

D. C., "The economic independence of the United States."

Washington, D. C., "Optical glass in warfare."

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February 9. F. N. Speller, National Tube Co., Pittsburgh, Pa., "Corrosion of metals."

March 15. Charles E. Munroe, National Research Council, Washington, D. C., "The lessons on explosives taught by the war."

April 12. C. F. Burgess, Burgess Laboratories, Madison, Wis., "The dry battery."

### THE MOORE SCHOOL OF ELECTRICAL ENGINEERING

MORE than 1,000 engineers, together with many alumni and friends of the University of Pennsylvania, participated in the formal opening of the Moore School of Electrical Engineering on February 6. The event was made a part of the program of the American Institute of Electrical Engineers, which was holding its fortieth annual convention in Philadelphia.

In honor of the event the university bestowed the honorary degree of Doctor of Laws upon four of America's most distinguished electrical engineers and the degree of Doctor of Science upon two members of the engineering faculty. For this purpose there was a special convocation in Weightman Hall. Those who received the degree of Doctor of Laws were Elihu Thomson, famous consulting engineer with the General Electric Company and a pioneer in the development of various electrical apparatus; Edward Weston, president of the Weston Electrical Instrument Company; Frank Julian Sprague, inventor of the multiple unit system of electrical train control, and John J. Carty, vice-president of the American Telephone & Telegraph Company. Those who received the degree of Doctor of Science were Dean Harold Pender, of the Moore School of Electrical Engineering, and Dr. Robert J. Fernald, professor of mechanical engineering.

Dr. Josiah H. Penniman presided at the exercises in Weightman Hall. The two speakers were Herbert Thacker Herr, vice-president of the Westinghouse Electric Company, and Dr. Arthur M. Greene, Jr., dean of the school of electrical engineering at Princeton.

Dr. Penniman first introduced George Stevenson, a lifelong friend of Mr. Moore, and one of the trustees of the Moore School as provided in his will, who presented to the university a portrait of Mr. Moore in behalf of Mr. and Mrs. William Verner. Said Dr. Penniman:

This is an important day in the history of education in America. The dream of a distinguished citizen of Philadelphia is now a reality. The late Alfred Fittler Moore

made provision in his will for the founding of a School of Electrical Engineering to be located in Philadelphia, and to bear the name of the Moore School of Electrical Engineering, in memory of his parents. The trustees of the estate, in order to carry out in worthy manner the will of Mr. Moore, invoked the Orphans' Court for approval of a plan whereby the existing course in Electrical Engineering at the University of Pennsylvania might, with the concurrence of the trustees of the university, become the Moore School. The Court approved the plan as presented, after agreement to the terms of it by the trustees of the estate and the trustees of the university, who were thereby appointed the Board of Managers of the school. Upwards of a million and a half dollars became immediately available for the purposes of the new school. Owing to the existence in the engineering building of the university of suitable space and equipment for the present needs of the school, it is unnecessary to expend a part of the principal for a building. The income from the fund will alone be needed at present. The director of the course in electrical engineering, Dr. Harold Pender, has been appointed the first dean of the Moore School, and to-day we hold formal exercises in commemoration of this notable addition to the technical schools of America.

### SCIENTIFIC NOTES AND NEWS

THE Bessemer Gold Medal for 1924 has been awarded by the Iron and Steel Institute of Great Britain to Albert Sauveur, professor of metallurgy and metallography at Harvard University, "in recognition of eminent services in the advancement of the science of the metallurgy of iron and steel." The medal will be presented to Professor Sauveur at the May meeting of the Institute in London. This is the sixth time that the Bessemer Medal, founded in 1874, has been awarded to an American metallurgist, the last award having been made to Henry Marion Howe twenty-nine years ago. The other American recipients have been: Peter Cooper (1879), Alexander Lyman Holley (1882), Abram S. Hewitt (1890) and John Fritz (1893).

STATUES of Dr. Edgar Fahs Smith, provost of the University of Pennsylvania from 1911 to 1920, and of Charles Custis Harrison, provost from 1895 to 1910, will be erected on the university campus. The statues have been given by Mr. John C. Bell, a member of the Board of Trustees.

DR. CHARLES W. ELIOT, Dr. W. W. Keen and Dr. Benjamin White were elected to honorary fellowship at the meeting of the Massachusetts Medical Society on February 6.

