lish a trust fund to the memory of the late Professor Henry E. Armstrong. At the Finsbury Technical College and later at the Central College, South Kensington, Dr. Armstrong and his co-workers, Dr. Ayrton and Dr. Perry, tried out and established the principles of technical education in Great Britain, and thus encouraged the foundation of polytechnics and technical colleges. The hope is for a memorial fund amounting to about £3,000. This will provide a guarantee fund to give, as it accumulates, enough to ensure the publication (or to give substantial financial assistance in the publication or preparation) of any original works, within Professor Armstrong's recognized interests, that it would otherwise be impossible to publish. Publications will carry as frontispiece a portrait of Professor Armstrong, a biographical note and a reference to the foundation and objects of the trust. Furthermore, the fund will provide for a memorial plaque, or bust, for the City and Guilds College, South Kensington.

SCIENTIFIC EVENTS

THE NETHERLANDS GRAVITY EXPEDITION

HER Majesty's submarine O–16 of the Netherlands Navy will leave Holland for the East Indies in May, on a new extensive gravity expedition sponsored by the Netherlands Geodetic Commission. The ship will be commanded by Lieutenant-Commander B. C. Meurs Schouten. The route of the expedition has been carefully planned in such a way that valuable scientific results may be expected. The submarine will proceed by way of Dakar, Capetown, and Durban to Java. The research will be carried out by Dr. W. Nieuwenkamp, attached to the Netherlands Geodetic Commission, which is to continue the gravity of the sea, so successfully pursued by Dr. F. A. Vening Meinesz on recent expeditions.

Observations will be made both with the multiple pendulum apparatus and with a new pendulum instrument of long period which was constructed for the measurements of the ship's accelerations and the determination of Browne's second order corrections. For timing the pendulum observations, the older chronometer will be replaced by the crystal chronometer constructed by the Bell Telephone Laboratories. This fundamental method for improving the timing of the pendulums was first used in 1937 on the U. S. Navy-American Geophysical Union Expedition under the direction of Dr. Maurice Ewing, who, together with Dr. Morison, perfected its application. The crystal chronometer was sent to the British Admiralty for their gravity cruise last summer by the International Commission on Continental and Oceanic Structure (Dr. R. M. Field, chairman), and is now on loan to the Dutch Navy under the same auspices. The increase in precision introduced through the use of the crystal chronometer has also been demonstrated on land by Ewing, Woolard and Johnson in investigations of the geological structure of the eastern coastal plain and reported by Dr. Ewing to the American Philosophical Society in 1937.

The Netherlands expedition will record its soundings by the echo method with the collaboration of naval authorities in effecting the special arrangements needed. It is anticipated that soundings will prove possible even when proceeding on the sea's surface and that a continuous series of soundings will give valuable data for the entire route of the submarine. It is expected that the results of this expedition will greatly assist in answering such questions as: (1) how generally deep ocean basins show positive anomalies as have been found in nearly all cases on previous trips; (2) whether gravity anomalies in the Atlantic west of Morocco show evidence of the continuation of the tectonic folding axis of the Moroccan mountain range; (3) whether the Mid-Atlantic Ridge and the Walfish Ridge in the South Atlantic are in isostatic equilibrium, and other geophysical questions arising concerning the areas crossed by the route. Observational material relative to gravity in the region of the Indian Ocean up to the present time is exceedingly scarce.

The expedition is indicative of important results that may be obtained through international cooperation, and it is hoped that a preliminary report will be included in the report of the Commission on Continental and Oceanic Structure at the Seventh Assembly of the International Union of Geodesy and Geophysics which is to convene in Washington next September.

THE SOIL CONSERVATION SERVICE

IN the annual report of H. H. Bennett, chief of the Soil Conservation Service, it is stated that during the past fiscal year farmers in 18 of the 25 states which had enabling legislation organized 72 soil conservation districts, with a total area of more than 38 million acres. By the end of June, 34 of these districts had entered into cooperative agreements with the Soil Conservation Service, and the farmers of 18 districts were already actively engaged in conservation work.

