which are quite invisible in ordinary light, may be revealed in this way, and it is said to be possible to detect and estimate quantitatively amounts of arsenic as small as 0.00001 of a milligram. Impurity in distilled water is also revealed by fluorescence in ultraviolet light, and it has not yet been found possible, even with the most refined methods of distillation, to prepare water that does not show some sign of fluorescence. An exhibit from the National Physical Laboratory also illustrated the difficulty of preparing substances in a state of absolute purity. It included specimens of iron, manganese and chromium, the impurities in which are detectable only with the spectroscope.

Another exhibit from the National Physical Laboratory showed the structure of pure mercury in the solid state, the metal being kept frozen by liquid air or carbon dioxide snow and acetone and etched with a solution of hydrochloric acid that does not freeze at the temperatures employed. A collection of metallurgical specimens exhibited by Sir Robert Hadfield included sections from reinforcement bars of high tenacity non-corrodible steel, which are being used in the preservation work at St. Paul's to replace the original wrought-iron bars put in by Sir Christopher Wren.

Bolometers responding with remarkable rapidity to radiant heat were shown by Mr. H. Dewhurst; they consist of a narrow strip of bismuth, believed to be only 0.0000007 cm. thick, deposited on thin celluloid films by electrical evaporation. The thermostat of Lieutenant-Commander F. J. Campbell Allen and Mr. A. E. Salisbury depends on the fact that magnetic metals lose their magnetic properties at certain temperatures; in the apparatus an armature normally attracted by the metal drops as the temperature of the metal is raised, to be attracted again when the temperature falls.

Other physical exhibits included apparatus devised by Professor O. W. Richardson and Mr. F. S. Robertson for comparing the yield of soft X-rays from different substances; a demonstration by the British Thomson-Houston Company of the phenomena produced by an arc in a hot cathode discharge tube containing argon when tungsten vapor is injected; the Selényi method of measuring the vacuum in a lamp and new methods of using gas-filled photoelectric cells, one enabling very small illuminations to be detected without any delicate apparatus, and the other suitable for picture telegraphy, by the Research Laboratories of the General Electric Company; and apparatus for analyzing gases by means of high-frequency vibrations and for estimating flame temperature by spectrum line reversed, by the National Physical Laboratory.

AN INTERNATIONAL SOCIETY FOR THE STUDY OF PEATLANDS

AN international organization for the study of peatlands (Moorforschung) has been formed as a subcommission of Commission VI of the International Society of Soil Science. The object is to promote peat investigations on an international basis and to coordinate and develop, in cooperation with governmental, state and private agencies such research and uniformity of methods in laboratory and field practices as are deemed in the interest of the fullest investigation, utilization and protection of peatland resources. The work of the organization is to be carried on by the following officers: Dr. A. P. Dachnowski, U. S. Department of Agriculture, chairman; Dr. Hugo Osvald, director Peat Experiment Station, Jönköping, Sweden, secretary; Professor Dr. B. Tacke, Germany; Colonel J. Girsberger, Switzerland; Dr. L. von Post, Sweden; Professor S. H. McCrory, Washington, D. C.; Dr. F. J. Alway, Minnesota, U. S. A.; Dr. W. S. Dokturowski, U. S. S. R. (Russia); Dr. A. Kirsanov, U. S. S. R. (Russia).

Cooperation has been assured by an International Peat Committee which consists of leading members well known for their investigations in the geographical distribution of peatlands, in paleobotany, stratigraphy, agronomy, forestry, engineering and other special phases of peatland utilization.

The formation of the organization was initiated at informal conferences with directors of peat institutes and peat specialists in several countries of Europe. The proposal was made and approved of holding a special peat session in the United States and organizing during the sessions of the First International Congress of Soil Science, held in Washington, June 13 to 22, 1927.

The value of the special peat session just closed was shown by the interest in an exhibit of different types of peat and profile sections of peat areas, and by the commission's formal recognition of the advantages of genuine international action in common projects. It aims at the coordination of fundamental peat investigations with the practical technique of utilizing areas of peat for different purposes. At its final session the Congress recommended to secure uniformity of methods of procedure for the investigation and handling of peatlands, with the ultimate aim of obtaining an accurate determination of the agricultural and industrial possibilities of peatland resources throughout the world.

