

contributing a valuable series of lilacs. Messrs. Bobbink and Atkins, in continued cooperation with the Horticultural Society of New York, gave 2,700 plants for the rose garden.

In the rock garden the arrangement of gravel and top soil and the planting of over 400 kinds of plants, including over 5,000 individuals, have been largely the work of Dr. E. B. Southwick, custodian of herbaceous grounds.

The rearrangement of the cactus collection and the improvement and development of the southern part of the garden reservation along Pelham Parkway also are dealt with in the report. The latter was carried forward at two points. One of these lies east of the mansion approach entrance, where about 350 feet of the boundary wall and fence have been built. The other area lies between the iris garden entrance and the Bronx River, where some 400 feet of the boundary wall and fence, including piers for the hemlock grove path entrance, built from the bequest of Emma Chambers Jones, grading and drainage have been done and some 400 feet of path system partly built and a screen of trees planted.

Appended reports were made by Dr. H. A. Gleason, assistant director; Dr. John K. Small, head curator; Dr. Murrill, supervisor of public instruction; Kenneth R. Boynton, head gardener; Dr. A. B. Stout, director of laboratories; Dr. Henry H. Rusby, honorary curator of the economic collection; Mrs. N. L. Britton, honorary curator of mosses, and others of the staff.

SCIENTIFIC NOTES AND NEWS

At the recent meeting of the Geological Society of America, at Ann Arbor, David White, who recently retired as chief geologist of the United States Geological Survey, was elected president. The following vice-presidents were elected: William H. Hobbs, William H. Emmons, T. Wayland Vaughan, Edgar T. Wherry.

PROFESSOR M. F. GUYER, chairman of the department of zoology of the University of Wisconsin, was elected president of the American Society of Zoologists at the recent Boston meeting.

THE Society of American Bacteriologists has elected the following officers for 1923: Professor E. G. Hastings, University of Wisconsin,

president; Major A. Parker Hitchens, U. S. Army Medical School, *vice-president*; and Dr. J. M. Sherman, U. S. Department of Agriculture, *secretary-treasurer*.

At the annual meeting of the American Physiological Society at Toronto, December 27, 28, and 29, 1922, the officers elected were: Professor Anton J. Carlson, University of Chicago, *president*; Professor Charles W. Greene, University of Missouri, *secretary*; Professor Joseph Erlanger, Washington University, St. Louis, *treasurer*; Professor Arno B. Luckhardt, University of Chicago, and Professor John R. Murlin, University of Rochester, were elected to the council.

DR. ELSIE CLEWS PARSONS has been elected president of the American Ethnological Society, New York.

SECRETARY HOOVER has designated Dr. Fay C. Brown, assistant director of the Bureau of Standards, to be acting director.

SIR WILLIAM H. BRAGG, Quain professor of physics in the University of London, has been elected a corresponding member of the Paris Academy of Sciences in the section of physics.

PROFESSOR J. SCHUR, mathematician of the University of Berlin, has been elected a member of the Berlin Academy of Sciences.

AS DR. CHAUFFARD, professor of clinical medicine at the School of Medicine, who has been the vice president of the Paris Academy of Medicine, has become president for the year 1923, in accordance with the constitution, the academy has elected Dr. J. A. Doléris vice president. Dr. Doléris is an honorary obstetrician to the hospitals of Paris. The academy also elected Dr. Souques as annual secretary, and Professors Ponchet and Schwartz as members of the administrative council.

RICHARD V. AGETON, of the Bureau of Mines, who has been doing examination work for the War Minerals Relief Commission, is acting as assistant chief mining engineer of the bureau.

DR. P. V. WELLS of the optics division of the Bureau of Standards has resigned to take up research work for the E. I. du Pont de Nemours Company, Parlin, New Jersey.

JEROME ALEXANDER, M.Sc., has now an office in the Chemists Building, New York City, as

consulting chemist with special reference to colloid chemistry and its applications.

DR. ROBERT M. YERKES, A.M., director of the Division of Personnel Administration of the National Research Council, reported for duty on December 3 to the commanding officer of the Army War College for three weeks' service in connection with army personnel methods. Since Professor Yerkes's discharge from the army he has been a lieutenant-colonel, Officers' Reserve Corps, assigned for duty in case of need to the Division of Operations of the General Staff.

DR. GANO DUNN has been appointed by the council of the Institution of Electrical Engineers of Great Britain to be local honorary secretary of the institution for the United States in the place of the late Mr. George G. Ward.

VERNE L. HAVENS, director of the *Ingenieria Internacional*, has been made permanent secretary of the International Engineering Congress, composed of engineers of North America and the Latin-American republics.

THE Institute of American Meat Packers, Chicago, has appointed a committee consisting of W. D. Richardson, chief chemist, Swift & Company, Paul Rudnick, chief chemist, Armour & Company, and L. M. Tolman, chemical director, Wilson & Company, to select a suitably qualified chemist for the position of director of scientific research of the institute.