Farmers in conservation districts have provided virtually all supplies and materials required for erosion control measures, and the contribution of the Soil Conservation Service has been limited generally to technical service for planning and to types of labor

and equipment not normally available on the farms within the districts. During the year, Soil Conservation Service demonstration work on privately owned land was continued and expanded. Operations were started on 18 new projects, and 59 demonstration projects were placed on a maintenance basis. At the close of the year, regular operations were being carried forward in 55 demonstration areas. In 111 other areas, erosion control measures were being maintained for continued demonstrations.

These projects, together with the erosion control work areas adjacent to Civilian Conservation Corps camps under technical direction of the Soil Conservation Service, comprised approximately 11½ million acres of privately owned land, and involved the cooperation of over 61,000 farmers and ranchers. Under terms of the cooperative agreements between the farmers and the service, more than 850,000 acres of land originally in cultivation will be converted eventually to uses less conducive to erosion. By the end of the year, 490,000 acres in the demonstration areas had been retired from cultivation and were being developed as permanent pasture, meadow or woodland.

Another development was the extensive spread of erosion control practices from service demonstration areas to outlying farms. Such soil-defence measures as strip cropping, contour tillage and winter cover cropping were adopted on a far wider scale than in any previous year. Land protection by terracing gained support in virtually every state. The service continued to direct an extensive erosion-control and land management program on four large western watershed projects where nearly 80 per cent. of the land is in public ownership. Efforts to reestablish the range cover in these areas were continued. During the year, conservation nurseries furnished 145 million trees and shrubs, mainly for use in demonstration areas; although some were supplied to Federal and state agencies cooperating in erosion control. Over two million pounds of field-crop and grass seed were furnished to cooperating farmers and agencies.

The service continued its program of basic research. By the close of the year, sixteen experiment stations were developing and testing principles and measures for combatting wind and water erosion. A new experimental watershed project was established near Hastings, Nebr., and work was continued at two similar projects near Coshocton, Ohio, and Waco, Texas. At these three watershed research projects, rainfall and stream flow over relatively large areas are being studied in relation to soil erosion and flood control.

EXPANSION OF FACILITIES AT THE WORCESTER POLYTECHNIC INSTITUTE

THE trustees of the Worcester Polytechnic Institute have recently authorized a $1,000,000 building program. However, expansion of the facilities at the college does not mean any increase in the restricted enrolment. The freshman class each year is limited to 180 students.

The first building to be erected will be a student activity center to cost $350,000, including a library and auditorium with a seating capacity of 975. Funds have been given the college as a memorial to a man prominent in the early development of the institute and his name will be given to the building at the time of its dedication. It will be erected on the west campus adjacent to Sanford Riley Hall, the freshman dormitory. Ground will be broken before commencement and the building should be completed by June, 1940.

The program also embraces an addition to Salisbury laboratories, now in construction, and remodeling of the old building, at a cost of $100,000; erection and equipment of a mechanical engineering building, $400,000; refitting the old mechanical engineering laboratories for the civil engineering department, $65,000; erection of a footbridge connecting the east and west campus, relocation of the tennis courts, development of a quadrangle on the west campus and remodeling of Boynton Hall for the use of the department of mathematics and construction of a faculty lounge, $85,000.

Plans for the mechanical engineering laboratory are being prepared and it is expected construction will be started within a year. Erection of this building has been made possible by bequests in the wills of Willard L. Ames, of New York, who was graduated in 1882, and Moses B. Kaven, of Worcester, who received his degree in 1885. Trustees and alumni propose to obtain additional funds for endowment and equipment. It is expected that the entire program will be completed by the opening of the fall semester in 1942.

LABORATORIES OF THE DELAMAR INSTITUTE OF PUBLIC HEALTH AT COLUMBIA UNIVERSITY

THE new laboratories and classrooms of the DeLamar Institute of Public Health of Columbia University will occupy the top three floors of the seven-story city health and teaching center nearing completion at the Presbyterian-Columbia Medical Center, 168th Street and Broadway. The building has been erected through an agreement by the Presbyterian Hospital, the trustees of Columbia University and the Department of Health of the City of New York. Its facilities will enable medical students at Columbia to receive practical training in public health similar to that which they receive in medicine. The laboratories and courses will also be open to physicians, dentists, nurses and graduate students. The plan has been worked out under the general direction of Dr.