

neering. This enabled it to take up promptly many important military researches. The laboratories, so useful during peace, proved of especial importance in war. The specialized equipment of instruments, materials and supplies were on hand which were then almost unobtainable elsewhere. The bureau promptly extended its service to all lines of scientific work which would assist in the war. Practically every section of its regular organization has had military problems of the most pressing nature submitted to it, and invaluable service has been rendered.

The recent expansion of the bureau has been on lines vital to the success of the war. It is interesting to note, however, that many of these lines are also of essential value to our industries in peace. The need for the national provision for master-gauge standardization was only realized by those in close touch with such work. The accurate dimensioning of the functioning parts of mechanisms will permit extending the American system of manufacturing interchangeable parts to its maximum usefulness. The importance of nation-wide standardization has long been known, but the practical working out of such standardization is best met by a national laboratory such as the Bureau of Standards. The same principle holds for all the technologies and special branches of physics.

The combination of pure science and technology has proved especially stimulating and effective. The close cooperation of physicists and engineers in practical as well as theoretical work has given an unusual breadth to such researches. In turn, the technologic facilities have proved of great value in the purely scientific work. Many cases might be cited where the elements of a research problem ramify into laboratories of practically every division of the bureau. The airplane is an example, and a problem apparently as simple as the spark plug has called for researches in many different technical sections of the bureau. The establishment of new industries in America, such as those of optical glass and chemical porcelain, and the scientific

remodeling of older industries are fruits of the more intimate cooperation of science and industry which it is the function of the bureau to promote.

A fine laboratory for industrial research is nearly completed and will be ready for use in a few months. This laboratory, when completely equipped, will be one of the most effective of its kind in the world. In no national institution in the world is the union between pure science and practical technology so intimate as in the work of the Bureau of Standards.

Apart from confidential reports the bureau published during the year about 50 new publications, including scientific and technologic circulars and bulletins. Thirty-six confidential circulars were printed on the subject of aviation instruments alone. The establishment of the work on metals in a suitable laboratory building was followed by the establishment of experimental foundry and other research work on a practical basis. An interesting branch of the bureau's work is found in the field of public utilities, especially recent developments in regard to telephone service standards, and the standards of safety practise for power service, elevator service, crane construction, building construction, and the like.

SCIENTIFIC NOTES AND NEWS

PROFESSOR EDWARD M. EAST was elected president of the American Society of Naturalists at the recent Baltimore meeting.

DR. C. M. CHILD, professor at the University of Chicago, has been elected president of the American Society of Zoologists.

MR. ROBERT T. JACKSON, of Peterborough, N. H., has been elected president of the Paleontological Society.

DR. F. E. WRIGHT, of the Geophysical Laboratory of the Carnegie Institution, has been elected president of the Optical Society of America.

THE Society of American Foresters have elected the following officers for 1919: *President*, F. E. Olmsted; *Vice-president*, W. W.

Ashe; *Secretary*, P. D. Kelleter; *Treasurer*, A. F. Hawes; *Member of the Council for Five Years*, S. T. Dana.

At the annual election for officers and councillors of the American Philosophical Society held on January 3, the following officers were elected: *President*, William B. Scott; *Vice-presidents*, George Ellery Hale, Arthur A. Noyes, Hampton L. Carson; *Secretaries*, I. Minis Hays, Arthur W. Goodspeed, Harry F. Keller, Bradley Moore Davis; *Curators*, Charles L. Doolittle, William P. Wilson, Leslie W. Miller; *Treasurer*, Henry La Barre Jayne; *Councillors*, to serve for three years, Maurice Bloomfield, John M. Clarke, George H. Parker, Arthur G. Webster.

THE officers of the American Public Health Association elected at the Chicago meeting are: *President*, Lee K. Frankel, New York City; *Vice-presidents*, Colonel John W. S. McCullough, Toronto, Ont.; Colonel Victor C. Vaughan, Ann Arbor, Mich., and Dr. John D. Robertson, Chicago; *Secretary*, A. W. Hedrick, Boston; *Treasurer*, Dr. Guilford H. Sumner, Des Moines, Iowa, and *Executive Committee*, Drs. Allan J. McLaughlin, U. S. P. H. S., Washington, D. C.; Charles J. C. O. Hastings, Toronto; Peter H. Bryce, Ottawa; John N. Hurty, Indianapolis, Ind., and William C. Woodward, Boston. The association will meet next year in New Orleans.

THE Perkin medal of the American Chemical Society has been awarded to Dr. F. G. Cottrell, of the U. S. Bureau of Mines, for his work on electrical precipitation.

