

charming simplicity as to ever remain as almost unapproachable models.

For Dr. Gibbs was ever true to his best capacity (his proper sphere of usefulness to his fellows), namely, research, and he continued this long after his retirement from the field of teaching. As one reviews his achievements in research one is amazed at the catholicity of his accomplishments. All recognize his numerous contributions to analytical chemistry, his application of the electric current to quantitative determinations being especially well known; but he covered the field from gravimetric, through volumetric, to gas analysis. It is also pretty generally known that his early investigations of the complex ammonium bases, and their compounds, were in his later life supplemented by researches into the constitutions of the complex inorganic acids. Organic chemistry claimed his attention. In 1853 he prepared an arsenical derivative of valeric acid. In 1868 he discussed the constitution of uric acid and its derivatives. In 1869 he described some products formed by the action of alkali nitrites upon them. In 1891 and 1892, with H. A. Hare and E. T. Reichert, he treated of the physiological action of definitely related chemical compounds. He produced memoirs on a normal map of the solar spectrum and on the wave-lengths of the elementary spectral lines, and, in the study of interference phenomena, he discovered a constant, which he styled the interferential constant. The time allotted me is too brief to enable me to set forth the work of an investigator who at the age of eighteen published a paper entitled a "Description of a New Form of Magneto-electric Machine, and an Account of a Carbon Battery of Considerable Energy" and at seventy-one years of age published a method for the separation of the rare earths, further than to say that while Gibbs was an experimentalist rather than a theorist he published views on theoretical chemistry that have force to-day.

By virtue of his sympathy and breadth he became a pioneer in comprehending, assimilating and expounding the results of others,

giving them always full credit. He was the first American to adopt and promulgate the conclusions of Cannizzario; so early as 1880 he appreciated the value of the researches of J. Willard Gibbs and was the prime factor in having the Rumford medal conferred on this immortal Yale physicist. I well remember his enthusiasm in those early days when speaking of the recently published, and now classic, memoir of Kekulé.

I fear the privilege you have afforded me to speak of my beloved master has tempted me to overstay the time allotted me and yet I feel I have but inadequately set forth the man and his achievements. In closing permit me to quote from the admirable tribute paid him by Theodore W. Richards:

The circumstances of his early academic life brought him in contact with but few students. This is the more to be regretted because of his enthusiastic spirit, his tireless energy, his recognition of everything good, and best of all his warm human friendship which endeared him to all who knew him. Those who were thus fortunate, whether students or colleagues, will always devotedly treasure his memory; and his place as a pioneer in science in America will always be secure.

CHARLES E. MUNROE

SCIENTIFIC NOTES AND NEWS

ALEXANDER C. HUMPHREYS, president of Stevens Institute of Technology, has been elected president of the American Society of Mechanical Engineers.

MR. EMERSON McMILLIN has been elected president of the New York Academy of Sciences. The vice-presidents for the sections are: Professor J. Edmund Woodman, Professor Charles Lane Poor, Dr. Frederic A. Lucas and Professor R. S. Woodworth.

THE colleagues, friends and pupils of Professor Armand Gautier, professor of chemistry at the Medical Faculty of the University of Paris and president of the Academy of Sciences, on November 26, celebrated the fiftieth anniversary of his connection with the university.

MR. W. BATESON, M.D., F.R.S., has been appointed Fullerian professor of physiology at

the Royal Institution, for a term of three years.

THE following have been appointed special lecturers on economic geology at McGill University, for the year 1912: Dr. W. Lindgren, United States Geological Survey; Dr. E. Haanel, Department of Mines, Ottawa; J. A. Dresser, Esq., M.A., the Canada Iron Corporation, Sault Ste. Marie.

DR. V. A. MOORE, director of the State Veterinary College, Cornell University, has been elected foreign correspondent of the Central Society of Veterinary Medicine of Paris.

As corresponding members of the Munich Academy of Sciences, there have been elected Dr. Bauschinger, professor of astronomy at Strasburg; Dr. Planck, professor of theoretical physics at Berlin; Dr. von Kries, professor of physiology at Freiburg; Dr. Roux, professor of anatomy at Halle, and Dr. Wiechert, professor of geophysics at Göttingen.

