artificial "earthquakes" produced by explosions on the ocean floor. Lieutenant A. J. Hoskinson, geophysicist of the U. S. Coast and Geodetic Survey, will measure gravity on land. Dr. J. W. Green, geophysicist of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington, will conduct magnetic investigations, and Dr. Waldo L. Schmitt, marine biologist of the Smithsonian Institution, will make studies of sea life.

Other members of the expedition are F. Barrows Colton, science writer of the National Geographic Society, and R. H. Stewart, staff photographer, both of Washington; Jon M. Larson, of Princeton, N. J., radio engineer of the National Broadcasting Company; and the following assistants: R. M. Maddex and George T. Nelson, of Charlottesville, Va.; Leslie Manning, of Baltimore; Charles R. Smoot, of Washington, D. C.; A. C. Vine, of Garrettsville, Ohio; E. G. Uhl, of Elizabeth, N. J.; J. L. Worzel, of Staten Island, N. Y.; and O. Roy McClunin, of Washington, D. C. Leon J. Canova, 2nd, of Washington, is the secretary of the expedition.

In addition to the eighteen members of the expedition, the *Hamilton,* under the command of Captain Stephen Safford Yeandle, will be manned by a crew of 110. The ship will cover the island-studded area of the central and south Pacific extending 5,000 miles in an east-west direction and 2,500 miles north-and-south. Landings will be made on many of the islands in order to establish bases for instrumental observations.

COURSES IN PUBLIC HEALTH AT HARVARD UNIVERSITY AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

A NEW course, designed to train school supervisors, and especially supervisors of education in health, in the technique of educating the public concerning the protection and promotion of health, will be offered at the Harvard School of Public Health beginning this September.

The course, open to college graduates and extending one or two years, has been planned in recognition of the growing realization that those who are engaged in health education work must not only understand individual health measures, but they must also know what public health is, what its aims are, and what administrative measures are used in the fulfillment of its aims. Because it is equally essential that the student understand educational techniques, the Harvard Graduate School of Education will cooperate with the Harvard School of Public Health in giving this new course.

There will be no prescribed curriculum; each student will be assigned a personal program after an individual conference to determine his or her needs, in the light of prior training and experience. Credit may be granted for previous academic work in public health and in educational methods, and for experience in the field.

The training offered in this course is based on the principle that the person going into the field of health education needs first of all a basic knowledge of anatomy, physiology and the fundamental medical sciences. He will need to know the diverse functions of health departments and how such departments are organized. The student will, therefore, according to his individual needs, be assigned to work in the Harvard School of Public Health, in the Harvard Graduate School of Education, in the Harvard Faculty of Arts and Sciences, in Radcliffe College and in the Harvard Medical School.

A graduate course in public health engineering has been established at the Massachusetts Institute of Technology in the department of biology and public health, of which Dr. Samuel C. Prescott is head. This new course will consider such subjects as water supplies, water purification, sewerage, industrial waste disposal, stream pollution and purification and the sanitation of shellfish grounds. In addition, consideration will be given to the most advanced practice in the collection and disposal of refuse, sanitation of swimming pools, rural communities and camps, as well as the sanitation of food supplies, stores and restaurants. Students will also receive instruction in the relationship of insects and rodents to disease; the atmosphere in relation to health and comfort, housing and health, school sanitation and industrial hygiene. There will be training in the organization and activities of health departments, the collection, analysis and interpretation of vital statistics, epidemiological methods, the value and conduct of public health surveys, and the use of standard health appraisal forms.

The course will lead to the degree of master of science in one year, and will be open to qualified men of outstanding scholastic attainment and professional promise who are graduates in engineering of a recognized school or college. Candidates must have had at least one year of experience with a city, county or state department of health, the United States Public Health Service or some other recognized health agency.

Professor Murray P. Horwood, of the department of biology and public health, will direct the courses in public health engineering and vital statistics. Professor T. R. Camp, of the department of civil engineering, will give the course in hydraulic and sanitary engineering and sanitary design. The courses in health department practice and industrial hygiene will be

given by Professor Clair E. Turner and the course in sanitary biology by Professor Marshall W. Jennison. Students will be required to present a satisfactory thesis dealing with some original investigations.