DR. BAILEY WILLIS, emeritus professor of geology, Stanford University, sailed for Chile on January 11 to investigate the evidence of the recent earthquake, in response to an invitation sent to the Carnegie Institution of Washington through the Chilean Embassy.

HERBERT E. GREGORY, professor of geology at Yale University and director of Bishop Museum, Honolulu, is returning to Hawaii on February 1 to remain until October.

MR. CHARLES W. HOY, of the Smithsonian Institution, left Washington December 15 for a two years' trip in Central China, in the basin and mountains of the Yang-tse, devoting most of his time to collecting mammals, birds and fishes.

PROFESSOR OSWALD VEBLER, of Princeton University, has been granted leave of absence

for the second semester of 1922-23 and is to spend it in Europe.

DR. WALTER G. CADY, professor of physics at Wesleyan University, has been granted leave of absence for the second half of the academic year. He plans to go abroad visiting laboratories in Italy, France and England.

DR. HENRY B. WARD, professor of zoology at the University of Illinois and national president of the Society of Sigma Xi, recently delivered the annual Sigma Xi lectures at the Missouri and Kansas chapters and at the Sigma Xi Club at the University of Oklahoma, on the following subjects: "The factors which control and direct the migration of the Pacific salmon" and "The struggle of man with the life of the wilderness in North America."

DR. PHILIP A. SHAFFER, professor of biological chemistry at Washington University, will deliver the sixth Harvey Society lecture at the New York Academy of Medicine, on Saturday evening, February 10. His subject will be "Antiketogenesis: its mechanism and significance."

THE Harvard Engineering Society held its annual dinner in New York on February 1 at the Harvard Club. President C. R. Richards of Lehigh University, Dr. Charles P. Berkey, Columbia University, and Albert Palmer, president of the undergraduate section of the society, were the principal speakers.

PROFESSOR M. I. PUPIN, of Columbia University, lectured before the New York section of the American Institute of Electrical Engineers, on January 19, on "The story of modern physics."

PROFESSOR GEORGE C. WHIPPLE, of Harvard University, gave on January 6, 13, 20 and 27 at the Wagner Free Institute of Science four lectures on "The philosophy of sanitation."

DR. A. E. RENNELLY, professor of electrical engineering at Harvard University and the Massachusetts Institute of Technology, on January 11, gave a lecture before the Franklin Institute of Philadelphia on "The principles of electrical vibration instruments."

DR. MARSTON T. BOGERT, professor of chemistry in Columbia University, gave a lecture at Connecticut College for Women, New London,

Conn., on January 23 on "Synthetic dyestuffs and their bearing on the life of the individual and of the state." Other lectures on science, scheduled for March 20 and 27, are "The pursuit of the atom," by Professor Frederick A. Saunders of Harvard University, and "Psychology and democracy," by Professor Robert S. Woodworth of Columbia University.

A GIFT of \$11,000 has been made to Lafayette College to establish the "Joseph Johnson Hardy Memorial Fund" as a tribute to the services of the late Professor Hardy, for forty-five years teacher of mathematics at Lafayette. The income is to be divided at each commencement equally among the five members of the faculty oldest in point of continuous service, without regard to rank, so long as engaged in full-time teaching.

AT the Pasteur centenary meeting held at the New York Academy of Medicine on January 10, the president of the academy, Dr. George David Stewart, announced that the rights to Sacha Guitry's play "Pasteur" have been acquired for Henry Miller. The play will be presented by the Charles Frohman Company, Henry Miller taking the title rôle. The English version of the play has been made by Arthur Hornblow, Jr.

A MONUMENT to Pasteur is to be erected at Strasbourg, subscribed by men of science and learning throughout the world. The monument, which is the work of the Lyons sculptor, Larivée, will be placed in front of the university, near that of Goethe. It is an obelisk 10 feet high with a medallion of Pasteur and allegorical figures on either side. The International Exhibition of Hygiene, which is being prepared at Strasbourg, will cover more than 12,000 square yards. Different sections will show the influence of Pasteur's work on the life of man and animals, agriculture and industry. A Pasteur Museum will complete the exhibition.

DR. JOHN ASBURY ELLIOTT, professor of plant pathology at the University of Arkansas and pathologist in the Arkansas Agricultural Experiment Station, died on January 18 at Washington, D. C., where he was expecting to spend the month of January with the Department of Agriculture in plant disease survey work. He died of pneumonia as a complication following

bronchitis, contracted while attending the Boston meeting, and was interred at Washington, D. C.

PROFESSOR S. S. KELLER, head of the department of mathematics of the Carnegie Institute of Technology, died in Baltimore on January 12. Professor Keller had been a member of the faculty of the institute for the past seventeen years.

