Mr. E. R. Gee of the Geological Survey of India gave a highly interesting account of his travels in Afghanistan, illustrating his talk with the projection of a number of photographs taken by him of the country and of the people. Mr. Ramiah delivered a popular lecture on the subject of plant breeding. He emphasized the need for systematic researches on the genetics of plants indigenous to India. He suggested that the systematic use of hybrid seed which is now universal in U.S.A. for maize could prove most useful in those parts of India where the production of this crop is important.

Excursions were also arranged to visit some of the beauty spots in the city and places of interest in the neighbourhood.

SYMPOSIUM ON MINERAL RESEARCH IN INDIA

UNDER the auspices of the National Institute of Sciences of India, a Symposium on Mineral Research for Developing Mineral Industries in India was held at the Delhi University recently.

The Hon'ble Sir Ardeshir Dalal, Member for Planning and Development, Government of India, in inaugurating the Symposium, expressed the hope that the papers and discussions and the deliberations of scientists gathered at this meeting, would help the Planning Department in their post-war plans for exploring the mineral resources of India.

In his opening address, Mr. D. N. Wadia, President of the Institute, and Mineral Adviser, Planning and Development Department, Government of India, spoke on India's existing mineral resources, its chief assets and deficiencies, the neglect mineral industries have hitherto received in India, due to its economics being based on export of raw minerals rather than domestic utilisation and outlined a long-range national plan for minerals.

Twenty-five papers were presented for reading at the Symposium which lasted two days. A large number of Fellows and many distinguished scientists attended the meeting and took part in the discussions.

Messrs. A. O. Rankin, F.R.S., and P. Evans, in a paper on "Geo-physical prospecting for oil in India", referred in some detail to the history of gsophysical prospecting for petroleum in India with mention of scope and cost of the prospecting programmes outlined by the B.O.C. for future. In discussing the results, stress was laid on the necessity for a unified propecting programme in which geo-physical mapping, electrical and magnetic surveys of alluvial areas and the drilling and test-wells are all closely co-ordinated. Messrs. P. Evans and W. J. Wilson read a paper on "The refining of petroleum in India and Burma". Mr. E. S. Pinfold, of the Attock Oil Company presented a paper on the "Scientific problems in the development of the oil-fields in Northwest India" and possibilities of oil exploration in that area.

Dr. J. de Graaff Hunter, F.R.S., and Brigadier E A. Glennie referred to the "Geo-physical applications of Geodesy".

Professor M. N. Saha, F.R.S., referred to his investigation on the "Measurement of geological time in India" by radio-active methods.

Mr. E. R. Gee dealt with the economic minerals of Northwest India, and Mr. B. Rama Rao dealt with the scope for expansion of non-metallic industries in South India.

Professor S. K. Roy gave the results of the survey of the Jawar lead-zinc deposits of the Mewar State.

Dr. J. A. Dunn presented two papers on the position of the Geological Survey of India and the development and future position of ores and minerals in India.

Dr. F. G. Percival gave a revised estimate of the reserves of iron-ore in the Singhbhum-Orissa field, as being much in excess of 8,000 million tons.

Dr. K. R. Krishnaswami spoke on mineral research at the Indian Institute of Science. Dr. Gilbert J. Fowler, in an interesting paper, described the production of Nitre from ammoniacal waste.

Dr. C. S. Pichamuthu of Bangalore emphasised the role of universities in mineral research. Prof. A. K. Ghosh, of the Calcutta University, referred to the possibilities of exploring diatomaceous earth in India. Dr. D. P. Antia gave an interesting paper on "Powder Metallurgy" and Dr. D. R. Malhotra on "Metallurgical research in India". Dr. A. Lahiri, of the Fuel Research Institute, gave a paper on "The trends of modern research on Coal".

Evening popular lectures were delivered on the occasion by Professor M. N. Saha, F.R.S., on his experiences of Soviet Russia, and by Professor H. J. Bhabha, F.R.S., on the role of mathematics in the evolution of science.

METALS IN AIRCRAFT*

THE metallic materials commonly used in the construction of aircraft were reviewed and attention drawn to the great diversity of the metals to be found in them. Steels of various compositions were dealt with and an explanation given of the advantages to be obtained by using alloy steel of the air-hardening type. Brief references were made to the different kinds of stainless steel and also to the processes of "case hardening" and "nitriding". The opportunity was then taken to give a simplified account of the changes which occur during the heat-treatment of steel. Mention was made of numerous alloys based on aluminium and magnesium and it was explained that the mechanism of hardening in these alloys was somewhat similar to that which took place in steels. Finally, a table was given showing the densities and maximum tensile strengths of cast iron, mild steel, an alloy steel, an aluminium and a magnesium alloy—all except the first being heat-treated so as to give good mechanical properties.

FRANK ADCOCK.

* Abstract of the Inaugural Address to the Society of Aeronautical Engineers, delivered by Prof. Adcock.