc." or in such other manner as the author may prefer; unless a literature reference becomes available before going to press. Data determined by members of the staff of a research laboratory should be forwarded through the director of the laboratory. All data should be sent to International Critical Tables, National Research Council, Washington, D. C.

MARTIN JOHNSON AFRICAN CORPORATION

PRESIDENT HENRY FAIRFIELD OSBORN of the American Museum of Natural History has announced the ratification by the Board of Trustees of an agreement between the museum and the Martin Johnson African Corporation. The directors of this corporation are Daniel E. Pomeroy, A. Perry Osborn, F. Trubee Davison, Carl E. Akeley, John H. Prentice, H. Morton Merriman, Lewis L. Delafield, Jr., Dexter C. Hawkins and Robert E. Lee, all of whom are well known for their public activities.

President Osborn stated that, according to the terms of the agreement, Mr. Johnson would direct his energies and efforts to secure a truthful photographic portrayal of all phases of African life. In order that the record which he obtains become a correct and dependable chronicle of the peoples and animal life still existent on that continent, he has placed himself and his work under the direct scientific supervision of the authorities of the American museum, which will become the permanent depository of all the motion picture films, negatives and other physical material which Mr. Johnson secures during the five years of which the expedition will continue.

The acquirement of these records, together with all other photographic negatives and films which Mr. Johnson has secured during his twenty-six years of travel in the South Seas, Australia, Egypt, Africa and other places, and which he has recently donated to the museum, will form an unprecedented series of scientific and educational value. Mr. Johnson, together with Mrs. Johnson, left for Africa in December, taking with them one of the most complete photographic outfits that ever went into the field for a similar undertaking. Mr. Johnson is an expert photographer and is as much at home in the laboratory as he is behind the camera. The photographic experience which he previously acquired in the tropics gives him a distinct knowledge of the difficult twists and quirks necessary to secure good results, and promises a quality of production unexcelled in the history of motion-picture photography.

EMINENT AMERICAN CHEMISTS¹

FROM time to time there have come to us requests for sources of portraits of eminent American chemists prepared for framing and suitable for decorating laboratories, lecture rooms, and the halls of educational institutions. Diligent search having shown that very few Americans had been included in such collections of portraits as had been made by publishers, we persuaded our associate editor to undertake the preparation of such a collection, calling upon a number of men to assist in compiling a list of those to be included in the first series. This work has been completed and, if advance subscriptions warrant, a set of thirty-three portraits, beautifully done on the best grade of paper, will be available in a loose-leaf binder, these portraits being interleaved with short sketches of the work of each of the subjects. The portraits themselves are $41/2 \times 61/2$ inches on sheets $8\frac{1}{2} \times 10$ inches. Announcements will be made soon as to prices and other details. We give below the list of the men included in this set and believe that if a larger number of people become interested in the personalities which have so greatly contributed to the advancement of chemistry, a historical and cultural background will be established which can not fail to make our science still more attractive.

Baekeland, L. H.	Langmuir, Irving
Bancroft, W. D.	Lewis, G. N.
Boltwood, B. B.	Mallett, J. W.
Booth, J. C.	Morley, E. W.
Chandler, C. F.	Noyes, A. A.
Chittenden, Russell H.	Noyes, W. A.
Clarke, F. W.	Priestley, Joseph
Cottrell, F. G.	Remsen, Ira
Cooke, Josiah P.	Richards, T. W.
Franklin, E. C.	Rumford, Count
Gibbs, J. Willard	Silliman, Benjamin, the Elder
Gibbs, Wolcott	Smith, Edgar Fahs
Gomberg, Moses	Smith, J. Lawrence
Hare, Robert	Stieglitz, Julius
Hillebrand, W. F.	Van Slyke, Donald D.
Hunt, T. Sterry	Whitney, W. R.
Wiley, H. W.	

SCIENTIFIC NOTES AND NEWS

DR. FREDERIC A. LUCAS, after serving for twelve years as director of the American Museum of Natural History, has become honorary director, and will act

¹ From Industrial and Engineering Chemistry.

in an advisory capacity. Dr. Lucas will reach his seventy-second birthday on March 25. Mr. George H. Sherwood is promoted to the post of acting director for a term of two years.

DR. WILLIAM W. KEEN, emeritus professor of surgery in Jefferson Medical College, Philadelphia, who has recently returned from a scientific mission to Europe, celebrated his eighty-seventh birthday on January 19.