THE organizing committee for the Imperial University Congress to be held in London next July, have appointed Dr. Alexander Hill, M.D., to be secretary to the congress, in the place of the late Dr. R. D. Roberts. Dr. Hill was formerly master of Downing College, Cambridge.

THE special board for biology and geology at Cambridge University has adjudged the Walsingham Medal for 1911 to Mr. R. H. Compton, Gonville and Caius, for his essay entitled "An Investigation of the Seedling Structure in Leguminosæ"; and a second Walsingham Medal to Mr. Walter Stiles, Emmanuel, for his essay entitled "On the Podocarpeæ."

PROFESSOR ROBERT ORTON MOODY, of the department of anatomy of the University of California, is spending a sabbatic leave of absence in Europe.

MR. W. H. LONG, recently of the editorial staff of the *Experiment Station Record*, has accepted a position as forest pathologist in the Bureau of Plant Industry. He will have charge of the work in forest pathology in National Forest District 3, which comprises the

national forests in the states of Arizona, New Mexico, Oklahoma, Arkansas and Florida.

MR. A. F. VASS has been appointed and has assumed his duties as assistant bacteriologist at the Oregon Agricultural College and Experiment Station. Mr. Vass is a graduate of the Kansas State Agricultural College and received his master's degree from the University of Wisconsin in soil bacteriology.

DR. ALFRED IRVING LUDLOW, a graduate of Adelbert College and of the medical department of Western Reserve University, professor of general pathology in the Dental School of Western Reserve University, and demonstrator of surgery in the medical department, and Mrs. Ludlow, sailed on December 19, for Seoul, Korea, to engage in medical educational work. He will be one of those in charge of the Severance Hospital and Medical College. The new building of the Medical College will be completed the first of the year and will furnish accommodations for a hundred students.

ACCORDING to a dispatch from St. Petersburg to the daily papers the Russian ban against the order of the Jesuits has proved a bar against the entry into that country of Father Pigot, who is particularly anxious to visit the Pulkova Observatory, in order to investigate seismological questions with Prince Galitzine. The British embassy, on behalf of the meteorological office in London, made special representations at the ministry of the interior, asking that the anti-Jesuit law might be relaxed, but all efforts have been unavailing.

DR. E. G. COOLEY, who as a representative of the Commercial Club of Chicago has recently visited Germany and has made an exhaustive study of conditions of vocational education in that country, has given a series of lectures at the University of Illinois on "Vocational Education in Germany." In addition to his regular lectures he held an informal conference with the faculty of the College of Engineering.

MR. R. J. YOUNG, of the North Chicago Works of the Illinois Steel Company, who is a member of the committee on safety devices

of the United States Steel Corporation, gave a lecture before the students and faculty of the College of Engineering of the University of Illinois on December 13, in which he described a large number of devices for protecting workmen against accident in steel mills. His lecture was profusely illustrated with lantern slides of devices in actual use.

THE Linacre lecture at St. John's College, Cambridge, will be delivered by Sir Ronald Ross on January 19, on "Recent Work on Malaria."

EXERCISES were held at the Presbyterian Hospital, New York, on December 2, in celebration of the forty-third anniversary of the hospital. Dr. William H. Welch, of the Johns Hopkins University, delivered an address commendatory of the recent affiliation of the Presbyterian Hospital with the College of Physicians and Surgeons of Columbia University.

As we learn from the *Journal* of the American Medical Association, the appeal for the erection of a monument to Robert Koch has now been issued. As announced, the honorary presidency of the committee has been taken by the imperial chancellor while the acting president is the new chief of the state medical department, Professor Kirchner. To the committee belong, in addition to most of the members of the Prussian cabinet and the cabinets of the other states of the empire, the mayor of Berlin and the mayors of a large number of other cities, the most distinguished pupils of Koch and other notable persons. It is expected that the city of Berlin, of which Robert Koch was an honorary citizen, will contribute a large sum and furnish a place for the statue free of charge. On the part of the committee it is purposed to place the memorial on the Luisenplatz in front of the Kaiserin Friedrich-Haus for post-graduate instruction.

M. HENRI MONOD, former director of the public charities and hygiene in the French ministry of the interior and member of the Académie de médecine, has died, aged sixty-eight years.

DR. WALDEMAR DE LONGUININE, professor of chemistry at the University of Moscow, has died at the age of seventy-seven years.

