

exhibit has increased in number and variety. The instruments exhibits will show marked strides in accuracy, application, simplicity and usefulness. In addition, there are sections devoted to laboratory supplies and equipment; to containers, packaging, labeling and shipping; to plastic compositions; to transportation, and to material handling.

Statistics of the sections specializing in laboratory equipment and supplies will give an impression of the scope of the present exposition, the number indicating the units in this section: laboratory furniture, 7; general laboratory apparatus and supplies, 7; special equipment, 13; balances, 3; research chemicals, 9; platinum ware, 3; glass, porcelain and silica ware, 9; filter-paper, 3; optical instruments, 3; electrical apparatus, 3; thermal precision instruments, 6; engineering equipment, 13, and publishers, 9.

The United States Government has prepared exhibits showing the work of three of its principal departments. The War Department will be represented by an exhibit from Chemical Warfare Service. The Department of Commerce will be represented by the Bureaus of the Census, Mines, Standards and Foreign and Domestic Commerce and the Committee on Wood Utilization; the Department of Agriculture by the Bureaus of Chemistry and Soils, including the Fixed Nitrogen Research Laboratory, Animal Industry, Forest Service and others. The National Safety Council will present, in complete form, the recently concluded exhaustive study on hazards caused by benzene when used in products designed for manufacturing and domestic use. There will be other educational exhibits and booths arranged by scientific societies, prominent among which will be that of the American Chemical Society.

The educational features of the exposition include an excellent program of motion pictures, the students' courses and meetings of certain scientific societies. The students' courses—a unique feature of this exposition—have become established and will be attended by representatives of many educational institutions of this and other countries.

The Fifth Chemical Industries Banquet will be held during the exposition on Wednesday evening, September 28, under the auspices of the Salesmen's Association of the American Chemical Industry, sponsored by the American Ceramic Society, New Jersey and New York Sections of the American Chemical Society, New York Section of the American Electrochemical Society, Chemical Warfare Association, Chemists' Club, Pressed Gas Manufacturers' Association, Chlorine Institute, American Institute of Chemical Engineers, American Leather Chemists' Association, Manufacturing Chemists Association, Société de Chimie Industrielle, Society of Chemical Industry, American

Society for Testing Materials, American Association of Textile Chemists and Colorists, Synthetic Organic Chemical Manufacturers' Association and the Technical Association of the Pulp and Paper Industry, at the Hotel Roosevelt.

#### THE KANSAS GEOLOGICAL FIELD CONFERENCE

THE annual field conference of the Kansas Geological Society was held in northeastern Missouri, eastern Iowa and adjacent parts of Illinois and Wisconsin, from September 5 to September 10. About forty geologists participated. The object of the conference was to study the outcrops on the surface of the lower Paleozoic rocks, especially the Ordovician and the Mississippian, in the regions visited.

The party assembled at Columbia, Missouri, and on the morning of the fifth, started out under the direction of Professor E. B. Branson, of the department of geology of the University of Missouri. For three days studies were made along the bluffs of the Missouri and Mississippi Rivers and their tributaries, in northeastern Missouri, night stops being made at St. Louis and Hannibal.

At Burlington, Iowa, the party was joined by Dr. George F. Kay, state geologist of Iowa, with his assistants, and for three days Dr. Kay, Dr. O. A. Thomas and G. Marshall Kay conducted the party through eastern Iowa and adjacent parts of Illinois and Wisconsin.

The chief object of the trip was to correlate the various exposures which occur in northeastern Missouri and eastern Iowa with various formations encountered by deep drilling in central Kansas and northern Oklahoma. The oil-bearing sand, which in these latter states is known as the Wilcox sand, and which is the chief producer in a number of Oklahoma and Kansas oil wells, is believed to be the approximate equivalent of the St. Peter sandstone, of the states visited. The Decorah shales which contain certain typical fossils and are easily recognized in many of the deep wells in Kansas, was first named more than fifty years ago at Decorah in northeastern Iowa.

One of the principal points brought out on this conference is the intimate relation between pure science and practical affairs. Twenty years ago, or even five years ago, geologists would not have thought of traveling hundreds of miles to study outcrops of fossil-bearing rocks, in order to understand and interpret well logs in distant states.