DR. LIVINGSTON FARRAND, president of the University of Colorado and of the Rockefeller Anti-tuberculosis Commission, has been named an officer of the Legion of Honor on the proposal of Captain André Tardieu, French high commissioner to the United States. Selskar M. Gunn, of Boston, and Alexander Miller, have been made knights of the Legion of Honor.

CAMBRIDGE UNIVERSITY has conferred on Mr. F. W. Harmer the titular degree of M.A., *honoris causa*. Mr. Harmer, who is eighty-four years of age, served the office of mayor of

Norwich about twenty-four years ago. The degree was granted in recognition of researches in geology, especially that of the eastern counties, which have occupied his chief attention for more than fifty years.

DR. FRANK M. SURFACE, of the Maine Agricultural Experiment Station, who has been in Washington for the past year and a half as assistant chief of the Statistical Division of the U. S. Food Administration, sailed for France in December 31 as Food Statistician of the American Commission to Negotiate Peace.

It is reported that Brigadier Generals J. M. T. Finney and W. S. Thayer have been ordered back to the United States from France.

MAJOR WILLIAM A. HAMOR, Chemical Warfare Service, who returned from France in November, after ten months' service in the American Expeditionary Forces, has resumed his work at the Mellon Institute of Industrial Research as assistant director. Major Hamor served as assistant chief of the Technical Division of the Chemical Warfare Service until the conclusion of hostilities.

PROFESSOR F. C. NEWCOMBE, of the University of Michigan, has been granted leave of absence for the second half year on condition that he supply a substitute at his own cost.

DR. R. W. HESS, formerly chemist in the dyestuff department at the Chicago plant of the Sherwin-Williams Co., has recently accepted a position as senior research chemist with the National Aniline and Chemical Co., Buffalo, N. Y.

DR. WILLIAM V. P. GARRETSON has recently been appointed consulting neurologist to the Hospital of Functional Reeducation of Disabled Soldiers and Sailors, which is affiliated with Cornell Medical College, New York.

THE annual meeting of the Philosophical Society of Washington was held on January 4. The address of the retiring president was given by Dr. George K. Burgess on "Science and the after-war period."

THE inaugural address of the Listerian Society of King's College Hospital, London, was given by Sir St. Clair Thomson, who described

the advent of Lord Lister to King's College Hospital in 1877.

DR. ROSSITER WORTHINGTON RAYMOND, the well-known mining engineer, died on December 31 aged seventy-eight years.

The Journal of Industrial and Engineering Chemistry reports the deaths of Dr. Harry Percival Corliss, until recently an industrial fellow in the Mellon Institute of Industrial Research, University of Pittsburgh, at Ray, Arizona, on November 16, of pneumonia following influenza at the age of thirty-two years, and of Dr. Frank Amon, who had also been connected with the Mellon Institute as research fellow for some months and who had enlisted in the U. S. Gas Defense work in 1917. Dr. Amon died of pneumonia, at Souilly, France, on October 12.

PROFESSOR GOLDEN, emeritus professor of practical mechanics in Purdue University, and since 1884 a member of the faculty, died on December 18, aged fifty-eight years.

DR. REGINALD PERCY COCKIN, assistant helminthologist of the London School of Tropical Medicine died on December 9 in his fortieth year.

THE death is announced at the age of fifty-four years of Dr. Gustave Bouchardat, professeur agrégé in the Paris medical faculty and honorary professor in the school of pharmacy. Dr. Bouchardat has been a member of the Académie de Médecine, section of physical and medical chemistry, since 1882.

THE medical college in Peking, China, under the auspices of the Rockefeller Foundation, which is now under construction, will cost \$6,000,000, and will be open in 1920. Eighteen university buildings, forty faculty residences and a hospital with 200 beds will be constructed. A medical school will also be established at Shanghai and subsidiary medical stations will be established throughout China. Subsidies will be granted to existing missionary hospitals which will be standardized and will offer internships for the university. The work will require a total expenditure of \$10,000,000 with an additional \$250,000 to \$500,000 annually for support.

MR. P. W. SPRAGUE, of Boston, has given farming lands to the Maine Agricultural and Industrial League to conduct as it sees fit. It is to be known as the league's demonstration farm. The property consists of five distinct farms, which have a total of more than 1,000 acres of land. On each farm is a set of buildings occupied by the families of the superintendent and caretakers.

THE honorary treasurers of the Ramsay Memorial Fund announce that it is now just over £40,000. The aim of the appeal was £100,000. There are still a number of contributions to be received from the overseas committees which are collecting contributions. The Million Shilling Fund, opened by a donation of 1,000 shillings by the Prince of Wales, now totals over 58,000 shillings.