THE motion picture industry will tender a testimonial to "the father of the motion picture," Thomas A. Edison, on the occasion of his seventy-seventh birthday on February 15, at the Ritz-Carlton Hotel. It will take the form of a luncheon, at which Mr. Will Hays will act as toastmaster.

DRURY COLLEGE, on the occasion of its fiftieth anniversary, conferred an honorary doctorate on Professor B. F. Finkel, of the department of mathematics, founder of the *Journal* of the American Mathematical Association.

DR. D. J. HISSINK, director of the Agricultural Experimental Station (Section for Soil Science), Groningen, Holland, is the recipient of the degree Dr. oec. publ., *honoris causa*, from the University of Munich, for his outstanding researches in the field of soil science.

THE Symons Gold Medal of the Royal Meteorological Society was presented at the annual general meeting of the society on January 16, to Dr. Takematsu O-Kada, director of the Central Meteorological Observatory at Tokyo.

A COMPLIMENTARY dinner was given to Dr. Adolph Koenig at the University Club, Pittsburgh, on January 19, by colleagues and friends. Dr. Koenig, who conducted the *Pittsburgh Medical Journal* which merged with the state medical journal, was for eighteen years a member of the state board of medical examiners and was formerly president of the state medical society.

A DINNER was tendered to Sir John Bland-Sutton on January 24 to mark the occasion of his election to the presidency of the Royal College of Surgeons of England.

AT a conference on the standardization of clinical thermometers, held on January 30 at the U. S. Bureau of Standards, Dr. Lyman J. Briggs represented the American Association for the Advancement of Science.

AT the annual meeting of the American Association for the Advancement of Agricultural Teaching at Chicago the following were elected officers for the coming year: E. E. Gallup, *president* (Michigan); H. F. Cotterman, *vice-president* (Maryland); Dean C. H. Winkler, *secy-treas*. (Texas). The following, together with the officers listed above, constitute the executive committee: A. W. Nolan (Illinois), C. E. Myers (Pennsylvania), Dean W. C. Coffey (Minnesota).

PHILIP S. SMITH, of the Geological Survey, has returned to the Alaska branch, and will undertake for that branch and the Navy Department the examination of Naval Petroleum Reserve No. 4, Alaska. Julian D. Sears has been designated administrative geologist to fill the position relinquished by Mr. Smith.

WALTER W. SCOTT, deputy supervisor of the Department of the Interior for oil and gas operations in the Gulf Coast district, has been transferred by the Bureau of Mines to a similar position in the Rocky Mountain district, with headquarters at Casper, Wyoming. Mr. Scott assumes the position made vacant by the resignation of Charles E. Beecher, who has become associated with the Empire Gas and Fuel Company, with headquarters at Bartlesville, Oklahoma.

H. A. C. JENISON has resigned from the Geological Survey to accept a position as mining engineer with the Senate Commission on Gold and Silver Inquiry.

HARDEN F. TAYLOR has resigned as assistant in charge of the Division of Fishery Industries, U. S. Bureau of Fisheries, Washington, D. C., to become director of the Technical and Research Laboratory, Atlantic Coast Fisheries Company, New York, N. Y.

PROFESSOR S. J. ALLEN, head of the department of experimental physics of the graduate school of the University of Cincinnati, has been appointed special adviser for research work in terrestrial magnetism by the Carnegie Institution. Professor Allen will leave shortly for England, to pursue his research work at Cambridge.

Dr. WILLARD ROUSE JILLSON has been reappointed director and state geologist of the Kentucky Geological Survey for a four-year term beginning April 1, 1924, by the new governor, the Honorable William J. Fields. Dr. Jillson has served under four administrations. The Kentucky Geological Survey has been included in the proposed Kentucky \$75,000,000 bond issue to the extent of \$400,000 for the completion of the topographic base map of the state. The bond issue is now being acted upon by the legislature and if submitted to the people will be voted upon during the autumn.

PROFESSOR E. A. KHOLODOVSKY, assistant professor of mathematics at the Polytechnic Institute of Petrograd, has been appointed assistant in the Lick Observatory.

PROFESSOR F. H. VOSE, head of the department of mechanical engineering at the Case School of Applied Science, has recently accepted additional duties as head of a new department of the George T. Trundle, Jr., Engineering Co., of Cleveland, to be devoted to problems of power and fuel.

