

Total allowances and pensions in force, 1,496 as contrasted with 1,414 in the preceding year.

Widows receiving new pensions, 51.

Total allowances granted, 1906-1939, 2,965.

Total expenditures for retiring allowances and pensions, 1906-1939, \$36,694,421.30.

Since 1905 the foundation disbursed more than \$36,694,000 for retiring allowances and widows' pensions, or more than double its General Endowment Fund. Of these disbursements, Harvard University has received more than \$2,985,000; Columbia University, \$2,645,000; Yale University, \$2,218,000; Cornell University, \$1,671,000; the University of Michigan, \$1,227,000, and the University of California, \$1,062,000.

The report discusses the operation of thirty-one research projects at a cost, during the fiscal year 1938-39, of \$91,350.

The cooperative arrangement between Carnegie Corporation of New York and the Carnegie Foundation for the Advancement of Teaching respecting projects in the field of higher education has now been in effect for about fifteen years. A series of 148 grants amounting to \$1,449,393 have been made by the corporation for eighty-five projects, of which fourteen, involving thirty-four grants, have been carried on in the offices of the foundation, and seventy-one projects involving \$1,087,350 in 114 grants have been carried on under the auspices of forty-one other educational institutions or bodies. To these the foundation has allocated and transmitted the funds provided by the corporation.

SUMMER CONFERENCES ON ASTRONOMY AT THE HARVARD OBSERVATORY

THE fifth session of Summer Conferences on Astronomy will be held at the Harvard Observatory from July 1 to August 10. It is believed that many investigators and teachers will welcome the special opportunities for discussion and research available during the six-week session. Visitors who wish to use the plate collection or the instrumental equipment of the observatory will be accommodated to the greatest possible extent. Colloquia will be conducted twice each week by staff members and visiting investigators.

The conferences will include:

Topics in Celestial Mechanics, Professor Dirk Brouwer, Yale University. A discussion of the theory and application of planetary perturbations.

The Internal Constitution of the Stars, Dr. T. E. Sterne and Dr. Martin Schwarzschild. An application of the laws of physics to stellar interiors and a comparison of the results with observation; an introductory course.

Introduction to Astronomical Optics, James G. Baker. A treatment of the general problem of astronomical optics with numerous illustrations of the designing of specific

types of instruments, both in theory and in practical details.

Photographic Photometry, Dr. Cecilia Payne-Gaposechkin and Dr. F. L. Whipple. A comprehensive discussion of the problems of photographic photometry found in the study of point-images, surfaces and spectra.

Opportunities for research under guidance will be available in the topics of the conferences and also in galaxies, astrophysics, variable stars, photoelectric photometry, meteors and meteorites.

Professor Shapley and Dr. Watson, assisted by visiting lecturers, will present a survey course, Introduction to Cosmogony. The lecturers will consider origins, processes and destinies; the subjects will include stars, galaxies, the structure of the universe, relativity, cosmic rays, the generation of stellar energy, ancient cosmogonies, mountain building, the age of the earth, planetary atmospheres and the origin of the solar system. Among the visiting lecturers will be: Professor Henry N. Russell and Professor H. P. Robertson, of Princeton University; Dr. Lyman Spitzer, Jr., of Yale University; Dr. R. E. Marshak, of Cornell University; Professor Kirtley F. Mather and Dr. I. A. Getting, of Harvard University, and Dr. Daniel Norman, of the Harvard Observatory. There will be two lectures and one discussion group each week.

As in 1939, auditors holding the degree of Ph.D. in astronomy, physics or mathematics will be allowed reductions in their fees. Further information can be obtained from the Harvard Observatory or from the Summer School Office, Wadsworth House, Cambridge, Mass.

THE AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

THE hundred and fifty-second annual meeting of the American Institute of Mining and Metallurgical Engineers was held from February 12 to 15, in the Engineering Societies Building, New York City, under the presidency of Donald B. Gillies, vice-president of the Republic Steel Corporation.

In addition to a full program of technical papers the events at the meeting included an "All-Institute" session, presided over by President Gillies, with the president-elect, Herbert G. Moulton, consulting mining engineer of New York City, as vice-chairman. Addresses were made by Colonel L. A. Codd, secretary of the U. S. Army Ordnance Association, and by Merlin H. Aylesworth, formerly utility executive-president of the National Broadcasting System.

At the directors' dinner on Tuesday evening Harvey S. Mudd, vice-president of the institute, presented four prizes, two of \$100 and two of \$50, in the first Institute National Student Contest.