THE recent publication of the twenty-fifth anniversary volume of the *Revista Chilena de Historia Natural* has been the occasion of the conferring of several scientific and academic honors upon its editor, Dr. Carlos E. Porter, who is professor of zoology, en-

tomology and microscopy in the Instituto Agronomica de Chile, professor of parasitology in the Escuela Nacional de Medicina Veterinaria, and also curator of invertebrates in the Museo Nacional de Santiago. The Association française pour l'avancement des Sciences conferred upon him its silver medal; the University of Cuzco has conferred upon him the title of honorary member of the Faculty of Physical and Natural Sciences in that university; the Agronomical Society of Chile has conferred upon him its gold medal extraordinary; the Société Scientifique de Chile has made him an honorary member and the Chilean Government has doubled the financial support which it has heretofore been according the *Revista*.

H. V. ARNY, professor of chemistry in the College of Pharmacy of Columbia University, was the guest of honor at a dinner tendered him by thirty of his friends at the Hotel Pennsylvania, New York, on the evening of January 14. The dinner was arranged to celebrate Dr. Arny's election to the presidency of the American Pharmaceutical Association. He was presented with a gold watch and an engrossed book including the signatures of the participants.

GENERAL GUSTAVE FERRIÉ, head of the French government wireless services, has been awarded the Kuhlmann foundation gold medal given annually in France through the intermediary of the Société Industrielle du Nord. General Ferrié has been identified with wireless telegraphy since 1899 and has written on radio telegraphy and kindred subjects.

PROFESSOR ALOIS F. KOVARIC, of Yale University, has been elected an Honorary Member of the Society of Czechoslovak Mathematicians and Physicists.

DR. R. D. LANDRUM was elected president of the American Ceramic Society, at the meeting held early in February in Atlantic City.

PROFESSOR A. E. KENNELLY, of Harvard University and the Massachusetts Institute of Technology, was chosen chairman, and Professor John Frazer, of the Towne Scientific School of the University of Pennsylvania, secretary of the committee of American universities in the exchange with France of professors of engineering and applied science at a meeting held at the University of Michigan, on January 26.

PROFESSOR JACOB G. LIPMAN, of the State University of New Jersey, has been appointed a member of the International Commission of Agricultural Ecology.

DR. ARTHUR SMITH WOODWARD will retire in May next from the keepership of geology in the British Museum which he has held since 1901.

E. BALLARD has resigned his post as lecturer in entomology in the University of Bristol, on his appointment as entomologist to the Empire Cotton Growing Association in Queensland.

DR. OTTO R. EICHEL, of Albany, for the last seven years director of vital statistics of the New York State Department of Health, has been appointed to direct the section of epidemiological intelligence and statistics of the League of Nations. One of the chief functions of Dr. Eichel's work at Geneva will be to build up a system of international exchange of reports on epidemic diseases, with emphasis on their prevalence and mortality.

DR. WILLIAM J. CROZIER, professor of zoology in the State University of New Jersey, has been appointed associate of the Carnegie Institution. This appointment carries with it financial support adequate to pay the greater part of Dr. Crozier's salary, to provide an assistant for him, and to buy certain pieces of apparatus. The college on its part provides laboratory space for the work, a part of the equipment and the remainder of the associate's salary. Dr. Crozier retains his position as head of the department of zoology, and continues to give one course to undergraduates.

DR. A. V. H. MORY, formerly director of research at the Procter and Gamble Company, Cincinnati, has been appointed director of scientific publicity for the Bakelite Corporation.

PROFESSOR JOSEPH T. SINGEWALD, JR., of the Johns Hopkins University, and Lincoln Ellsworth sailed on February 21 for Peru, to make a geological cross section of the Andes Mountains. It is planned to spend seven months in South America.

THEODORE R. GARDNER and Harold A. Jaynes, of the Bureau of Entomology, United States Department of Agriculture, sail on March 4 from San Francisco for Kobé, Japan, to carry on research work in parasitology, with special reference to the Japanese beetle (*Popillia japonica* New.). After a year in Japan and Korea, they expect to continue for several years the study of allied parasites in China and India.

PARKER H. DAGGETT, professor of electrical engineering at the University of North Carolina, is spending his sabbatical year at Milton, Mass., where he is writing a treatise on electrical engineering.

ON January 30, Professor M. F. Guyer, of the University of Wisconsin, addressed the Sigma Xi Club of the University of Arizona on the subject of "Production of inheritable eye defects in rabbits."

