

A LIST OF THE INDUSTRIAL FELLOWSHIPS IN OPERATION AT THE MELLON INSTITUTE ON MARCH 1, 1919
(Concluded)

No. 190—bread	H. A. Kohman (Ph.D., University of Kansas), senior fellow.	\$10,000 a year. March 1, 1921. Bonus: \$10,000.
	Roy Irvin (M.S., University of Kansas).	
	R. J. Cross (B.A., Leland Stanford Jr. University).	
No. 191—fruit beverages...	H. A. Noyes (M.S., Massachusetts Agricultural College).	\$3,000 a year. March 1, 1920.

During the institute year March 1, 1918, to March 1, 1919, there was a marked growth in both the number of industrial fellowships in operation and the amounts subscribed for their support. At the present time there are 47 industrial fellowships, and 5 additional ones have been arranged for, to begin just as soon as the necessary laboratory space can be provided. Of these 47 industrial fellowships, 35 utilize the services of one research man on each fellowship (individual fellowships), while 12 have the intensive work, in each instance, of one or more investigators under the supervision of a senior fellow (multiple fellowships). Of these two types of industrial fellowships, 9 have been founded by associations of manufacturers and these association fellowships serve in all 2,700 company members.

The following table presents the number of industrial fellowships which have been founded in the institute from March to March of each year, 1911 to 1919; the number of industrial fellows (research chemists and engineers) who have been employed thereon; and the total amounts of money contributed for their maintenance by the industrial fellowship donors (industrialists and associations of manufacturers):

March to March	Number of Fellowships	Number of Fellows	Amounts Contributed
1911-1912	11	24	\$ 39,700
1912-1913	16	30	54,300
1913-1914	21	37	78,400
1914-1915	21	32	61,200
1915-1916	36	63	126,800
1916-1917	42	65	149,100
1917-1918	42	64	172,000
1918-1919	47	77	238,245

The total amount of money contributed by industrial firms to the institute for the eight years ending March 1, 1919, was \$919,745.

During the eight years, the institute itself expended over \$330,000 in taking care of overhead expenses—salaries of members of permanent staff and office force, maintenance of building, apparatus, etc.—in connection with the operation of the industrial fellowships. Besides this amount, the building and permanent equipment of the institute, which make it the most complete and modern industrial experiment station in the country, represent an investment of about \$350,000.

The administration of the Mellon Institute is now constituted as follows: Raymond F. Bacon, Sc.D., director; Edward R. Weidlein, M.A., associate director; E. Ward Tillotson, Jr., Ph.D., assistant director; William A. Hamor, M.A., assistant director; David S. Pratt, Ph.D., assistant director; Harry S. Coleman, B.S., assistant director.

SCIENTIFIC EVENTS

MINERAL DEPOSITS IN THE UNITED STATES

THE Geological Survey has recently published as its Bulletin 660 its annual volume entitled "Contributions to Economic Geology (short papers and preliminary reports), 1917. Part I. Metals and Nonmetals Except Fuels." This bulletin contains 11 papers describing deposits of ores of iron, manganese, tin, antimony, lead, silver and gold in widely separated parts of the United States and deposits of greensand, clay, and strontianite. The shortage of manganese, which is used extensively in hardening steel, and the high prices resulting from its scarcity, caused the survey to examine undeveloped deposits in western Arkansas and in Shenandoah Valley, Va., the results of which are described in "Manganese Deposits of the Caddo Gap and De Queen quadrangles, Ark.," by H. D. Miser, and "Possibilities for Manganese Ore on Certain Un-

developed Tracts in the Shenandoah Valley, Va.," by D. F. Hewitt, G. W. Stose, F. J. Katz and H. D. Miser. The greensand deposits of the eastern United States are considered by G. H. Ashley particularly with reference to their possible utilization as a source of potash, for their green color is due to their content of glauconite, a mineral that usually carries about 7 per cent. of potash, although the sands as a whole contain somewhat less of this useful alkali. An interesting paper on "Strontianite Deposits near Barstow, Cal.," by Adolph Knopf, forms part of the volume. Strontianite has been successfully used in the recovery of sugar from beet-sugar molasses, large quantities of the molasses being unavoidably produced in the manufacture of beet sugar. Among the mining districts described in this bulletin are the Cuyuna iron district, Minn., by E. C. Harder and A. W. Johnston; the Kings Mountain tin district, N. C. and S. C., by Arthur Keith and D. B. Sterrett; the northwestern part of the Garnet Range and the Dunklebery district, Mont., by J. T. Pardee; and the Arabia district, Nev., by Adolph Knopf.

The bulletin which consists of about 300 pages and contains a number of small maps and line illustrations, may be obtained on application to the Director, U. S. Geological Survey, Washington, D. C.

SUMMER BIOLOGICAL STATIONS

THE University of Michigan will maintain its biological station for instruction and research for the eleventh session during the eight weeks from June 30 to August 22. This station is situated on the shores of Douglas Lake, near Pellston, Mich., about twenty miles northeast of Petoskey, in the famous summer playground of northern Michigan. It is, however, well isolated from the summer resorts and the resort crowds. The personnel of the teaching staff is as follows: In zoology, Professors La Rue and Welch, of the University of Michigan, Professor Frank Smith, of the University of Illinois, and Mr. Dayton Stoner, of the State University of Iowa; in botany, Professor Gates and Dr. Ehlers, of the University of

Michigan, and Professor Quick, of De Pauw University. Courses are offered in entomology, ornithology, vertebrate zoology, ecology of invertebrate animals, systematic botany, plant ecology and plant anatomy, all but the last requiring a large amount of field work. Opportunity for investigation is offered to a limited number of investigators upon payment of nominal fees. For further information address George R. La Rue, director, the Biological Station, University of Michigan, Ann Arbor.

Dr. Raymond C. Osburn, head of the department of zoology and entomology in Ohio State University, has been appointed director of the Lake Laboratory. The 1919 session of the laboratory will be held from June 23 to August 2, a period of six weeks. The laboratory is now located at Put-in-Bay, Ohio, which is on an island in Lake Erie several miles from the mainland. It is easily reached by steamer from Cleveland, Sandusky and Detroit. Cooperation with the State Fish and Game Commission of Ohio during the 1918 session proved satisfactory to both the laboratory and the commission and the arrangement will be continued. A course on the fishes of Lake Erie will be given by Professor Osburn. Members of the staff will be Dr. F. H. Kreeker, the acting director, Ohio State University, who will offer a course in animal ecology; Professor S. R. Williams, of Miami University, who is in charge of invertebrate morphology; Professor M. E. Stickney, of Denison University, who gives work in plant ecology, and Dr. Edna Mosher, who is in charge of entomology. Surveys made last summer showed that the region was exceptionally well suited to the requirements of the laboratory. The fauna and flora are abundant and offer a wide field for research along a number of important lines. Independent workers will be cordially welcomed and given laboratory accommodations without charge.

An illustrated booklet has recently been issued descriptive of the work and environment of the Iowa Lakeside Laboratory. This station was founded by alumni of the University of Iowa on Lake Okoboji in 1909.