

FOLLOWING the death of Dr. Walter Ernest Dixon, of Cambridge, England, in August, 1931, a memorial fund was collected to establish a lectureship in therapeutics and pharmacology in his memory. The first Dixon Memorial Lecture will be given by Sir Henry Dale at the Royal Society of Medicine on December 11. The subject of his address will be "Pharmacology and Nerve Endings."

A SQUARE in front of the Salpêtrière, Paris, has recently been named after the late Mme. Marie Curie.

## RECENT DEATHS

DR. COLLIER COBB, professor of geology at the University of North Carolina, died on November 28. He was seventy-two years old.

DR. OTTO VERNON DARBISHIRE, Melville Wills professor of botany at the University of Bristol, died on October 11, at the age of sixty-four years.

DR. JOHN WALTER LEATHER, from 1892 to 1916 agricultural chemist to the Government of India, died on November 14. He was seventy-three years old.

## SCIENTIFIC EVENTS

### THE "MEDICAL CITY" OF THE SOVIET UNION

HAROLD DENNY, correspondent of *The New York Times*, cables that in Moscow the Soviet government has allotted a 1,000-acre site in the Silver Forest on the Moscow River, a ten-minute drive from the capital, for "Medical City," designed to be the largest and most modern medical institute in the world. The plans are being drawn in consultation with a commission that recently studied the Columbia Presbyterian Medical Center, the New York Hospital-Cornell University Medical Center and the Rockefeller Institute in New York. Actual construction of the great network of buildings, which are planned to cost 150,000,000 rubles, is scheduled to begin in the spring.

The organization that will use the new plant is already functioning as the All-Union Institute of Experimental Medicine. It is under the direct authority of the government and its findings are turned over to the Commissariat of Health for application in hospitals throughout the Soviet Union. The director is Professor Lev Nicolaevich Feodorov, pupil of Professor Ivan Pavlov.

The enlarged institution plans to cover both the work done by the Cornell and Columbia Presbyterian centers and the Rockefeller Institute—that is, both practical and theoretical. A feature will be the "Clinic of the Healthy Man," where observations will be made of the behavior of normal men and women after working, eating, resting, etc. There will be special chambers, where the temperature, air pressure and other conditions of different climates—arctic, sub-tropic and even undersea and stratospheric—will be reproduced and their effects on living organisms studied.

The institute will be a real city with a technical personnel of 5,500 doctors, nurses and research workers and 600 patients, each of the latter in a private room, and with almost one laboratory per patient. There will be apartment houses for the staff, and

stores, theaters and other features of a complete town.

### A NATIONAL INVENTORY OF LAND PRODUCTIVITY

A PLAN to make an inventory of land resources which will give each type of land an index number of value based on productivity was presented before the recent annual meeting of the American Soil Survey Association. The scheme was developed by the Bureau of Chemistry and Soils, U. S. Department of Agriculture, and is being further developed in several states.

The productivity of each land type for a certain crop is being recorded in relation to the productivity of the best land in the country for that crop. The value of this most productive land type would be represented by 100. Land half as productive would be listed at 50. This makes possible the comparison of land types as to productivity, not only within a locality of county, but in widely separated regions.

A classification of land types as to physical productivity is desirable because of the various factors responsible for productivity in general—land, labor, fertilizer, seed, implements and management. All but land are variable as to time. They are variable because of the ease with which they can be modified by man in response to economic conditions. The characteristics of land, climate, surface and soil are essentially stable.

Thus, a geographic inventory of land resources will have significance 50 to 100 years hence and not merely at the present, even though some changes in land do occur through such agents as erosion or irrigation.

In the case of poorly drained land or land subject to overflow, two sets of productivity numbers are given, one applying to the land in its poorly drained or flood-hazardous condition, the other under conditions of the best drainage or protection from overflow. No classification of irrigated land types has yet been undertaken on this basis.