DR. LUDWIG ASCHOFF, professor of pathology of the University of Freiberg, Germany, has accepted

the invitation of Stanford University to deliver the Lane Medical Lectures for the year 1924. The probable date of the lectures will be from May 26 to 30, inclusive, in Lane Hall of the Stanford University Medical School, San Francisco. The subjects of the lectures will be: The place of origin of the biliary pigment; atherosclerosis; ovulation and menstruation; inflammation; fatty changes in disease.

THREE lectures were given at the London School of Economics on February 22, 26 and 29, by Professor A. P. Brigham, of Colgate University, the subject being "The United States, Regional and National."

PROFESSOR DOUGLAS JOHNSON, of Columbia University, who is exchange professor to France in engineering and applied science for 1923-24, gave recently in Nancy public lectures on "The Grand Canyon of the Colorado," and on "The formation of the glaciers of the west."

THE Hugo Müller lecture of the Chemical Society was delivered by Professor J. Joly on February 28, in the lecture hall of the Institution of Mechanical Engineers.

DR. JOHN M. T. FINNEY, professor of clinical surgery at The Johns Hopkins University, delivered the Hodgen Memorial Lecture at the Bartscher Auditorium of the St. Louis Medical Society on February 28.

THE EDWARD G. JANEWAY Lectures of Mount Sinai Hospital, New York, for 1924, will be delivered in April by Professor Ludwig Aschoff, professor of pathology and anatomy at the University of Freiberg.

PROFESSOR ALBERT SAUVEUR, professor of metallurgy and metallography in Harvard University, delivered on February 19 in New York the first Henry Marion Howe Lecture, on the foundation recently established by the American Institute of Mining and Metallurgical Engineers.

THE Royal Anthropological Institute has founded a Rivers memorial medal, in memory of Dr. W. H. R. Rivers, who was president of the institute at the time of his death. The medal will be awarded for special meritorious anthropological work in the field. All British subjects and anthropologists of other nations who are fellows of the institute will be eligible.

G. H. QUINCKE, from 1875 until 1907 professor of physics in the University of Heidelberg, has died aged eighty-nine years.

PROFESSOR C. K. CLARKE, since 1907 professor of psychiatry and dean of the medical faculty from 1907 until 1920 in the University of Toronto, has died at the age of sixty-nine years.

THE *Journal* of the American Mathematical Association writes: "On the two hundredth anniversary of the

birth of Euler, a committee of the Society of Swiss Naturalists launched the project of international cooperation for the publication of his collected works. Academies, societies, including the American Mathematical Society, and individuals subscribed for about 300 sets. Eighteen of the estimated seventy volumes have been published. By reason of the European war nearly one half the subscribers have been unable to meet their obligations in full. Under these circumstances, a considerable number of new subscribers must be secured if the completion of the undertaking is to be possible in the near future. Those libraries or individuals wishing information with a view to promoting this great international undertaking should communicate with Professor R. C. Archibald, Brown University, Providence, R. I."

THE sixty-seventh meeting of the American Chemical Society will be held at Washington, D. C., April 21 to 26, 1924. Unusual opportunities will be afforded the members of the society to see the various government laboratories in operation during that week and elaborate preparations are being made to that end.

THE jubilee of the Physical Society of London will be celebrated on March 20 to 22. Among the arrangements are a reception, a dinner, the Guthrie lecture and the recounting of reminiscences by original fellows and other fellows of long standing, including, it is hoped, Professor J. A. Fleming, who read a paper at the first meeting, and Sir Oliver Lodge.

AT a recent meeting in Paris of scientific men, deans of the faculties, directors of large scientific institutions, and others, M. Léon Bérard, French minister of public instruction, discussed the national subscription for research laboratories. He said that it was not the province of the central government to interfere in the distribution of funds collected for laboratories, which amount now to about 13,000,000 francs. The task must be left to the committee of scientific men who know the needs, and the best way to use these funds. M. Emile Picard, secretary of the Academy of Sciences, and several members of the committee in charge of the fund, stated that, according to the desire of contributors, the funds would not be used to construct buildings or to organize classes of instruction, but to provide the material equipment needed.

