

tion of the volatile matter in coke at various temperatures. (6) Utilization of Coal; (a) study of the economic utilization of the roof coal of the Pittsburgh seam, including structure, composition, coking properties, and by-product yields. (7) Coal Mining: (a) determining the compressive strength of coal from various beds.

All the time of the research fellow is to be devoted to work in the Experimental Station of the U. S. Bureau of Mines which is located adjacent to Carnegie Institute of Technology. The position of teaching fellow includes ten hours each week devoted to teaching work in mining, and the balance to work in the Experimental Station.

EXCHANGE PROFESSOR TO FRANCE IN ENGINEERING AND APPLIED SCIENCE

DEAN JOHN FRAZER, of the Towne Scientific School of the University of Pennsylvania and professor of chemistry, has been chosen as exchange professor to France for the coming academic year, by the committee on exchange with France of professors of engineering and applied science, representing Harvard, Yale, Columbia, Cornell, Massachusetts Institute of Technology, the Johns Hopkins and the University of Pennsylvania.

The movement for the annual exchange with France of a professor of applied science had its origin as the result of a letter written shortly before his death by the late President Richard Maclaurin, of the Massachusetts Institute of Technology. The French administration responded very cordially to the offer for the annual exchange of a professor and selected for their first representative Professor Jacques Cavalier, rector of the University of Toulouse, and a well-known authority on metallurgical chemistry, who divided his time during the current academic year among the seven cooperating institutions, namely, Columbia, Cornell, Harvard, Johns Hopkins, Massachusetts Institute of Technology, Pennsylvania and Yale.

The American universities selected as their first outgoing representative for the first year Dr. Arthur E. Kennelly, professor of electrical engineering at Harvard University and

the Massachusetts Institute of Technology. He has met with great success in his undertaking in France, and in addition to lecturing before numerous French technical schools was assigned by the French educational authorities, through M. Petit Dutailis, minister of public instruction in France, to spend several weeks at the Universities of Paris, Grenoble, Lyons, Marseilles, Toulouse, Bordeaux, Nancy and Lille, giving in each a course of lectures, some technical and others of a more general character.

Dean Frazer in the course of his work of lecturing in French before the various universities and scientific societies of France, will have favorable opportunities of studying at close range French educational methods, especially as applied to science.

Dr. Frazer represents the fourth generation to be graduated from the University of Pennsylvania, and the third generation to be connected with its faculties. His grandfather, John Fries Frazer, from 1844 till his death in 1872, was professor of natural philosophy and chemistry in the University of Pennsylvania and vice-provost from 1855 to 1862. He was one of the incorporators of the National Academy of Sciences in 1863. His father, Dr. Persifor Frazer, became professor of chemistry in 1872, which chair he held until his appointment to the Second Geological Survey of Pennsylvania. He died in 1909. Dr. John Frazer was born in Paris, France, on February 5, 1882. In 1904 he was appointed instructor in chemistry, being later promoted to assistant professorship and subsequently to a professorship. In 1912, upon the reorganization of the old college, he became dean of the Towne Scientific School, which position he has held since, except while on leave of absence when in the service in 1918.

SCIENTIFIC NOTES AND NEWS

SIR AUCKLAND GEDDES was given the honorary degree of doctor of laws by the University of California at the recent Charter Day exercises celebrating the fifty-fourth anniversary of the university. The British ambassador was the main speaker on Charter Day, the subject of his address being 'Some of the effects

of increasing scientific knowledge upon constitutional government."

ON May 1 a number of the friends of Colonel Fielding H. Garrison gave a dinner in his honor in Washington. Dr. Harvey Cushing presided and Dr. William H. Welch gave an account of Dr. Garrison's work in medical history and bibliography. Dr. Garrison will leave shortly for work in the Philippines.

PROFESSOR FREDERIC S. LEE, of Columbia University, has been elected vice-president of the International Association of the Institut Marey of Paris.

To fill the place of the correspondent in geometry in the Paris Academy of Sciences, vacant by the death of Professor Noether, of Erlangen, M. René Baire, of Dijon, has been elected.

THE Bessemer Gold Medal of the British Iron and Steel Institute for the year 1921 has been awarded to Mr. Charles Fremont, in recognition of his services in the advancement of the metallurgy of iron and steel and the technology of the testing materials.

AT the fifth annual meeting of the British Society of Glass Technology held on April 26, Professor W. E. S. Turner was elected president.

DR. A. PULLE, professor of systematic botany in the University of Utrecht, Holland, has become director of a second botanical garden presented to the university by the heirs of the late August Janssen, who founded his garden in 1905 near his country residence about fifteen kilometers from Utrecht.