Persons engaged in any aspect of this subject and desiring to associate themselves with the work of the international sub-commission are invited to join as members. Communications may be addressed to Dr.

A. P. Dachnowsky, U. S. Department of Agriculture, Washington, D. C.

AN AGRICULTURAL CENSUS OF THE WORLD

AN agricultural census of the world is planned under the direction of Mr. Leon M. Estabrook, of the International Institute of Agriculture at Rome. Plans were prepared and approved by the general assembly of the institute in April, 1926.

Since June, 1926, Mr. Estabrook has been visiting ministers of agriculture and heads of the statistical divisions of various governments in regard to the project.

All European countries and surrounding countries, including Russia, Turkey, Syria, Palestine, Egypt and the North African Colonies, have promised cooperation in taking the census, France offering the most potential difficulties. The European nations also promised to aid the institute in obtaining the cooperation of the colonies.

Mr. Estabrook is visiting Canada at the present time and will proceed to Mexico, Cuba, Jamaica, Haiti, Santo Domingo, Porto Rico, Panama and thence across the Pacific to Hawaii, Japan, China, Indo-China, the Philippines, Dutch East Indies, Australia, New Zealand, India and the countries west, including Arabia and others, to the colonies of eastern Africa. He will then proceed to South Africa and thence to South America. He hopes to return to Rome, having completed the circuit of the world and visited practically every country, in time for the meeting of the general assembly in October, 1928.

This is the first attempt ever made to induce all countries to take an agricultural census. Out of the 200 countries listed by the International Agricultural Institute, only 60 have ever taken an agricultural census and less than 40 have taken one since 1900. Of these not more than four happened by chance to take a census in the same year, and no two have taken their census in the same manner.

If the present attempt is successful, the institute hopes to obtain funds for its continuation, with collection of statistics every ten years.

Each country has agreed to pay for its own census and to issue its own report, which will be utilized in preparing the institute world report for each product.

THE GEOLOGIC SURVEY OF PENNSYLVANIA

THE Topographic and Geologic Survey of Pennsylvania is carrying on the following projects during the present field season in addition to the cooperative topographic work:

G. H. Ashley. Preparing a popular report on the rocks of Pennsylvania.

R. W. Stone. Field work on building stones of Pennsylvania.

J. D. Sisler. Detailed reconnaissance of the oil and gas fields of Pennsylvania.

Anna I. Jonas. Detailed areal mapping in the Middletown and York quadrangles, with some cooperation from George W. Stose, of the United States Geological Survey.

Herbert Hughes. Detailed areal mapping of the Freeport quadrangle.

Frank Leverett, of the United States Geological Survey. Cooperative study of glacial geology, especially that outside the terminal moraine.

George H. Chadwick. Stratigraphic studies in the oil and gas region of northwestern Pennsylvania.

Henry Leighton, University of Pittsburgh. Studies in the clay deposits of Pennsylvania of the Pittsburgh district, with field and laboratory studies by Professor J. B. Shaw at State College.

Charles R. Fettke and W. A. Copeland. Detailed plane-table mapping and studies in the Bradford oil field.

Freeman Ward, Lafayette College. Areal studies of the sand and gravel deposits of Pennsylvania.

Charles H. Behre, Jr. Detailed studies of slate west of Lehigh River.

Arthur M. Piper. Underground water resources of northwestern Pennsylvania.

On May 7 the state printery was nearly destroyed by fire. The survey's remaining stock of bulletins was on the third floor of this building and practically all destroyed. It is hoped that the more recent of these bulletins may later be reprinted from insurance funds.

FIELD EXPEDITIONS OF THE UNIVERSITY OF CHICAGO

FIELD expeditions from the University of Chicago have started on divergent trails to study scientific records of America in anthropology, geology, archeology and paleontology.

Professor Fay-Cooper Cole, of the department of anthropology, will continue the extensive study of the Illinois mounds which he began last year. Illinois, according to Professor Cole, is the key state in anthropology for prehistoric America. His work this summer will be part of a program that may take ten years to complete. Information will be gathered on the mounds of the state by advanced students under his direction, and some preliminary excavations will be made.

Paul Miller, curator of Walker Museum, will continue his research on dinosaurs and other extinct animals in an area of east-central Wyoming.

Professor Edwin Sapir, of the department of anthropology, and Fang-Kuei Li, Chinese student, will