

was withdrawn in order to enable the union to accept the American invitation for a meeting at Chicago at the Century of Progress Exhibition in 1933. Professor R. A. Millikan was elected president, but on account of economic conditions the meeting was cancelled and the Royal Society renewed its invitation to meet in London. The invitation was accepted and the meeting will be held from October 1 to 6. The work of the union will include consideration of the report of the Commission on Symbols, Units and Nomenclature appointed at its last meeting. The commission, under the chairmanship of Sir Richard Glazebrook, has dealt with electrical, calorimetric and thermometric units and work has also been done in connection with radiometric and acoustical units. Dr. Hales's Committee on Instruments and Instrumental Methods will, it is anticipated, desire to consult the union on a number of questions. Apart from this formal business, it was felt that the occasion should also be utilized for international discussion on a subject or subjects now attracting general interest; certain aspects of the solid state of matter were suggested as suitable.

The Physical Society had already decided to hold a Conference on Nuclear Physics and it was agreed to combine the two proposals. Thus the meeting will take the form of an International Conference, on the joint invitation of the International Union and the Physical Society, under the presidencies of Professor Millikan and Lord Rayleigh; the details are being arranged by a committee representing the two bodies. The discussion on nuclear physics will be opened by Lord Rutherford with a general survey of the subject. Subsequent papers will deal with cosmic radiation,  $\beta$ -ray transformation of radioactive elements, artificial transmutations by  $\alpha$ -rays, neutrons, protons and deuterons and new types of radioactivity, and the constitution of atomic nuclei. Sir William Bragg will deliver an opening survey in the discussion on the theory of the solid state of matter. Papers on interatomic forces will be divided into three groups dealing with electrovalent linkings, covalent linkings and van der Waals attractions; as special consideration will be given to the action of these forces in metals at the Aberdeen meeting of the British Association, this particular section of the subjects will not be so fully considered at this discussion. Another group of papers will deal with the possible existence of a secondary structure in crystals, coarser than the fine structure detected by x-rays, and its relation to physical properties. The names of delegates of national unions adhering to the International Union of Physics should be sent to the secretaries of the conference not later than August 1. Invitations are being sent to a number of physicists known to be interested in these sub-

jects; others desiring to attend should send in their names not later than September 1. All communications should be addressed to the Secretaries, International Conference on Physics, Royal Society, Burlington House, London, W.1.

#### SOIL SURVEYS OF THE DEPARTMENT OF AGRICULTURE

ANSWERING a call for help from Puerto Rico, the U. S. Department of Agriculture has assigned eight experienced investigators from the Bureau of Chemistry and Soils and a district inspector of the Soil Survey to begin work in July mapping and classifying more than a million acres of the soils of the mountainous interior of the island. According to Dr. Henry G. Knight, chief of the bureau, the work will take ten months.

To support Puerto Rico's dense population of 450 persons to the square mile it is necessary to raise crops of high acre value and to make the best use of all lands available for crop production. The Soil Survey has already surveyed and mapped all the soils of the coastal plain parts of the island. The study of the rest of the soils is expected to mark out on the higher lands other areas that can be profitably utilized.

Soil Survey aid in meeting the problems of soil classification, for land appraisal, for locating subsistence homestead tracts, for crop acreage reduction, and for Federal and State planning, in connection with the present recovery program, emphasize the practical value of the information collected and methods that have been developed in thirty years of research carried on while completing the mapping and description of half of the agricultural area of the United States.

Dr. Knight states that the recent completion of a soil survey of McKenzie County, N. Dak., which is to serve by its exhaustive soil classification as the basis for a program of accurate land taxation inaugurated by county and state officials, has resulted in requests from the county boards of Billings and Morton Counties of that state for similar surveys with which to attack their problems of farm taxation.

The Soil Survey has been found of increasing value in solving practical problems of zoning lands into separate areas for farming, forestry and recreational uses in Wisconsin, and its maps and classification of soils in New York State have become the basis for somewhat similar activities there. Another important activity of the recovery program, for which the federal soil surveyors have recently been drafted, is the selection of productive lands for subsistence homesteads. They have already assisted in choosing thousands of acres of fertile land in several states where the new home-makers can begin farming operations with the assurance that the land will do its part.