

Education; division of the department of engineering into (a) mechanical engineering, (b) electrical engineering; college courses for teachers developed; extension courses throughout the state incorporated; university's educational influence extended along many lines, and made to serve home, state and nation; marked emphasis was laid on research in every department.

The long list of Dr. Smith's investigations in many fields of chemistry need not be detailed here. Chief among them were electrochemistry, the complex inorganic acids, the rare earths and the revision of the atomic weights of the following elements: palladium, molybdenum, selenium, tungsten, tantalum, columbium, boron and fluorine. His investigations on the rarer elements—tungsten, molybdenum, vanadium, columbium, tantalum, rubidium and caesium—have been numerous.

Mrs. Edgar F. Smith has donated to the University of Pennsylvania Dr. Smith's valuable collections of historical books, pamphlets, letters and engravings relating to chemistry which will be preserved intact in his office in the John Harrison Laboratory, where they will be available to chemists for study and research.

The staff of the department of chemistry have resolved to perpetuate the memory of Dr. Smith by annually observing the birthday

Of one, who by his precepts, initiative and industry exerted upon us as individuals, upon this staff as a group, upon the entire University and, to no inconsiderable degree, upon the affairs of the world, an influence that could only be exerted by a Master of his chosen profession, an inspiring teacher, a considerate and tolerant advisor.

In sight of the laboratory which Dr. Smith planned and in which he labored for so many years there stands on the campus of the university, surrounded by nature's green, a statue, bearing the fitting legend:

EDGAR FAHS SMITH

Provost 1911-1920

Teacher Investigator Friend

WALTER T. TAGGART

SCIENTIFIC EVENTS

A THIRD EXPEDITION TO THE ANTARCTIC

COMMANDER DOUGLAS GEORGE JEFFERY, who was a member of Sir Ernest Shackleton's last South Pole Expedition, announced on June 6 that he was planning to lead an American-financed expedition next September into the Antarctic to define the boundaries from Grahams Land south to Ross Sea, and to dis-

cover whether the Antarctic continent was actually two or more bodies of land. Among those who have been asked to accompany him are Captain Argles, who is a pilot for one of the proposed transatlantic flights, and three other veterans of Sir Ernest Shackleton's explorations, Dr. George Vibert Douglas, of McGill University, a geologist, Dr. A. H. Macklin, of Dundee, surgeon on the *Endurance* and *Quest* voyages, and Mr. J. W. S. Mar, B.Sc., of Aberdeen, a biologist.

The expedition will take with it a large aeroplane, which is now being built, and a small Amphibian similar to that used by Captain Wilkins. The larger aeroplane will have a capacity of 1,500 gallons of petrol and a cruising radius of 6,000 miles. There may be a flight across the South Pole, although that is not the object of the enterprise. Commander Jeffery expects to establish a base some time in November far down the west coast of Grahams Land, and from there will explore on that side eastward to Coats's Land. He said that it was probable that they might cooperate by wireless with the Byrd and Wilkins expeditions, which would be on the opposite side of the Antarctic Continent. They would be able to check meteorological data, and the bases on each side would serve for trancontinental flights.

The expedition will go south in a vessel of the deep-sea mine-sweeper type. Its personnel will be limited to 25 at most. It is planned to start the return journey in May.

PROGRAM OF RESEARCH IN COAL AND METALLURGY AT THE CARNEGIE INSTITUTE OF TECHNOLOGY

A PROGRAM of fourteen research studies in coal mining and metallurgy will be carried on during the year of 1928-29 under the joint auspices of the Carnegie Institute of Technology, the U. S. Bureau of Mines and two advisory boards of mining and metallurgical engineers and executives. To make the investigations, eleven college graduates have been appointed to research fellowships, and, in addition, a research engineer, an assistant research engineer and an analyst have been appointed.

The new program is similar in scope to those of the past few years that have been conducted under the same auspices. The research fellows, in carrying out their investigations, will be candidates for the degree of master of science to be awarded by the institute. The reports of the studies will probably be published as in the past.

