ture, porcelain-enamel, steel-construction and aviation industries. A great deal of work remains to be done in this field.

Recognizing the need for promotional efforts designed to demonstrate "how to do research," the division sponsored the preparation of a book entitled, "Profitable Practice in Industrial Research." Fourteen distinguished men in science and in scientific research collaborated in the preparation of this volume, thus making available their experience and achievement in the development of a technique in industrial research.

In order to carry out effectively its promotional efforts, the division has found it necessary to keep at hand various types of information which may be useful to those who are considering the establishment of research laboratories or their proper administration. Examples of these are: bibliographies, surveys, plans for laboratory layouts and the book, "Profitable Practice in Industrial Research."

SCIENTIFIC EVENTS

THE INDUSTRIAL FELLOWSHIPS OF MELLON INSTITUTE DURING 1932–33

THE past fiscal year of Mellon Institute, ended February 28, 1933, covered a period of commercial dullness throughout the country. Notwithstanding the severe depression, however, the industrial fellowship activities in the institution were just as extensive and important as in 1931–32.

During 1932–33, 67 fellowships—18 multiple and 49 individual fellowships—were in operation, on which the services of 109 fellows and 28 assistants were required. At the close of the year 55 fellowships—14 multiple and 41 individual fellowships—were active, and 83 fellows and 15 assistants held positions thereon. Twenty-six fellowships have been at work for five years or more, and of this number 14 have concluded 10 years of research and nine fellowships have been operating for 15 years or longer.

In the last fiscal year $616,360 was received by the institute from fellowship donors to defray the cost of scientific investigations carried on for these companies and associations. The money appropriated by donors to the institute during the past twenty-two years amounts to $8,893,378.

Nine new fellowships began operation during 1932–1933, and 12 fellowships concluded their investigational programs in that year. During the calendar year 1932, 2 bulletins, 40 research reports, and 27 other papers were contributed to the literature by members of the institute. Forty U. S. patents and 62 foreign patents were issued to fellows. The total publications for the twenty-two years ended December 31, 1932, have been as follows: 18 books, 107 bulletins, 653 research reports, 961 other articles and 485 U. S. patents.

Many notable advances were made by the fellowships of 1932–33, and releasable facts regarding this investigational progress are presented in the twentieth annual report of the director, Dr. E. R. Weidlein, to the institute's trustees. Especially noteworthy were the research accomplishments of the industrial fellowships on air pollution, coke, commodity standards, food varieties, organic synthesis, packaging, petroleum production, protected metals, shoes and sugar. A large number of new products were developed and many of them were introduced commercially by fellowship donors. The urgent necessity for reviving business has been spurring many manufacturers to try through scientific investigation to evolve novel commodities as well as to improve their plant and merchandising practises. Throughout 1932–33 the very enthusiastic cooperation of donors in need of research results has expedited the work of their fellowships.

In addition to the numerous strictly technologic investigations of its fellowships and the constantly productive activities of its department of research in pure chemistry, the institute is studying the economic and social aspects of industrial research. Staff members of the organization are also aiding unemployed scientific men and engineers in securing professional posts, and are advising and encouraging the many companies that appeal to the institution for technical assistance.

The construction of the institute's new building is being continued despite prevailing business conditions. By the end of 1932 about 80 per cent. of the limestone had been set in place in the exterior, and during the subsequent two months practically all this work was completed. So far 235,000 cu. ft. of limestone and 22,000 cu. ft. of granite have been used, and only a very small amount of stone remains to be placed at the four corners of the edifice. The interior mechanical work is progressing, and it is thought now that the institute can occupy the building in the summer of 1934.—W. A. HAMOR.

THE MORRIS ARBORETUM OF THE UNIVERSITY OF PENNSYLVANIA

THE Morris Arboretum in Chestnut Hill, which was bequeathed to the University of Pennsylvania by the late Miss Lydia Thompson Morris, will be

formally dedicated at exercises to be held there on Friday, June 2.

On Saturday there will be a private viewing of the arboretum by officers and members of various horticultural societies and by others actively interested in the promotion of horticulture, and on Sunday the arboretum will be opened for the first time for inspection by the public.