DR. L. R. WILLIAMS, formerly deputy commissioner of health of New York State and for the last four years director of the Rockefeller Commission on the Prevention of Tuberculosis, has been appointed managing director of the National Tuberculosis Association in the place of Dr. Charles J. Hatfield, of Philadelphia, who resigned to give most of his time to tuberculosis work in Philadelphia.

ON May 1, R. T. Stull was relieved of the superintendency of the Ceramic Experiment Station of the Bureau of Mines at Columbus, Ohio, and made supervising ceramist for the

bureau as a whole. He will act under the direction of the chief mineral technologist and will have supervision in technical matters in ceramics, and such related investigations of non-metallic minerals as may from time to time be assigned to him.

E. R. SHEPARD, known for his work in electrolysis at the Bureau of Standards, has resigned to engage in private practice.

THE Universities of Melbourne, Sydney and Adelaide have united to invite Professor Einstein, should he visit Java, to continue afterwards to Australia and visit the principal cities.

O. P. Hood, chief mechanical engineer of the Bureau of Mines, will spend the summer in Europe investigating recent developments in fuels.

DR. R. B. MOORE, chief chemist of the Bureau of Mines, sailed on May 6 for England, preparatory to spending two months in various European countries for the purpose of obtaining data on chemical and mineral technology. Dr. Moore will visit England, Germany, France, Austria, Czechoslovakia, Holland and Belgium.

DURING the summer Messrs. C. O. Peak, O. A. Plunkett, C. L. Porter and P. A. Young will be employed in plant disease survey work in the State of Illinois. This survey is under the general direction of Professor F. L. Stevens and under the special direction of Mr. L. R. Tehon.

THE committee on the C. M. Warren Fund of the American Academy of Arts and Sciences voted the following grants at its meeting held on May 4: \$500 to Professor C. James, New Hampshire College, to assist a research on the yttrium earths; \$500 to Professor Charles A. Kraus, Clark University, to be used to continue his investigations on the constitution of metallic substances. Applications for grants should be made to the chairman of the committee, Professor James F. Norris, Massachusetts Institute of Technology, Cambridge, before the next meeting of the committee, which will be held on October 1.

PROFESSOR WILLIAM H. HOBBS, of the University of Michigan, gave a lecture at the Sorbonne, University of Paris, on April 29, on

"Les guirlandes insulaires du Pacifique et la formation des montagnes." On May 1 he lectured at the University of Grenoble. Professor Hobbs has now sailed for the West Indies and South America, with the intention to return to Ann Arbor at the end of August.

DR. IRVING LANGMUIR, of the General Electric Company, spoke before the Delaware section of the American Chemical Society in Wilmington on April 19 on "Molecular structure and its relation to chemical valence."

PROFESSOR H. A. WILSON, of the Rice Institute, Texas, will lecture at the summer session of the University of Chicago on "The electrical properties of gases."

THE following public lectures will be given at University College, London, during the present term: "Atoms, molecules and chemistry," three lectures by Sir J. J. Thomson; "Insects and disease," four lectures by Sir Arthur Shipley; "Recent discoveries in Egypt," by Professor Flinders Petrie; and "The expansion of European civilization," four lectures, by Professor W. R. Shepherd, of Columbia University.

THE Linaere Lecture of the University of Cambridge was delivered on May 6 by Sir Humphry Rolleston, on the subject of "Medical aspects of old age."

The *Journal* of the American Medical Association states that the National Academy of Medicine of Venezuela has decided to hold a celebration of Pasteur's centenary. A prize, consisting of a gold medal and 2,000 bolivares, will be granted to the author of the best work presented. A portrait of Pasteur will be placed in the assembly room of the academy and a special medal will be engraved.

The sixteen hundred volume library of the late George Trumbull Ladd, professor of moral philosophy and metaphysics at Yale University, has been given to the Hatch Library of Western Reserve University. Professor Ladd was a graduate of Western Reserve College in the class of 1864.

CARL LUMHOLTZ, born in Norway in 1851, formerly engaged in anthropological exploration and research for the American Museum

of Natural History and other institutions, died at Saranac Lake, N. Y., at the beginning of the present month.

SIR ALFRED PEARCE GOULD, late vice-chancellor of the University of London, and president of the Medical Society of London and of the Röntgen Society, died on April 19 at the age of seventy years.

PROFESSOR RENÉ BOHN, a director of the Badische Anilin u. Sodafabrik, and one of the pioneers of the German coal-tar dye industry, has died at the age of sixty years.

THE death is announced of Dr. Isoji Ishiguro, the Japanese engineer.