Appointees to research fellowships are Julius R. Adams and Kenneth Metcalfe, Rose Polytechnic Institute; Kenneth M. Irey, Monmouth College; John E. Jacobs and Henry Seaman, Carnegie Institute of

Technology; Malcolm F. Judkins, University of Washington; Walter O. Krebs, Yale University; W. E. Marshall, Georgia Institute of Technology; Egbert Shetter, Ohio University; James A. Younkins, Penn State College, and Adam H. Hartswick, Penn State College. In addition, C. F. Christopher, research engineer; Frank Morris, analyst, and A. D. Meyer, assistant research engineer, will assist in making special studies in the program of research.

The following studies are planned:

Coal Mining. 1. Relation of particle size and temperature rate of burning; characteristics of flames of powdered coke and coal; 2. The composition of the oils and heavy tar from the distillation of coal at low temperatures; 3. Forms of sulphur in the Pittsburgh Coal Bed; 4. The chemical constitution of regenerated ulmins; 5. Effect of fusian and related inerts on the properties of Pittsburgh Coal with particular reference to coking properties; 6. Chemistry of decay in relation to peat and coal formation.

Metallurgy. A study of the cause and control of abnormality in case carburized steel; 2. Formation and identification of inclusions; 3. Distribution ratio of iron oxide between slag and metal; 4. Method of determining inclusions; 5. Viscosity of open hearth slags, and three studies in plant work relating to the physical chemistry of steel making.

Four of the studies will be financed by the Carnegie Institute of Technology, six by twenty-nine contributing companies representing the metallurgical industries, one by the International Combustion Engineering Corporation, one by the National Coal Association and two by the Pittsburgh Coal Company.

THE FRANKLIN MEMORIAL IN PHILADELPHIA

ANNOUNCEMENT was made on June 22 that a memorial to Benjamin Franklin will be created in Philadelphia on the Parkway at a cost of \$7,000,000 for construction and endowment. This has resulted from a merging of effort by the Franklin Institute of the State of Pennsylvania and the Benjamin Franklin Memorial, Inc.—the latter sponsored by the Poor Richard Club.

The tentative plans call for a monumental building a square in length. Its dominating feature, architecturally, will be a domed structure of the type of the Pantheon in Rome, containing a memorial chamber, in which it is planned to install a statue of Franklin.

Close by this memorial chamber will be housed a museum showing the status of the graphic arts in Franklin's time, and illustrating the development of printing, engraving and paper-making.

The rest of the structure will be devoted to the scientific and technological museum, which the Frank-

lin Institute has been planning, with a library with a capacity for 250,000 volumes, in the field of physical and mathematical sciences—the institute already has 120,000 volumes—two auditoriums and committee rooms and offices for the Franklin Institute.

Already \$3,000,000 is available for the undertaking, including funds of the Franklin Institute and some subscriptions. The executive committee of the Benjamin Franklin Memorial, Inc., expects to raise an additional \$4,000,000. It is planned that about \$4,000,000 shall be spent on construction and \$3,000,000 be devoted to endowment. A five-acre site on the Parkway will be provided by the city, which has the advantage that users of the scientific library, which is to be a feature of the memorial, would find themselves only a stone's throw away from two other important libraries—the library of the Academy of Natural Sciences, especially rich in the biological and geological sciences, and the Free Library.

APPOINTMENTS AT THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH

THE Board of Scientific Directors of The Rockefeller Institute for Medical Research announces the following appointments and promotions:

NEW APPOINTMENTS:

Associates

Dr. Robert R. Hannon.
Dr. Fritz Lange.
Dr. Henry R. Muller.
Dr. Cornelius P. Rhodes.

Assistants

Dr. Robert B. Corey.
Dr. Martin H. Dawson.
Dr. Malcolm Dole.
Mr. Elmer E. Fleck.
Dr. Thomas Francis, Jr.
Dr. Donald C. Hoffman.
Dr. Christopher Johnston.
Dr. Currier McEwen.
Dr. Norman S. Moore.
Dr. James F. Pearey.
Dr. Albert L. Raymond.
Dr. F. Duran Reynals.
Dr. Alexander Bothen.
Dr. Charles A. Slanetz.
Miss Evelyn B. Tilden.

PROMOTIONS:

Associate to Associate Member

Dr. Louis A. Mikeska.

Assistant to Associate

Dr. Edwin L. Gustus.
Dr. Charles H. Hitchcock.
Mr. Thomas P. Hughes.
Dr. William S. Tillett.
Dr. Perrin H. Long.