ANNOUNCEMENT is made by the Association of the Alumni of the College of Physicians and Surgeons in the City of New York of its biennial Cartwright Prize of \$500 to be awarded at commencement, 1919. Competitive essays, which must contain records of original investigations made by the writer, must be presented on or before April 1, 1919, typewritten in English and accompanied by the usual safeguarding device or motto.

THE *London Times* calls attention to the serious effects of the influenza epidemic in India. In Bombay city there were 15,000 deaths, and in Delhi city, in a population of 200,000 the death-rate at one time reached 800 daily. In the rural tracts beyond the reach of effective prophylactic measures the loss has been tremendous. A recent report shows that in the Punjab it followed much the same course as in places attracting more public notice. The first signs appeared in August. In September it persisted in a mild form, and from the middle of October until November 8 it was acute. It is estimated that the number of deaths ranges from 5 to 10 per cent. of the population. The death-roll is heaviest amongst young adults and women. The number of deaths in the Punjab is estimated at 250,000. When the final results of the epidemic are summed up it will probably be

found that other provinces have suffered on approximately the same scale. No part of the country seems to have escaped, although the visitation was lightest in Bengal, and even the dry and bracing Himalayan tracts are reported to have been severely attacked. The population of the Punjab and the Punjab native states is about 24,000,000, and of the whole of India about 315,000,000. If the influenza death-rate proves as heavy throughout India as in the Punjab, this would give a total death-roll of over 3,000,000. It is planned to establish a Medical Research Institute in Bombay on the lines of the Rockefeller Institute to which large donations have already been promised.

THE library of the Rothamstead Experimental Station in England has received a check for £300 from the Carnegie Trust, for the purchase of important reference books. This is the second gift made by the Carnegie trustees to the library, a check for a like amount having been given two years ago. The object is to afford agricultural students and experts using the library the opportunity of consulting the most recent and most important treatises on agriculture and allied sciences. Two valuable gifts have also been received from Captain the Hon. Rupert Guinness. The library is fortunate in possessing an unusually good collection of early printed books on agriculture of the fifteenth and sixteenth and seventeenth centuries; to these Captain Guinness has now added perfect and beautiful copies of the first and second printed books on the subject—namely, the volume on agriculture by Crescentius, printed in 1471 at Augsburg, and Jensen's edition of the Latin agricultural writers, printed at Venice in 1472.

UNIVERSITY AND EDUCATIONAL NEWS

AN anonymous donor has agreed to pay over to the corporation treasurer of Vassar College dollar for dollar up to \$150,000 provided a like amount was paid or pledged by the alumni not later than February 28, 1919.

PACIFIC COLLEGE at Newberg, Oregon, has received an addition of \$15,000 to its endowment fund from the estate of Mary E. Mann.

THE faculty of medicine of Western University, London, Ont., is planning the erection of a new medical college building at an estimated cost of \$100,000.

MEDICAL colleges have been organized in the military zone in France to be attended by military men and to teach military medicine. One of these colleges will be near Rheims where there are already 3,000 beds and 70 students. The curriculum comprises surgery, medicine, histology and medical physics.

THE school of chemistry of the University of Pittsburgh announces the following additions to its staff: Dr. Alexander Lowy, assistant professor of organic chemistry; Mr. Leon E. Jenks, assistant professor of analytical chemistry; Mr. Blaine B. Westcott, instructor in organic chemistry.

ASSISTANT PROFESSOR LEE IRVING KNIGHT, of the department of botany at the University of Chicago, has been appointed plant physiologist in the division of plant pathology at the Minnesota experiment station.

PROFESSOR HILTON IRA JONES has been elected head of the department of chemistry at the Oklahoma Agricultural and Mechanical College to succeed Dr. L. Chas. Raiford, who becomes associate professor of organic chemistry in the University of Iowa. Dr. Jones was formerly head of the department of chemistry at Dakota Wesleyan University, Mitchell, South Dakota.

DISCUSSION AND CORRESPONDENCE

TWO NEW INSTANCES OF POLYEMBRYONY AMONG THE ENCYRTIDÆ

DR. RAFFAELLE SARRA has recently published at Portici, Italy, two important papers, author's extras of which have just reached Washington. They are from the *Bulletin* of the Laboratory of General and Agricultural Zoology of the Superior School of Agriculture at Portici, Vols. X., and XII., and are entitled "Osservazioni Biologiche sull' *Anarsia lineatella* Z. dannosa al frutto del mandarlo" and