ESTABLISHMENT BY THE AMERICAN MATHEMATICAL SOCIETY OF A NEW PERIODICAL

THE American Mathematical Society has received grants from two foundations to found a new international mathematical abstracting journal to be known as *Mathematical Reviews*. During the past quarter of a century while the United States and Canada have been gradually assuming a more prominent part in mathematical research, there has been sentiment expressed from time to time among mathematicians that there should be a review journal sponsored by American organizations. But doubts as to whether the scientific and financial resources could be spared caused the postponement of the undertaking. However, the rapid growth of American mathematical resources and the availability of funds have resolved these doubts, and it has been decided to proceed immediately.

The first number of *Mathematical Reviews* is to appear late in 1939 or early in 1940; the material to be reviewed begins with the latter half of 1939. It is proposed to review all fields of pure mathematics and also those of applied mathematics and mathematical physics which are of pronounced interest to mathematicians. The new journal, which will be issued approximately once a month, will contain several thousand reviews annually and will run to approximately eight hundred large double-column pages. Professors J. D. Tamarkin and Otto Neugebauer will be the first editors. A strong group of collaborators for the initial period is assured.

The Carnegie Corporation has appropriated $60,000 for the new journal. The Rockefeller Foundation has made a gift of $12,000 to cover some of the initial costs. Brown University is housing the project and aiding in the editorial work. The American Mathematical Society and the Mathematical Association of America are each starting off with a subsidy of $1,000 for the first year. Annual subsidies are being sought from other organizations, and plans for the permanent financing of the project are being considered. On account of the subventions, the subscription price will be set below actual cost.

Partly with a view to aiding indirectly in the support of this journal, the Rockefeller Foundation has made a gift to Brown University for an experiment in the dissemination of mathematical publications through the distribution of microfilm. This money is to be used to augment the mathematical library at that university, a collection which is already internationally known as outstanding. Out-of-print journals will be put on film and made available to mathematicians; rare books of general use will be filmed; on request from a subscriber to the new journal, any article reviewed will be sent on film or as film-print. This service will be extended to all parts of the world at a price not exceeding cost.

AWARD OF THE CHANDLER MEDAL

THE seventeenth Charles Frederick Chandler Medal of Columbia University has been awarded to Thomas H. Chilton, director of the technical division of the engineering department of E. I. du Pont de Nemours and Company, Wilmington, Del.

Mr. Chilton was chosen "for his outstanding achievements in the discovery and formulation of principles underlying the unit operations of chemical engineering, and in the application of these principles to process development, equipment design and chemical plant construction and operation," according to the citation of the award committee. The medal will be presented to him on November 16, when he will deliver the annual Chandler Lecture on "Engineering in the Service of Chemistry."

The committee has issued the following statement in which it gives grounds for the award:

Mr. Chilton's studies have brought to light unknown facts concerning distillation, heat transfer, fluid flow and absorption—factors which are present in nearly every manufacturing process.

His published works are to the chemical engineer what the classics are to the student of literature. Principles discovered by his researches are used in the design and operation of chemical plants. There are few industrial processes involving chemical reactions in which his researches can not be applied.

In addition to conducting these researches, Mr. Chilton has developed a method of producing formaldehyde, of prime importance in the manufacture of synthetic resins, from methane, the chief constituent of natural gas. Because of the wide use of formaldehyde, this development has made many chemical processes more economical to operate.

The efficiency of the process by which nitric acid is manufactured from the oxidation of ammonia has been increased through Mr. Chilton's work. With the introduction of the nitrogen-fixation process into industry, ammonia became a relatively cheap and plentiful product. Its use as raw material for the production of nitric acid has greatly lowered the cost of the latter.

Heat and fluids are associated with nearly all chemical apparatus. In attacking the problem of how heat flows through various substances and determining the characteristics of fluid flow under different circumstances, he has clarified these fundamental subjects.