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