The program for the dedicatory exercises on June 2 will be opened with a scientific session to be conducted at the arboretum at 11 o'clock, with Dr. Thomas S. Gates, president of the university, presiding.

At this session addresses will be made by President Gates; Dr. Rodney H. True, chairman of the department of botany at the university and director of the arboretum; Dr. A. H. Reginald Buller, professor of botany at the University of Manitoba, and Dr. Robert A. Harper, who is Adrian professor emeritus of botany at Columbia University.

Following the scientific session, officials of other well-known arboretums, distinguished scientists and men prominent in various other fields, who will be among the university's guests, will attend a buffet luncheon at the arboretum.

At a convocation to be held there at 3 o'clock on the afternoon of June 2 an address will be delivered by Dr. A. Lawrence Lowell, president of Harvard University, and three honorary degrees will be conferred. In addition there will be a brief ceremony during which custody of the arboretum will be formally transferred to the university.

Preceding the convocation, over which President Gates will preside, will be a formal academic procession. The Rev. W. Brooke Stabler, chaplain of the university and Boardman lecturer on Christian ethics, will give the invocation, and the ceremony of transferring custody of the arboretum will follow.

In this ceremony Maurice Bower Saul, attorney, will represent the executors and trustees of the Morris estate, while President Gates will accept custody of the arboretum on behalf of the university.

At the conclusion of his address, the degree of doctor of laws will be conferred upon President Lowell, and the degree of doctor of science upon Dr. Buller and Dr. Harper, speakers at the morning scientific session.

For the private viewing on Saturday, June 3, the arboretum will be open from 10 A. M. until 5 P. M. For the public inspection on Sunday it will be open from 1 to 6 P. M.

The Morris Arboretum, which overlooks the picturesque Whitemarsh Valley, consists of two estates of approximately 160 acres upon which Miss Morris, who died on January 24, 1932, and her brother, the late John T. Morris, developed one of the finest collections of botanical specimens in the United States. One of these estates, "Compton," where Miss Morris made her home, lies in Philadelphia County, while "Bloomfield," the adjoining estate, is situated in Montgomery County. Compton includes about eighty-five acres of highly diversified land with hillsides and valleys and several small streams. The original estate on which the residence now stands was first planted by Mr. Morris, but subsequently additional land was purchased and on this land later plantings were made by Mr. Morris and, after his death in 1915, by Miss Morris.

In addition to bequeathing the arboretum to the custody of the university, Miss Morris also left the residue of her property, after certain bequests, to constitute an endowment for the arboretum's maintenance and development.

THE FOURTH ANNUAL CONFERENCE OF DONORS AT THE JOHNS HOPKINS UNIVERSITY

THE donors of the fellowships established under the National Fellowship Plan of the Department of Chemistry of the Johns Hopkins University held their fourth annual conference at the university on May 5. The program for the day included addresses by Dr. C. E. Kenneth Mees, director of the Eastman Kodak Company, and Dr. Irving Langmuir, Nobel Laureate in Chemistry. Discussion of the fellowship plan, and visits to the research laboratories of the fellowship students also played a part in the program.

Dr. Joseph S. Ames, president of the Johns Hopkins University, opened the meeting in the morning. In the afternoon, discussion of the fellowship plan centered especially about the following points: the value of the selection of candidates by personal interview; the present research work of the fellowship men, and a comparison of the careers of those appointed for the fellowship and those not appointed, based on a statistical report which was drawn from questionnaires returned by the candidates of former years.

President Ames, at this time, announced the developments under the plan for the year 1932–33. He stated that the H. A. B. Dunning Fellowship for Maryland, given by Dr. Dunning, of Baltimore, and the F. G. Donnan Fellowship for England, given by Dr. Walter A. Patrick, have been endowed. Dr. A. R. L. Dohme, of Baltimore, has renewed for a four-year period his lectureship established to bring noted scientists to lecture at the university.

At 2:30, Dr. C. E. K. Mees delivered a short address on "Scientific Research and Industrial Depression" over WBAL broadcasting station. Dr. Mees gave a more extended discussion of this same topic at the university at 4:00. In his address, he sought to defend scientific research against the charge that "the