

will be devoted to the uses of other natural fuels, namely, anthracite and anthracitic coals, and oil. Another section will exhibit material relating to the generation, distribution, and uses of electricity. The pre-treatment of coal will be demonstrated by exhibits on high-temperature carbonization (gasworks practice) for the preparation of town's gas and gas coke, and on low-temperature carbonization, in which the product of principal interest is the semi-coke. For the scientific investigation of the smoke problem, methods for the measurement of smoke are required, and an exhibit of the Fuel Research Station will be concerned with current researches on this subject, which are being carried out with the view of developing a domestic fire that will burn coal smokelessly. The Department of Scientific and Industrial Research will show exhibits on the nature and causes of smoke, and on the investigation of atmospheric pollution. A section of the exhibition will be devoted to material demonstrating the effects of smoke. The Annual Conference of the National Smoke Abatement Society will be held at the Museum on October 14-17, and will be opened by Captain Harry Crookshank, M.P., Secretary for Mines. Particulars of this Conference may be obtained from the Secretary of the Society, at 36 King Street, Manchester 2.

The World Power Conference

THE third World Power Conference, which was opened at Washington on September 7, was one of the largest technical conferences ever held. The British party, which travelled by the *Queen Mary*, numbered about a hundred. According to the *Electrical Times* of September 10, the records of the papers and discussions will run to more than three million words. As there was no hall in Washington large enough for a banquet of 3,000 delegates, the official banquets were held in the waiting hall of the railway station, suitably transformed for the purpose. Each country submitted papers to the Conference setting forth its own particular power problems and questions connected with them. Economic, technical and allied subjects were all discussed. The papers from each country having to be read before a mixed international audience, largely American, were naturally mainly reports of the country from which they originated. The British papers therefore were mainly of interest to all dwelling outside Britain. An exception may perhaps be made for the paper read by S. E. Britton, the city electrical engineer of Chester. His paper was entitled "Rural Electrification in Great Britain". When the use of electricity produces a revenue equal to twenty per cent of the outlay on the electrical distribution system, the inhabitants in rural areas can get a supply of electricity for all purposes at economic rates and use it for the same purposes as those residing in urban areas. Information is given of the annual expenditure on heat, light and power by those living in rural areas who use electricity and those who do not. The paper is clearly written and is very complete. It is particularly applicable to the conditions prevailing in the neighbourhood of Chester.

German Chemical Engineering

ALTHOUGH a certain amount of publicity was obtained in the scientific journals, trade papers and the daily Press for the German Chemical Engineering Exhibition held at Cologne in 1934, the organizers felt that these reports were necessarily incomplete, and so they have published the *Achema Jahrbuch*, 1935-36 (Berlin: Verlag Chemie, G.m.b.H.), to give some indication of the recent progress in chemical engineering illustrated by that exhibition, which was visited by 48,600 representatives of industrial firms and professional men from forty-six countries. Opportunity is also taken of directing attention to *Achema VIII*, which will be held on July 2-11, 1937, at Frankfurt-on-Main, where accommodation amounting to 240,000 square feet of floor space will be available for exhibitors. In this exhibition, one building will be reserved for firms wishing to show scientific instruments and equipment such as are used industrially for making technical measurements or controlling and regulating the flow of fluids, heat and electricity. Another building will house industrial apparatus made of non-metallic materials, whilst the third and fourth buildings are reserved for machines used in the artificial silk and associated industries, and large-size equipment for the chemical and allied industries respectively. It is intended to publish at the beginning of 1937 a catalogue giving detailed information of the exhibition. The "Jahrbuch" also gives a list of the exhibitors at the 1934 exhibition in English, French and German as well as notes in two of these languages on some of the more important sections and the equipment which was shown.

Magnetic Observations in New Zealand and elsewhere

OWING to the world economic crisis and other causes, many magnetic and meteorological observatories, including those of some great nations, have fallen seriously into arrears with their publications. The ideal, approached, if not always attained, by the chief British observatories, is to publish the observations of one calendar year before the end of the next. Now that the great and successful co-operative effort of the Second International Polar Year has been accomplished—so far as the observations go, though the publication and, still more, the discussion of the results is still very incomplete—a desirable goal for new effort on the part of geophysical observatories would be to overtake their arrears of publication within an assigned time, say by the end of 1940. A step in this direction has been taken by New Zealand in publishing three years records of the Christchurch Magnetic Observatory in one volume (*Annual Reports for 1931, 1932, 1933*. Wellington: Government Printing Office, 1936. Pp. 132. 10s. 6d.). The volume naturally consists almost entirely of tabular matter, and for economy is reproduced directly from type-script, in a reasonably satisfactory manner. The magnetic data refer (as for 1930) to the Amberley sub-station, about twenty-five miles from Christchurch. Monthly mean daily variations are given for all days (with Fourier analysis) and international quiet days, but (regrettably) not for international