THERE will be a meeting of the Society of Plant Physiologists with the American Association for the Advancement of Science at Salt Lake City from June 22 to 24. Papers to be presented before the physiological section should be mailed to E. T. Bartholomew, School of Tropical Agriculture, Riverside, California, before June 1.

OWING to serious flood conditions of the Mississippi River, the annual meeting of the American Oil Chemists' Society, which was to have been held at the Grunewald Hotel, New Orleans, on May 8 and 9, has been postponed to June 5 and 6 at the same place.

THE alumni members of Sigma Xi of Southern California held a meeting on the evening of May 24, at the Norman Bridge Laboratory of Physics, Pasadena, California, and organized the "Sigma Xi Club of Southern California." About fifty members, representing sixteen institutions, were present. The following officers were elected: Dr. W. L. Hardin, Los Angeles, *president*; Dr. Paul W. Merrill, Mt. Wilson Observatory, Pasadena, *secretary*; Dr. E. E. Chandler, Occidental College, *treasurer*. There are more than a hundred alumni members of Sigma Xi in Los Angeles, Pasadena, and near-by towns.

THE British Institute of Physics, of which Sir J. J. Thomson is president, has arranged for the delivery of a course of public lectures with the view of indicating the growing importance and place which physics now holds in industry and manufacture. The first of these lectures was delivered by Professor A. Barr of

Glasgow, on April 26, in the Hall of the Institution of Civil Engineers.

At a meeting of the advisory council of the Phipps Institute, Philadelphia, April 29, gifts totaling \$150,000 were announced. The sum of \$25,000 will be given yearly for five years by the Carnegie Corporation, for research purposes. Dr. Josiah H. Penniman, acting provost of the University of Pennsylvania, stated that the board of trustees had voted \$25,000 to be given during the next two years to the institute. The family of Henry Phipps announced that they pledged \$500,000 to the endowment fund, provided an additional \$2,500,000 be raised.

THE fund for the establishment of the Harvard School of Public Health will be entitled the Henry Pickering Walcott Fund in honor of the senior member of the Harvard Corporation. As has already been announced, the Rockefeller Foundation has agreed to contribute at once \$1,500,000 and eventually \$500,000 in addition; these amounts will be increased by a fund of \$1,000,000 provided by the university and also by the income of more than \$3,000,000 which is now being expended by the university in various departments which will be incorporated in the school. It will probably open next year for instruction and research in the field of public health. It will be closely allied to the Harvard Medical School, and Dr. David L. Edsall will serve as dean of both schools. Certain departments now organized under the Medical School, such as those of industrial hygiene and tropical medicine, will become part of the new school, which will also develop and enlarge the work of the School of Public Health now jointly conducted by Harvard and the Massachusetts Institute of Technology.

THE Board of Research Studies of the University of Cambridge, in a report on the admission of research students, records that steps have been taken to concentrate in the board the power of admission of research students, and it is hoped that this will tend towards the preservation of a uniform standard of qualification. Secondly, they record that it has been decided to institute the degrees of M.Litt.

and M.Sc. The regulations for these degrees appear in the current number of the *Reporter*. The number of research students admitted when the last report was presented was 72. Since then 71 have been admitted, making in all 143. These figures, however, hardly represent the comparative number of admissions this year and last, for at the beginning many already at work under the old regulations for the B.A. degree were permitted to transfer. During the year two students withdrew their names. The proportion of Cambridge graduates among the students now admitted has risen. The large number of graduates of other universities within the British Isles remains a feature. Those from Canada and the United States are fewer than may be anticipated when the degree is better known, their combined number—25—being approximately that of those coming from the Indian Empire.

THE British Board of Trade has issued an order exempting certain German scientific and other periodicals from the provisions of the German Reparation Act of 1921. Any article is exempted "being a publication in the German language which is proved to the satisfaction of the commissioners of customs and excise to be a periodical publication of a German learned society, or other scientific or philosophical periodical publication."

UNIVERSITY AND EDUCATIONAL NOTES

PROFESSOR EDWARD H. ROCKWELL, after twenty years of service on the faculty of the Engineering School at Tufts College, has accepted a call to Rutgers College to be dean of the Engineering School.

ANNOUNCEMENT is made by the Rensselaer Polytechnic Institute that Professor Edwin A. Fessenden, of Pennsylvania State College, will become, at the beginning of the next collegiate year, professor and head of its department of mechanical engineering.

PROFESSOR HERBERT R. MOODY, for seventeen years connected with the department of chemistry of the College of the City of New York as professor of industrial chemistry and chemical engineering, has been appointed director