As a summary of these crop ratings, lands are listed as to their general agricultural worth or productivity. Each type receives a general agricultural rating, based primarily on its productivity for the great staple crops, particularly grass and grain crops. The most productive land is designated Grade 1. Land incapable of producing crops, such as rock outcrop or desert, is listed as Grade 10.

A supplementary index of productivity has been added in the case of all land types on which farm practice, mainly through the use of fertilizer, is more intensive than in standard practice. There are said to be some who believe this index to be the more important. It has the disadvantage, however, of becoming invalid with time and it gives no indication of the disadvantage of lands requiring fertilization to produce equivalent yields.

#### MOTION PICTURES AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

THE first of a series of animated scientific and engineering motion pictures designed to facilitate methods of teaching has been completed by the new division of visual education at the Massachusetts Institute of Technology. It presents for the first time in visual animated form the behavior of an electrical wave as it travels along a 250-mile transmission line.

Other films in the proposed series include the presentation of descriptive geometry in animated form, the operation of complex machinery, principles of physics, problems of human relations and many others. This method of visual education is expected to be particularly effective in helping students to grasp the meaning of many of the more difficult subjects, which are not easily described by conventional teaching methods. The films, while designed primarily for instruction of students of the institute, are expected to be available to other educational institutions.

The new film "Traveling Waves on Transmission Lines" is a combination of animation and outdoor scenes showing various types of high voltage power lines. What happens when a switch is closed and electricity flows along such lines is graphically presented in the form of a dark wave flowing along a power line. The picture reveals that for a few millionths of a second after a switch is closed the electrical wave flows back and forth on the line and is often accompanied by extra high voltages. The effect is similar to the wave forms produced when water flows into a trough, strikes the end and rolls back and forth, finally reaching a steady level. The same phenomenon occurs on a smaller scale when an ordinary household light is turned on.

The mathematical analysis of the complete effect

is so complicated that it has never been worked out, even for the simplest actual conditions. The form and progress of the electrical impulses have, however, been accurately reconstructed in the department of electrical engineering at the institute from precise continuous records made at short intervals along the line which was carrying the impulse. The study was made on a laboratory model of a 250-mile power line in which actual operating conditions could be reproduced. It was carried out by Professor Louis F. Woodruff. The films produced by the new division of visual education are being directed by Frank H. Conant, head of the photographic service, in consultation with Floyd H. Ramsdell, general manager of the Worcester Film Corporation.

#### PHOTOGRAPHIC TELESCOPE FOR THE LICK OBSERVATORY

A GIFT of \$65,000 for the construction of a powerful wide-angle star camera or photographic telescope at Lick Observatory on Mt. Hamilton has been received by the University of California from the Carnegie Corporation of New York. This announcement was made by President Robert Gordon Sproul following the receipt of official notification of the gift from President F. P. Keppel, of the Carnegie Corporation.

Director R. G. Aitken, of the Lick Observatory, states that the instrument which is to be built will be the largest and most powerful of its kind, taking in a sky area of six or more degrees at the equator, and recording all stars down to at least the nineteenth magnitude in a two-hour exposure.

Stars of the nineteenth magnitude are about 150,000 times as faint as any that can be seen with the naked eye. An instrument capable of recording them will, according to the most reliable estimates, allow astronomers to study almost 300,000,000 stars in the stellar system immediately surrounding the earth.

Dr. Aitken adds that this gift, aside from being the largest received by Lick Observatory since its founding more than fifty years ago, will provide an instrument which in many ways will be the most powerful at Mt. Hamilton. It will enable astronomers stationed there to extend their investigations of the stars in several directions.

Particularly it will make possible a study of the structure and dynamics of the stellar galaxy, including the question of its rotation. This study will be carried on by Astronomer W. H. Wright, who submitted designs for the instrument with this purpose in view. It is hoped that the telescope will be completed and ready for use before the end of 1936.

Lick Observatory opened its doors in 1888, although the money for its construction was made available, and the search for a desirable site began fourteen years