THE American Society of Naturalists will, as already announced, meet at Princeton on December 28. In the morning the annual discussion will be on "The Relation of the Experimental Study of Genetics to the Problems of Evolution." The speakers will be: E. G. Conklin, Princeton University, "The Problems of Evolution and the Ways they May be Best Attacked"; C. B. Davenport, Carnegie Institution, "Light thrown by the Experimental Study of Heredity upon the Factors and Methods of Evolution"; W. Johannsen, University of Copenhagen, "Modern Exact Genetics in relation to the Problems of Evolution"; H. F. Osborn, American Museum of Natural History, "Unit Characters, Continuity and Discontinuity, as observed by the Paleontologist"; H. L. Clark, Museum of Comparative Zoology, Harvard University, "Pure Lines and Phylogeny." In the afternoon there will be a program of contributions to genetics. In the evening Dr. H. S. Jennings will give the presidential address on "Heredity and Personality."

THE thirteenth annual convention of the Society of Sigma Xi will be held at Washington in affiliation with the American Association for the Advancement of Science. The council will meet on Wednesday, December 27, at 3:30 P.M. The convention will meet on Thursday at 3:30 P.M. at St. John's Parish Hall, on Sixteenth Street near H Street. The dinner will be held the same evening at 6:30, at the Tea-cup Inn, which is near by. Delegates and other members wishing to participate in this dinner will sign their names to a list for this purpose at the registration desk of the American Association for the Advancement of Science, where the list will be found for signatures until noon on Thursday. All members who sign will be welcome to the dinner, where reports of progress of chapters will be made. The business to be transacted will require an unusually long session. After din-

ner, business will be resumed and proceed until finished.

A LADIES' COMMITTEE for the coming Washington meeting of the American Association for the Advancement of Science and the affiliated and other societies meeting at the same time has been formed, with Mrs. Robert S. Woodward as chairman. Aside from the general functions, which will include a reception following the address of President Taft in the new National Museum on Wednesday evening, December 27, a reception at the Corcoran Art Gallery on Thursday night, December 28, by invitation of the trustees of the gallery, and an exhibition cavalry drill at Fort Myer, Virginia, on Thursday afternoon, the committee has arranged for a reception and tea at the Carnegie Institution of Washington on Wednesday afternoon at the invitation of Dr. and Mrs. R. S. Woodward. A tea to the visiting women will be given at the Cornell Women's Club of Washington at the residence of Mrs. Frederick A. Holton, 2125 S Street, Northwest, on Thursday afternoon. It is hoped that a tea can be arranged for Friday at the Washington Club. Professor and Mrs. Edgar Frisby will be at home to the members of the Astronomical and Astrophysical Society and accompanying ladies on Friday evening from 8 to 10 o'clock.

A FEW years ago, the American Association for the Advancement of Science decided to permit libraries desiring back numbers of sets of the American Association for the Advancement of Science *Proceedings* to have them up to a certain number on the condition of the payment of carriage charges by the receiving library. An announcement to this effect was published in *SCIENCE* at the time and a number of institutions responded. During the removal of the office in Washington, however, the list was unfortunately lost. Libraries which responded to the former request are urged to notify the permanent secretary, Dr. L. O. Howard, Smithsonian Institution, Washington, D. C., especially stating that they are willing to pay the freight or express charges. The publications will then be sent.

Other libraries desiring the *Proceedings* on these conditions are invited to notify the permanent secretary.

THE readers of *SCIENCE* will probably recall the obituary notice of Miss Matilda H. Smith published in the issue of *SCIENCE* for August 5, 1910, in which mention was made of the benefactions of the deceased and her sister, Miss Jennie M. Smith, to the American Association for the Advancement of Science by occasional payments of life membership fees for worthy scientific men of relatively small means. The permanent secretary has received word of the death of the sister, Miss Jennie M. Smith, and a copy of her will in which it is requested that the sum of \$5,000 should be given to the American Association for the Advancement of Science, the said sum to be invested and the net income to be devoted to the creation of new life memberships in the Association. Under the terms of the will, similar bequests are made to the National Geographic Society of Washington and to the American Forestry Association of Washington. Other items in this will which are of interest to scientific men are as follows: \$10,000 to the University of Pittsburgh, the income of which is to be used in the purchase of books and mineral specimens and the enlargement generally of the collection in the university known as "Smith's Collections." \$10,000 to the Allegheny Observatory. \$5,000 to the School of Liberal Arts and Sciences, the same to be invested and the net income to be devoted to the support of scholarships to be known as the Matilda H. and the Jane M. Smith Scholarships. \$10,000 to the Allegheny General Hospital. \$10,000 to the West Penn Hospital. The remainder of the estate is divided among her relatives and church and philanthropical organizations.