The personnel of the party consisted of State Geologists Kay, of Iowa, Condra, of Nebraska, Moore, of Kansas, and Gould, of Oklahoma; also Professors

Dunbar, of Yale, R. T. Chamberlin, of Chicago, Branson and Mehl, of Missouri, and Bridge, of the Missouri School of Mines. In addition there were more than twenty petroleum geologists from Kansas and Oklahoma. To L. W. Kesler, of Wichita, president of the Kansas Geological Society, is due much of the credit for the success of the conference.

#### THE COMMITTEE ON SEISMOLOGY OF THE BRITISH ASSOCIATION

FOR thirty-one years a committee appointed by the British Association has published an annual report on seismological investigation. Under the chairmanship of Professor H. H. Turner, it works in close association with an international body which with financial help from the Royal Society is trying to bring up to date summaries of the observed details of earthquakes all over the world. Summaries up to the end of 1923 have been issued, and those for the greater part of 1924 are well in hand. From these exact knowledge of the transmission of earthquake shocks is gradually being obtained, and the existence of anomalous cases is being verified.

When it happens that there are a number of good recording stations reasonably near the center of an earthquake, special information can be derived from their records as to the nature of the upper layers of the earth's crust. The Jersey and Hereford earthquakes of 1926 yielded specially useful results in that respect. British earthquakes have been rare, but in August, 1926, there was one at Hereford and Ludlow, on January 24, 1927, one in Scotland and on February 17 last one in Jersey. Yorkshire appears to have had an earthquake at Tadcaster on a recent evening, but seismological apparatus is not of a kind that can be carried about, and the members of the committee in their report to the section were reticent as to this manifestation.

The committee reported that the Palestine earthquake of July 11, although serious and causing much local injury and many deaths, was not of unusual violence. The intensity of its indications on the Oxford seismograms was much less than in the case of the earthquake in China on May 22, although the latter was at a much greater distance.

The University of Oxford has sanctioned the extension of the university observatory to provide a home for two Milne-Shaw pendulums, and a bequest of £1,000 from the late Professor John Milne, one of the chief founders of seismology, has been put in a trust fund, the income to be at the disposal of the chairman for the time being of the seismological committee of the British Association.

#### THE NATIONAL ARBORETUM

PLANS for the establishment of the National Arboretum, authorized by the last congress, have been discussed, according to *The Museum News*, at informal meetings of the newly appointed advisory council. With the probability that an appropriation for the purchase of land will be passed at the next session, along with the deficiency bill, of which it forms a part, various phases of the project are now receiving consideration.

The Department of Agriculture has estimated that about a year will be necessary, in which to acquire land, before the actual laying out of the grounds can begin. In the plans already discussed, emphasis has been laid upon the research features, which are to be somewhat subordinated to recreational aspects.

The site, which has been tentatively selected, lies upon the Anacostia River, within four miles of the center of Washington. Part of the land is now under government ownership, and is being reclaimed from its original swamp condition. The location of the arboretum at this point means that eventually it will lie along or near the proposed new parkway entrance to the city. A new boulevard, which will connect Washington with the northern and eastern cities will, at some future time, be opened up along the Anacostia valley, in which the arboretum site is also located.

It is pointed out by officials of the Department of Agriculture that the selection of Washington for the site of an arboretum will secure an average climatic condition about midway between that of the extreme northern states and those along the southern border. They also predict that there will be very close cooperation between the various institutional herbaria, city and state botanical gardens and the various propagating stations operated by the federal government in California, Florida, Georgia, Maryland and other states. The work of introducing foreign plants will be greatly facilitated thereby and the agricultural explorations of the government will also assist in the building up of the herbarium.

#### BIOLOGY AT THE CALIFORNIA INSTITUTE OF TECHNOLOGY

THE trustees of the California Institute of Technology have voted to establish a department of biology and to erect at once biological laboratories; so that the institute may, in the autumn of 1928, initiate major lines of research and offer courses of study, both graduate and undergraduate, in that science. Professor Thomas H. Morgan, now professor of experimental zoology at Columbia University, has accepted the position of chairman of the new divi-