DEAN D. W. WORKING, of the Colorado Agricultural College, has been commissioned by the State Department of Agriculture to gather and compile information for an agricultural history of Colorado which is to be the contribution of the college to the state's semi-centennial celebration in 1926.

LADY CONSTANCE BUTLER has been appointed director of the roentgen-ray department at St. Andrew's Hospital, London.

WE learn from *Nature* that Commander E. A. Martin has been elected secretary of the South-Eastern Union of Scientific Societies in succession to Mr. H. Norman Gray, who has resigned after many years of office. Commander Martin will be assisted in his duties by Mr. R. W. Strickland.

THE resignation on account of ill health of the chief of the public health service in Spain, Dr. Martin Salazar, has been accepted, and his assistant, Dr. F. Murillo v Palacios, has been appointed his successor.

DR. WILBUR A. SAWYER, who for the last five years has been in Australia in connection with the International Health Board, will return to the United States this spring. While in Australia Dr. Sawyer was instrumental in organizing the Public Health Association of Australasia and served as editor of the *Health Forum*, published quarterly by that association.

HENRY M. AMI has returned from France to Ottawa and has resumed his work in paleontology and chronological geology. During the last six months he served with the Canadian Government mission on Natural Resources to France.

DR. J. J. SEDERHOLM, director of the Geological Survey of Finland, invites geologists interested in the problems of Pre-Cambrian rocks to visit the islands and coast near Åbo in south-west Finland for an excursion of about three days' duration in the early part of June.

LUDLOW GRISCOM, assistant curator of ornithology at the American Museum of Natural History, sailed on February 5 on the steamer *Cristobal* for Veragua, western Panama. With him went three assistants, Mr. Rudyerd Boulton, of the University of Pittsburgh; Mr. J. Manson Valentine, of the Peabody Museum, Yale University, and Mr. George Albert Seaman. The expedition is primarily ornithological, and hopes to reach the subtropical zone in the unexplored mountains of the interior to determine its extent and whether there is a break between it and the mountains of Chiriqui further west. Somewhere in Veragua the Costa Rican Highland fauna and the lowland tropical fauna of eastern Panama meet, but the barrier separating them is unknown.

As the result of an agreement recently effected between the British Home Office and the Department of the Interior for the exchange of technical information as to means of preventing mine accidents and the promotion of mine-safety conditions, Dr. R. V. Wheeler, professor of fuel technology at Sheffield University and director of the Eskmeals Testing Station, Cumberland, England, and W. R. Chapman, scientific assistant to Dr. Wheeler, are due to arrive in New York about February 16, for the purpose of observing the progress of research work in the United Henry Walker, deputy chief inspector of States. mines for the British government, will arrive in New York about February 23. Mr. Chapman will be detailed to the Pittsburgh Experiment Station of the Bureau of Mines for an indefinite period, for the purpose of studying American methods of research. The visiting technologists, after attending the meeting of the American Institute of Mining and Metallurgical Engineers in New York, will visit Washington, Pittsburgh, Chicago, Schenectady and other cities, where inspections of various research laboratories and industrial plants will be made. The experimental coal mine of the Bureau of Mines, near Pittsburgh, and certain of the larger bituminous coal mines in Illinois will be visited. The party will be escorted by George S. Rice, chief mining engineer of the Bureau of Mines, who recently returned from a protracted study of European mining conditions, and at whose suggestion the agreement for an exchange of technical information was effected.

THE eighth expedition of the Department of Tropical Research of the New York Zoological Society left New York on February 11 on the steamship Mayuro for Georgetown, British Guiana. The ultimate destination is the society's tropical research station which has been maintained for a number of years at Kartabo, in the heart of the jungles. The staff of the expedition is as follows: William Beebe, director; Alfred Emerson, assistant director; John Tee-Van, research assistant and cinematographer; William Merriam, assistant in field work; Harold Tappin, assistant in entomology; Herman Rogers, assistant in photography; Harry Hoffman, artist; Isabel Cooper, scientific artist; Helen Tee-Van, assistant scientific artist; Ruth Rose, historian and technicist, and Katherine Rogers, assistant in microscopy.

DR. ALFRED M. TOZZER, professor of anthropology at Harvard University, will give a series of six Lowell lectures during February on "Social Origins and Social Communities."