THE curators of the university chest of the University of Oxford have been authorized to accept grants from the Development Commission and the Ministry of Agriculture and Fisheries for the purpose of research in agricultural engineering. This is part of a national scheme for agricultural research. The British government has decided that the Central Institute shall be placed at Oxford. The institute

will be concerned with the whole question of treatment of the soil, and problems will be raised of importance not merely to agriculture, but to science in general. The government will supply both capital and current expenditure, while the university is asked to provide a site.

THE *Journal* of the American Medical Association states that the universities of Cambridge, Oxford, Edinburgh and Cardiff have recently received donations from the Rockefeller Foundation. The sum of £100,000 will be provided for building a pathological institute at the University of Cambridge and £33,000 will be contributed toward the endowment. A similar offer has been made to the University of Oxford for the department of chemistry. The foundation has given £50,000 to the University of Edinburgh, Scotland, for medical teaching and research facilities. With this fund a clinical laboratory will be established in connection with the Royal Infirmary. An additional sum of £1,750 will also be granted annually for not less than five years toward the salary of the professor of surgery, which chair is at present vacant, on condition that the appointment shall be filled by a whole-time professor. The foundation has also given the sum of £14,000 to the Welsh National School of Medicine, Cardiff, Wales, to assist in developing the medical department.

THE Laboratory of Applied Science in connection with the Nela Research Laboratories of the National Lamp Works of the General Electric Company at Cleveland has been renamed the Lighting Research Laboratory. M. Luckiesh, who has been the director of this laboratory since it was added to the works at Nela Park, remains in charge. Dr. P. W. Cobb has joined the research staff. New work is being initiated in the study of glare, eye fatigue, speed of vision and increased production as affected by illumination intensity and quality of light.

BETWEEN June 15 and September 1, while there is no routine teaching of under-graduate students at the Stanford School of Medicine, properly qualified graduates in medicine and medical students of this and of other schools are invited to avail themselves of the opportunities for clinical and laboratory work as special workers. The workers are expected to assist in the practical work of the various departments. Their work will be supervised but no set courses will be given. Opportunity to make special studies of clinical and laboratory problems will also be offered. There will be a registration fee, and in some departments an additional fee for special instruction. The minimum period of attendance will be for four weeks. Participants are urged to devote their full time to one subject. Applications, which should give an outline of the medical experience of the applicant, should

be sent to Dr. William Ophüls, the Dean, Stanford University Medical School, San Francisco.

THE faculty of the college of medicine of the University of Iowa will, from June 9 to July 18, conduct a public health summer school in cooperation with the United States Public Health Service. There will be four such schools in the country. Among the lecturers will be Dr. William J. Mayo and Dr. John H. Stokes, of the Mayo clinic; Dr. Victor C. Vaughan, of Washington, D. C.; Dr. H. S. Cumming, Dr. C. W. Stiles and Dr. L. L. Lumsden, of the Public Health Service. Several thousand physicians and sanitarians have expressed a desire to attend these special schools, according to an announcement of the United States Public Health Service. The aim is "to provide intensive training for all persons engaged in public health work; to furnish instruction which will enable practicing physicians to deal effectively with the more important causes of mortality and disability, especially with cases referred by industrial clinics, school clinics, public health nurses and similar agencies; to bring together practicing physicians, health officers and other sanitarians and thus to establish a more cooperative relationship in the work of disease prevention." The laboratories, clinical material and other facilities of the university will be placed at the disposal of the public health students.

ELABORATE preparations have been made to take cinematograph pictures of the third expedition to climb Mount Everest. Captain J. B. L. Niel, who was responsible for the film of the second expedition shown last year, is again in charge of this side of the undertaking. He and his party are taking fourteen cameras of all kinds and sizes, and he hopes this year to be able to photograph every phase of the expedition and, if success crowns the efforts of its members, to take the first pictures of the summit itself. A number of pictures are to be taken by a new process of color cinematography, invented by Freise Green. This is said to be not only comparatively simple, but commercially feasible, as the cost is only slightly in excess of that of the normal process. Certain portions of the films are to be sent to England, as they are taken by arrangement with Pathé Frères, and it is anticipated it will be possible to show them in London a month after they have been taken. The complete film, however, will probably not appear till next October, when it will be given titles, a thread of dramatic story and shown for a season at a West End theater by a new film company called "Explorers' Films, Ltd." When the complete film is shown it will be accompanied by Tibetan music recorded during the journey by T. H. Somervell, who did similar work last time, and orchestrated and fitted to its new environment by Eugene Goossens.