As has already been noted here an institution for furthering the progress of scientific chemistry without the obligation of teaching is to be founded at Dahlem near Berlin. The institute is to be erected jointly by a society consisting principally of proprietors of chemical factories and the state of Prussia. The

society guarantees a yearly contribution of \$15,000 and for the building \$225,000. The government gives the ground and promises to furnish one of the professors of the university as the director of the institution. The management of the new imperial institute is to be in the hands of a committee.

THE Rockefeller Institute for Medical Research, which owns all the property from Sixty-fourth to Sixty-seventh Street and from Avenue A to Exterior Street has secured from the city the title to Sixty-fifth and Sixty-sixth Streets from Avenue A to Exterior Street. While these streets have been laid out, they have never been cut through.

THE legislature of Pennsylvania last year appropriated \$3,000,000 for its public health, \$2,000,000 of which was to be expended in the fight against tuberculosis, and \$1,000,000 to combat other diseases. The *Medical Record* states that during the past four years the number of deaths per annum has been decreased 14,000. It is estimated that about 2,500 deaths from typhoid fever and 7,000 from diphtheria were prevented last year by the activities of the State Health Department. The state maintains three sanatoria and 115 dispensaries for the treatment of tuberculosis and during the past year treated 40,000 cases of that disease. Taking the lowest estimated value of a human life, \$1,700, it is calculated that the economic saving to the state through this reduction of the death rate amounts to \$24,000,000 for the year. Preliminary arrangements have been made for the medical inspection of girls and boys in the third and fourth class school districts throughout the state. Five hundred physicians will be appointed to the task which embraces the examination of children in 321 boroughs and 460 townships.

THE following are the lecture arrangements at the Royal Institution before Easter: Dr. P. Chalmers Mitchell, a Christmas course of six illustrated lectures on the "Childhood of Animals," adapted to a juvenile auditory; Mr. W. Bateson, Fullerian professor of physiology, six lectures on the "Study of Genet-

ics"; Professor E. G. Coker, two lectures on "Optical Determination of Stress and some Applications to Engineering Problems"; Dr. T. Rice Holmes, three lectures on "Ancient Britain"; Professor A. W. Bickerton, two lectures on the "New Astronomy"; Professor A. M. Worthington, two experimentally illustrated lectures on the "Phenomena of Splashes"; Mr. M. H. Spielmann, two lectures on the "Portraiture of Shakespeare"; Mr. F. A. Dixey, two lectures on "Dimorphism in Butterflies"; the Rev. John Roscoe, two lectures on the "Banyoro: A Pastoral People of Uganda"; Professor Sir J. J. Thomson, professor of natural philosophy, six lectures on "Molecular Physics." The Friday evening meetings will begin on January 19, when Professor Sir James Dewar will deliver a discourse on "Heat Problems."

UNIVERSITY AND EDUCATIONAL NEWS

By the terms of the will of Mrs. Jan K. Sacher, who died in Oakland recently, the University of California is to receive \$500,000. The will stipulates that \$200,000 is to be spent on a granite campanile tower, 300 feet in height, to be erected in the center of the university grounds.

A HALF-MILLION endowment has been secured by Huron College, a Presbyterian institution in Huron, S. D.

ST. LAWRENCE UNIVERSITY has obtained a \$200,000 endowment fund, of which the General Education Board has contributed \$50,000.

A DEPARTMENT of veterinary science has been established at the University of Wisconsin, with Professor A. S. Alexander as head. Professor F. B. Hadley will assist Dr. Alexander in the work. Headquarters for the new department have been provided in the stock pavilion where a dispensary and operating rooms have also been provided. The courses in veterinary science are designed for students of agriculture and enable them to care for animals intelligently both in health and in disease, and to recognize the common diseases, blemishes and vices to which animals are subject.