instruction for vocational students should be increased to full two years, consisting of two periods of thirty-six weeks of didactic training and two periods of sixteen weeks each of apprenticeship or practical training in an accredited hospital or public health laboratory. The subjects offered in such a course and suggested balancing of subjects might be as follows:

Subject	Lecture hours	Laboratory hours	Laboratory periods
Clinical bacteriology	72	200	50
Clinical analytical methods	72	200	50
Hematology	48	180	45
Serology and immunology	60	220	55
Blood chemistry	32	80	20
Urinalysis	32	88	22
Parasitology	20	20	5
Tissue technique	18	80	20
Functional tests	10	20	5
Anatomy and physiology	72	8	2
Sensitization tests	6	4	1
Roentgen ray	120	240	60
Basal metabolism	26	100	25
Medical terminology	72	.....	.....
Interpretation of findings	10	.....	.....
Autopsy demonstrations	10	.....	.....
Special lectures	40	.....	.....
Total	720	1,440	360
Apprenticeship (32 weeks, 8 hours per day)		1,408	
Total		2,848	

At the beginning of the project, provision should be made for a course leading to the degree of B.S. in medical technology. It should consist of the two-year technical course preceded by two years of college work. The college work should consist of the accepted pre-medic courses, of sixty semester credits including: English, six credits; chemistry, thirteen credits; physics, eight credits; biology, six credits; and French or German, six credits. Subjects suggested or advised are Latin, English, mathematics, psychology, sociology, physiology, comparative anatomy and drawing.

Every leading medical institution maintaining extensive laboratory facilities is besieged by those who desire to secure training in medical technology, but at the present time those who desire to enter this line of work seek almost in vain for any recognized courses of training. Hundreds of students drop out of our universities annually, not so much because of failure, but rather because of lack of objective.

It would seem, therefore, that present conditions warrant and demand that well-recognized educational institutions take the initial step toward carrying out a project of this nature. Surely, a distinct opportunity is presented.

WALTER E. KING

DETROIT, MICHIGAN

SCIENTIFIC EVENTS

PRESENTATION OF THE ROYAL SOCIETY MEDALS

As already noted in SCIENCE, the Royal Society medals were presented at the anniversary meeting on November 30, by the retiring president, Sir Charles Sherrington. The following citations, in addition to that with the Copley medal to Professor Einstein (SCIENCE, January 1), were made with the award of the medals:

A ROYAL MEDAL: PROFESSOR WILLIAM HENRY PERKIN

The science of organic chemistry owes a debt to Professor Perkin, as instanced in recent years by his monograph on cryptopine and protopine, a record of chemical research rarely equalled in experimental skill and precise reasoning. He has revealed the constitutions of the alkaloids harmine and harmaline; he is nearing the solution of the structures of strychnine and brucine, two alkaloids which have hitherto resisted all attempts to determine their structural formulae. His work on berberine has left few questions unanswered concerning the constitution of this important substance. He has developed new methods of attack on the chemistry of these natural products, and has faced many problems in structural organic chemistry. He succeeded, during a period of twenty years at the University of Manchester, in building up there a notable school of chemical research. During the past twelve years, in the University of Oxford, he has again organized and developed a similar research school.

A ROYAL MEDAL: PROFESSOR ALBERT CHARLES SEWARD

Professor Seward's work has been conspicuous on account of the way in which he has extended and reduced to order our knowledge of the paleobotany of Gondwanaland, especially in India, South and Central Africa, Antarctica and the Falkland Islands. The lower stages of the Gondwana system are characterized by evidences of a glacial climate; and in order more completely to understand the conditions of life that existed, Professor Seward has visited Greenland and otherwise paid special attention to the effect of climate and light in explaining the rise and luxuriance of the Glossopteris flora in the Southern Hemisphere. In addition to its direct stratigraphical value to geologists, his work has added greatly to our knowledge of plant migration, and especially of the way in which the Glossopteris flora invaded the Northern Hemisphere previously occupied by the groups familiar to us by our Coal Measure plants.

THE DAVY MEDAL: SIR JAMES IRVINE

The constitution of the simpler sugars (monosaccharoses) was based on a sure foundation by the classical

researches of Emil Fischer. Taking up the investigation where Fischer had left it, Sir James has carried the inquiry into the more complex field of the disaccharoses, and by means of new processes, which he has been able to evolve and apply, to assign definite chemical structures to many of these most important natural products. He has also studied the constitutions of the still more complex polysaccharoses, starch and inulin, incidentally gaining an insight into the manner in which the plant forms and utilizes these fundamental reserve materials.