FEBRUARY 15, 1924]

DR. CHARLES WARDELL STILES, chief of the division of zoology of the Hygienic Laboratory, Washington, D. C., gave two lectures on the "Methods of fecal disposal in relation to distribution of animal parasites of man," to the Journal Club of the department of medical zoology of the School of Hygiene and Public Health of the Johns Hopkins University, on January 25 and February 1.

DR. MADISON BENTLEY, of the department of psychology of the University of Illinois, will address the Kansas College Chapter of Sigma Xi on February 15 on "Science and magic." Tentative plans have been made by the members for a banquet in the evening, at which Dr. Bentley will be the guest of honor. After this banquet there will be an open meeting of the chapter in the recreation center at which Dr. Bentley will speak on "Spatial Orientation of Man and Other Animals."

PROFESSOR S. I. BAILEY, senior member of the staff of the Harvard College Observatory and Phillips professor of astronomy since 1912, who has been in charge of the station at Arequipa, Peru, for the past two years, spoke on January 31 at the observatory on "Harvard observatories in Chile and Peru."

FOLLOWING an all-day session on March 19, the eouncil of the American Association of Mechanical Engineers will attend a dinner meeting of the Grand Rapids Engineering Society, at which Arthur H. Blanchard, professor of highway engineering and highway transport at the University of Michigan, will speak on the "Interrelationship of highway design and highway transport." President Low and other members of council will make short speeches after Professor Blanchard's address.

DR. H. FOSTER BAIN, director of the U. S. Bureau of Mines, gave an address before the engineering students of the Carnegie Institute of Technology, Pittsburgh, Pa., on January 22.

DR. MORTON PRINCE, of Boston, will give a short course of lectures at the University of Cambridge on "Subconscious phenomena," commencing on February 12.

PROFESSOR E. C. WILLIAMS, the recently elected Ramsay professor at University College, London, gave, on January 17, his inaugural lecture on "The Aims and Future Work of the Ramsay Memorial Laboratory of Chemical Engineering."

PROFESSOR HIRAM MILLS PERKINS, donor of the new observatory of Ohio Wesleyan University and for fifty years a member of the university faculty, died at his home in Delaware on January 25 at the age of ninety years. PROFESSOR MELVIN ERNEST SHERWIN, of the College of Agriculture and Engineering at Raleigh, N. C., for thirteen years head of the department of soils, died on January 5.

THE Third Pan-American Scientific Congress will meet in Lima, Peru, next November. This will be the first meeting since the war and a large attendance is expected from not only all parts of Latin America, but from the United States and Canada. The leading scientific associations will send delegates and the United States will also be officially represented. The two previous Pan-American Scientific Congresses met in Santiago, Chile, in 1908 and in Washington in 1915. The last congress was divided into nine sections and practically all branches of science were represented in the discussions. The Pan-American Union is assisting the Peruvian government in circulating information as to the congress among scientific men in the United States.

To assist in the arrangements for the annual meeting of the British Association for the Advancement of Science which will be held in Toronto from August 6 to 13, Oscar J. R. Howarth, the organizing secretary of the association, visited that city, returning to England on February 9. Thirteen sectional committees have been formed in Toronto to collaborate with the organizing committees in London. In addition, district committees have been organized in other cities. The Dominion Government has made a grant of \$35,-000 and the provincial government of \$25,000 toward the expenses of the meeting.

THE Fourth International Conference of Soil Science is to be held in Rome, Italy, in May, 1924. The American delegates to the conference include J. G. Lipman, of Rutgers College and the New Jersey Experiment Stations, who is chairman of the Committee on Microbiology for North and South America and Asia; C. F. Marbut, Bureau of Soils, United States Department of Agriculture; A. G. McCall, University of Maryland; Arao Itano, Massachusetts Agricultural College; Augusto Bonazzi, Ohio Experiment Station; S. A. Waksman, R. V. Allison and R. M. Barnette, New Jersey Experiment Stations.

THE trustees of the American Medical Association have made an appropriation of \$2,000 to further promising research in problems relating to scientific medicine and of practical interest to the medical profession, which otherwise could not be carried on to completion. Applications for small grants should be sent to the committee on scientific research, American Medical Association, 535 North Dearborn Street, Chicago, before March 10, when action will be taken on the applications at hand. THE first awards from the Benjamin Franklin Fund, which was established in 1759, are announced. The awards are as follows:

MAJOR AWARD.—P. W. Banning, of Los Angeles, on published work, "Mental and spiritual healing; all schools and methods; a text-book for physicians and metaphysicians." £2,500 scholarship.

