

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.

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#### 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