THE SYLVESTER MEDAL: PROFESSOR A. N. WHITEHEAD

Always primarily interested in the foundations of mathematics, it is in the logical analysis of these foundations that Professor Whitehead's reputation has been won. The great work, "Principia Mathematica," written in collaboration with Bertrand Russell, contains the most systematic and the most profound analysis to which the foundations of the subject have yet been submitted.

From pure mathematics both Professor Whitehead and his collaborator have turned independently to physics. In his more recent books Whitehead has endeavored to apply the spirit of "Principia Mathematica," and in particular the principle which he calls "extensive abstraction," in the more complicated and more controversial field of physical existence. That a point, whether in the older physics or the modern physics of space-time, is a class, or a class of classes, of events, that an electron is a systematic correlation of the characters of all events throughout all nature, are doctrines at which the unsophisticated may be tempted to scoff, but the tendency of modern scientific thought is to the conclusion that, if the world of physics is indeed ultimately capable of any rational interpretation, it must be interpreted in some such way.

THE HUGHES MEDAL: MR. F. E. SMITH

Mr. Smith began work on the realization of the fundamental units of electrical measurement in 1902; and such further experiments as have been made since have served only to confirm his results. Other important investigations by Mr. Smith have dealt with the measurement of terrestrial magnetism. The recording magnetometers which he designed have proved of great value, while more recently he constructed, at the suggestion of Sir Arthur Schuster, a horizontal force magnetometer of extreme accuracy. During the war his services to the nation were of great importance, and since the armistice, as director of research at the Admiralty, he has been responsible for a number of valuable investigations.

THE NEW MUSEUM OF NATURAL HISTORY AT YALE UNIVERSITY

THE new Gothic Building for the Peabody Museum of Natural History at Yale University was formally dedicated on December 29 with ceremonies attended by many scientific organizations, including the Geological Society, the Society of American Naturalists and the American Association of Museums. President Angell delivered an address of welcome to the delegates on behalf of the university. Dr. Henry Fairfield Osborn, of the American Museum of Natural History, spoke on the development of paleontology, especially in its relation to biology, and Dr. Schuchert, emeritus professor of paleontology and secretary of the museum trustees, spoke on the historical aspect of the building and institution. Professor Edward Salisbury Dana, president of the board of trustees, formally presented the museum to the university and Professor Lull, director of the museum, explained the layout of the building.

This towered brown structure, fronting Whitney Avenue and occupying the southeast corner of the Pierson-Sage Square, with spacious lawns about it, replaces the historic Peabody Museum at High and Elm Streets, which was demolished in 1917 to make room for the Memorial Quadrangle. The collections, which have been in storage since then, are completely reinstalled, and the museum is now ready to resume its full activity.

The building is entirely of concrete, brick, steel and glass. All the stone is artificial. There are ten halls on two exhibition floors. The second, or mezzanine floor, contains offices, laboratories, library, seminar rooms, etc. The basement is given over to storage, except for the space under the tower, called the crypt, which contains the seismograph. This is one of the three seismograph stations in New England.

Externally, the building is Gothic. That style of architecture was chosen because it admits of irregularity, and from time to time new wings will have to be added to the present structure. One, already planned, will contain an auditorium. The museum has no debts, and is in a favorable position for growth and expansion, should the needs and opportunities of the future make such growth desirable.

PUBLIC LECTURES ON SCIENTIFIC AND MEDICAL SUBJECTS

A COURSE of free public lectures will be given in the educational building of the New York State Museum on Friday afternoons at four o'clock, as listed below. The lectures are on subjects of general and popular interest and will be untechnical. Many of them will be illustrated by lantern views.

January 8.—*Social Life among Insects:* EPHRAIM P. FELT, state entomologist.

January 15.—*Geologic History of the Hudson River:* RUDOLF RUEDEMANN, assistant state paleontologist.

January 22.—*Forest Trees:* HOMER D. HOUSE, state botanist.

January 29.—*Making and Maintaining a Port of Albany:* JOHN H. COOK, superintendent of John Boyd Thacher Park.

February 5.—*Adventures with Wild Birds and Animals:* HOWARD H. CLEAVES.