AWARD.—C. P. Steinmetz, of Schenectady, privately published treatise, "The nervous system as a conductor of electrical energy." £1,000 and republication of treatise.

MINOR AWARD.—Fusakichi Omori, of Tokyo, unpublished treatise, "The rotary knife in surgery." £500 and publication of treatise.

Benjamin Franklin spent much time in England from 1757 to 1762 representing the American Colonies. While there he placed £100 in the hands of members of the Society of Friends as a trust, to be invested with accumulations, for not less than 150 years. Thereafter, at the discretion of the trustees, awards were to be made from time to time for the most valuable contributions to science considered by them, either manuscript or published, on the subject of cures, but particularly in relation to surgery, the nervous system, and the part "mind treating" has in the recovery and preservation of health.

A FUND is being collected for an endowment in honor of Angelo Mosso, emeritus professor of physiology at Turin, founder of the Monte Rosa laboratory for research on effect of altitude. The endowment is to benefit students and war orphans.

An appeal was made last summer for funds to establish in London a Ross Institute for Tropical Diseases in commemoration of the twenty-fifth anniversary of Sir Ronald Ross's work on malaria. The executive committee has now the opportunity of acquiring suitable premises which, with the necessary alterations, would make a permanent memorial of the kind required. The cost will be £30,000. Contributions should be sent to the hon. treasurer, addressed to the Institute's temporary offices, 56, Queen Annestreet, London, W.1, or to the manager of the Westminster Bank, 1, Stratford-place, London, W.1.

As has been noted here *Discovery*, the English journal of popular science, has been revived through the support of a guarantor who prefers to remain anonymous, and the cooperation of an educational trust with which he is associated. Mr. R. J. V. Pulvertaft succeeds Mr. E. J. Liveing as editor.

A NEW journal devoted to the interests of teachers of chemistry has been founded by the Section of Chemical Education of the American Chemical Society. This journal is to be known as the *Journal of Chemical Education*, the first number of which has been mailed. It has been made possible by the cooperation of members of this section under the active leadership of Neil E. Gordon, its secretary. Dr. Gordon, the editor-in-chief, will be assisted by the following departmental editors: H. C. Sherman, Columbia University, New York, N. Y. (Undergraduate Chemistry); William McPherson, Ohio State University, Columbus, Ohio (Graduate Chemistry); R. E. Rose, duPont de Nemours & Co., Wilmington, Del. (Industrial Chemistry); Wilhelm Segerblom, Phillips Exeter Academy, Exeter, N. H. (High School Chemistry). Contributing editors from about thirty states are aiding in the project.

UNIVERSITY AND EDUCATIONAL NOTES

THE laboratory building on the campus of the California Institute of Technology at Pasadena has been completed and the apparatus is being installed. Four 250,000-volt transformers, with a capacity of 1,000 kw., are being set up. This million-volt laboratory, the first to be established in the West, was made possible through the cooperative effort of the Southern California Edison Company and the California Institute of Technology. The power company furnished the building and the school is furnishing the equipment. The research work will be carried on under the direction of Dr. Robert A. Millikan.

THE home minister of Japan has notified the Rockefeller Institute that they would prefer a hygiene and sanitation laboratory to be erected at a cost of 5,000,000 yen (\$2,500,000) following the offer of the Rockefeller Institute of New York to make a present of some scientific institution to that country. A committee of establishment of the Rockefeller Oriental Hygiene and Sanitation Laboratory will be formed on the arrival of the Rockefeller mission from the United States. On completion of the laboratory, St. Luke's Hospital will become affiliated with it and the government will be asked to bear the expenses of maintaining both institutions.

DR. F. B. KILMER, of New Brunswick, N. J., has established a research fellowship in pharmaceutical botany at the Philadelphia College of Pharmacy and Science.

PROFESSOR J. B. SHAW, department of ceramics, Alfred University, Alfred, N. Y., has resigned to become head of the new department of ceramic engineering established at the Pennsylvania State College, State College, Pa.

PROFESSOR W. A. HAMILTON, who resigned his position at Beloit College because of the manner of dismissal of one of his colleagues, has been appointed lecturer in mathematics at the University of Wisconsin for the coming year.