PROFESSOR JOHN W. CALDWELL, *emeritus* professor, formerly head of the department of chemistry in Tulane University of Louisiana, died on January 2 at his home in New Orleans.

DR. JOHN H. LARKIN, associate professor of gross pathology at the New York Homeopathic Medical College and Flower Hospital, died on January 17 at the age of fifty-three years.

DR. K. KERTESZ, of the Hungarian Museum, the well-known writer on Diptera and the author of the great catalogue of the Diptera of the world, died on December 28.

THE United States Coast and Geodetic Survey has received a cablegram from Leyden, Holland, announcing the death in that city, at a very advanced age, of Dr. H. G. van de Sande Bakhuyzen, formerly director of the Leyden Observatory. For many years Dr. Bakhuyzen was permanent secretary of the International Geodetic Association.

THE death is announced of the eminent Italian scholar, Dr. Antonio Nobile Favaro, professor of projective geometry in the University of Padua. Professor Favaro was born on May 21, 1847, at Padua, where also he died on the thirtieth of September, 1922. He is known through the national edition of Galileo's works which he edited in twenty quarto volumes, and by his many historical papers dealing with the life and times of Galileo. Among his most recent contributions is a history of the University of Padua, written for the celebration of the seven hundredth anniversary of this institution, the oldest, not only of the Italian universities, but of all existing universities:

PRESIDENT HARDING has withdrawn from settlement three groups of prehistoric towers in southwestern Colorado and southeastern Utah. These are known as the ruins in Ruin

Canyon, Holly Canyon and Cool Spring House on Cajon Mesa. It is proposed that these groups be made a national monument.

THE agricultural appropriation bill, carrying \$68,981,553, was passed on January 3 by the House of Representatives after Speaker Gillett had thrown out on a point of order a motion to send it back to committee with directions to include \$360,000 for congressional free seed distribution.

At the annual meeting in a joint program on the last day of the session of the societies composing the Federation of American Societies for Experimental Biology at Toronto, a very interesting scientific program consisting of ten papers on the newer discoveries of various laboratories in the United States and Canada, led by the laboratories of the University of Toronto, was held on the subject of the pancreas and the specific pancreatic secretion, insulin. At the annual dinner held on the one hundredth anniversary of the birth of Pasteur, December 27, 1922, lectures were delivered on the life and works of Pasteur by the following speakers: Sir Robert Faulkner, University of Toronto; Graham Lusk, Cornell University; Albert P. Mathews, University of Cincinnati; F. G. Novy, University of Michigan.

THE Cellulose Division of the American Chemical Society has been authorized as a permanent division of the society and wishes to enroll as members in the division all those who are interested in cellulose chemistry either from a scientific or practical standpoint. All members of the American Chemical Society wishing to become members of this division are requested to send their names and business connections together with one dollar for dues to the secretary, L. F. Hawley, Forest Products Laboratory, Madison, Wisconsin.

UNIVERSITY AND EDUCATIONAL NOTES

PLANS for a new chemical laboratory for the Johns Hopkins University, to be erected at Homewood, at a cost of about \$600,000, have been completed. The details of the building have not been made public, but it is known that the type of architecture will conform to the colonial style of the Homewood group.

Bids for contracts for the new \$1,000,000 home of the Johns Hopkins School of Hygiene and Public Health, which will be on Monument and Wolfe Streets, as a part of the hospital group, will shortly be asked. The plans have been completed. This structure will be of Italian architecture of brick and stone, and is provided through a donation to the school by the Rockefeller Foundation.

A FUND amounting approximately to \$3,800 has been subscribed in honor of Professor Appleton, of Brown University, to be known as the John Howard Appleton Lectureship Fund to provide annual lectures at Brown on pure or applied chemistry.

BROWN UNIVERSITY has received \$50,000 from the estate of the late Robert P. Brown, to endow a professorship in biology. Albert Davis Mead, head of the department of biology in the university, has been appointed Robert Perkins Brown professor of biology.

DR. HARRY PRATT JUDSON, second president of the University of Chicago, holding that position for sixteen years, has resigned and will retire from active work on February 20. Dr. Ernest DeWitt Burton, head of the department of New Testament and early Christian literature and director of the libraries, has been elected acting president.

THOMAS B. BAINS has accepted a position as assistant professor of mining engineering at the University of Illinois.

HERBERT R. HANLEY has been appointed associate professor of metallurgy at the Missouri School of Mines.

DISCUSSION AND CORRESPONDENCE

BALANCING CHEMICAL EQUATIONS

IN the issue of SCIENCE for September 1 (page 258) there is an article describing an algebraic method of balancing chemical equations. The method, which assumes a knowledge of the formulas of the initial and final substances, consists in finding, algebraically, sets of values for the coefficients of the equations. The author seems to have discovered a nearly constant relation between the number of elements and of compounds represented in