WE learn from *The Geographical Journal* that Colonel P. Kozloff is about to start on a new exploring expedition to Mongolia and Tibet organized by the Russian Geographical Society, this being the sixth in which he will have taken part, and the third under his leadership. It is planned to last three years, and will consist of twenty-one persons. During the present year the expedition will proceed to Kiakhta, and then make its way through Mongolia *via* Urga and Khara Khoto to the Middle Nan Shan and Tsaidam. It will spend 1924 in Tibet, exploring the elevated region about the sources of the Yangste, Mekong, Salween and other rivers, and carrying out researches in geology, botany, zoology and ethnography. It is impossible to say at present what further work will be undertaken, *e.g.*, whether it will extend to southern and eastern Tibet, which, with their comparatively rich vegetation and animal life, offer an attractive field for study; nor can it be said whether it will return through China, Mongolia or Eastern Turkestan.

THE council of the Royal Institute of Public Health has accepted invitations from the mayor and the University of Bordeaux to hold its annual meeting there at Whitsuntide. The president will be Viscount Burnham, and the local honorary secretaries, Professor René Cruchet, professor of medicine in the University of Bordeaux, and M. G. Faure, treasurer of the Chamber of Commerce. The meetings will take place in the university. Special arrangements are being made for traveling and hotel accommodation.

DURING the first quarter of the current year, there were registered in the ninety departments of France: 196,105 births (living infants); 190,036 deaths (19,014 infants under 1 year); 70,656 marriages, and 5,666 divorces. The excess of births over deaths, during the first three months of the year, was thus 6,069. In the department of the Seine, there were reported, between January 1 and March 31: 19,444 births, 18,830 deaths (an excess of 614 births), 11,322 marriages and 1,432 divorces.

THE New York State Agricultural Experiment Station has leased from Vassar College a building which is to be used for special research in entomology and plant pathology in the Hudson River Valley.

### UNIVERSITY AND EDUCATIONAL NOTES

THROUGH the death of the widow of the late William F. Milton, retired merchant, who was graduated from Harvard University in 1858, the university receives a bequest of over a million dollars. The will directs that the money be used for the erection of a new library, but should the university possess an ade-

quate library—which is the case—the money is to be used for research.

THE creation of a chair of hygiene and physical culture at McKendree College, Lebanon, Illinois, is provided for, and a bequest of more than 10 acres of land near the college is made in the will of the late Dr. Benjamin M. Hypes, St. Louis, a founder of the Marion Sims Medical College. It will be known as the Benjamin Hypes Professorship, in memory of the testator's father.

A \$12,000 foundation, to be known as the Maurice Stern Fund for Medical Literature, has been given to the Tulane University School of Medicine, New Orleans, by Mrs. Maurice Stern as a memorial to her husband. The income from this will be used to purchase medical periodicals for the school library, and for medical books selected by the faculty.

THE board of directors, New Jersey Zinc Co., Palmerton, Pa., has voted a fund of \$15,000 to Lehigh University, Bethlehem, for the founding of the New Jersey Zinc Co. research fellowship in science and technology. The income from the amount will be paid to the holder of the fellowship, who must be a graduate student from the institution in some division of engineering or science.

DR. CHARLES KEYSER EDMUNDS, who recently resigned the presidency of the Canton Christian College of China, has been elected to the newly established office of provost of the Johns Hopkins University.

### DISCUSSION AND CORRESPONDENCE

#### "SOOT" IN COAL

WHILE on a visit to the Bertha Mine in the Scott's Run District, West Virginia, the writer's attention was called by the mine boss, Charles Miller, to a soft, wet inclusion in the Pittsburgh coal. Samples were gathered later through the courtesy of Mr. Miller and his assistant, Mr. Brown, and a brief study was made of the occurrence.

This inclusion, called "soot" by the miners, varies in color from brown to dull black when wet. When dry, all specimens collected were brown. The wet masses are of soft putty-like consistency, modified in some specimens by a distinctly gritty feel. When worked in water, most of the mass breaks into minute, formless particles which are held for some time in suspension, and into heavier gritty particles or pieces which quickly go to the bottom. This gritty material was found by qualitative tests to be mostly sulfur and iron, which it will be assumed were combined, at least before alteration, as pyrite. Some unaltered coal was found included with the grit.

When dry, the soot looks very much like the "punk"