

### Commemoration of Prof. Haber's Death

WHEN Prof. Fritz Haber died in Switzerland a year ago, we were glad to publish in the columns of *NATURE* an eloquent tribute to his greatness, written by one of his old pupils. By the irony of political circumstances in Germany, the loss of this chemical genius was limited in the journals of that country to a bare announcement, and no obituary notice at all adequate to the influence of his life and work appears to have been published at the time. It is not surprising, therefore, that Haber's scientific friends desired to honour his memory on the anniversary of his death, and that a number of them assembled for this purpose in the Harnackhaus of the Kaiser Wilhelm Gesellschaft on January 29, in spite of the official disapproval of the celebration to which we referred last week (p. 176). The Berlin correspondent of *The Times* reported that the speakers at the meeting laid emphasis on Haber's devotion to his country and his scientific services. Prof. Max Planck, who presided, recalled that Haber's synthetic nitrate process had saved Germany from military and economic collapse in the first months of the War. "We repay loyalty with loyalty," he said, and he laid particular emphasis on the last three words in his closing tribute to "this great scholar, upright man, and fighter for Germany." Prof. Otto Hahn, director of the Kaiser Wilhelm Institute for Chemistry, and other speakers also bore testimony to the debt owed by Germany to Haber for his outstanding contributions to pure and applied chemistry, and in doing so they expressed the feelings of their colleagues throughout the world. It will be remembered that Haber resigned his post at Dahlem in the spring of 1933 and afterwards accepted an invitation of laboratory hospitality at Cambridge, where he went in October of that year. He intended to reside there permanently but died at Basle, where he had gone for a short holiday, on January 29, 1934.

### British Industries Fair

THE British Industries Fair, 1935, organised by the Department of Overseas Trade, is being held at Olympia and the White City, London, on February 18-March 1. This year the Engineering and Hardware Section is to be held at Castle Bromwich, Birmingham, not simultaneously with the London sections, as previously, but later, on May 20-May 31. The textile and furnishing exhibits will be shown at the White City and the general articles, other than engineering and hardware products, will be exhibited at Olympia. There are 1,550 exhibitors at Olympia and the White City, of which more than 750 are from London. There are again notable increases in the space taken and the number of exhibitors, compared with last year's figures. An indication of the remarkable growth of the Fair is given by the fact that the advance catalogue, which is issued in nine languages, runs to 684 pages, or about 152,000 words. The exhibits of products of scientific interest at the Fair again cover a wide range and reveal markedly the increasing use of scientific products, both materials and instruments, in the field of industry. The Committee responsible

for the organisation of the united exhibit of scientific instruments is to be congratulated on the important display at Olympia of scientific, optical and photographic instruments. Microscope object-glasses of great refinement of construction; microscope projection apparatus; sound projection apparatus for cinemas, with suit-case sound sets for commercial and educational purposes; various forms of planimeters; pocket cameras and aircraft cameras; distant-reading thermometers; geophysical apparatus for prospecting for gold, minerals and oil—these are but a few examples, selected almost at random, of the products that are being shown in this united exhibit. It is worth notice that, until two years ago, practically all the various forms of planimeters used in Great Britain came from abroad; and similarly, the particular geophysical apparatus referred to above was practically a German monopoly. It is good to note the enterprise of British scientific instrument manufacturers in these new fields.

### Whales and Whaling

THE International Convention for the Regulation of Whaling, which came into force last month, is a first and important step towards the permanent preservation of whales and whaling. Since whales are killed almost entirely outside territorial waters, any effective measures having these ends in view must be taken by all great whaling countries in common; and one of the most important aspects of this Convention is that it inaugurates international treatment of the whaling industry. The Convention is concerned with the whalebone whales, on which all but a small part of modern whaling is based. It prohibits the capture of right whales, which have been reduced in numbers almost to disappearance, and requires a far more thorough utilisation of the carcasses of other whalebone whales than was customary. A quite common practice was to produce oil from the blubber (from which oil is most easily obtained) alone. The Convention requires the utilisation of specified parts of the carcass, in which it follows the whaling regulations of the Falkland Islands Dependencies, and recent Norwegian law. This is economically sound, since it enables a given quantity of oil to be obtained from fewer whales. There is reason for supposing that the whales so saved may in a single season reach some thousands. Lastly, the Convention provides for the collection and collation of the statistics of both capture and manufacture, which should prove of the greatest value in the development of a full and satisfactory regulation of whaling. It makes no provision for the limitation of whaling, and as this will probably prove essential if the industry is to be maintained, it is a step only towards the solution of the main whaling problem; yet it is a valuable advance, in which it is greatly to be hoped the few whaling States not at present signatories will soon see their way to participate.

### The Hoover (Boulder) Dam

THE completion, just announced, of the great concrete structure originally known as the Boulder

Dam, but afterwards officially designated the Hoover Dam, across the Colorado River in Black Canyon, which forms the boundary between the States of Arizona and Nevada, at a point about twenty-five miles south-east of Las Vegas, Nevada, marks the attainment of an advanced stage in the execution of the notable Boulder Canyon Project, the Act for which was approved by the United States President in December 1928. The project in its entirety comprises not only the construction of a dam and the formation of an artificial lake, respectively the highest and the most capacious of their kind in the world, but also other incidental works involving an expenditure estimated at the time at 165 million dollars. The probable outlay is now given as 385 million dollars. The dam has a maximum height of about 730 ft., an extreme length of 1,180 ft., a crest width of 45 ft. and a bottom thickness of 650 ft. It contains about  $4\frac{1}{2}$  million cubic yards of concrete, and will be the retaining wall of a reservoir having a length of 115 miles and a total cubic capacity of 30,500,000 acre-feet. It is designed to impound the flood water of the Colorado River for use in irrigation, and will serve to regulate the flow of that stream so as to improve its navigability, and protect the adjacent valleys from overflow, water shortage and silt accumulation. Irrigation and protection from inundation of valuable farm lands in Southern California are the primary and essential objects of the undertaking, but hydraulic turbines of exceptional calibre are also being installed to enable electric power to be generated, the revenues from which will fully recoup the outlay on the entire scheme, which, including a main irrigation canal, 80 miles in length, with an extension 130 miles long to adjacent valleys, is among the most remarkable instances of engineering enterprise in modern times.

#### Anti-Noise Exhibition

THE Prime Minister will open on May 31 at the Science Museum, South Kensington, an Anti-Noise Exhibition which is being arranged through the Anti-Noise League. The Exhibition will remain open throughout the month of June and probably conclude with a congress during the last week. The chairman of the League, Lord Horder, broadcast on the subject of the Exhibition on January 20. It is proposed that the Exhibition shall present a comprehensive survey of the whole problem of noise in its many aspects. The practical co-operation of a number of institutions and public bodies has already been obtained, including the Ministry of Transport, the Air Ministry, the National Physical Laboratory, the Post Office Research Laboratories, the British Broadcasting Corporation, the Industrial Health Research Board, and a number of industrial research laboratories. Dr. G. W. C. Kaye, of the National Physical Laboratory, is chairman of the Research and Development Section of the Exhibition, Prof. Cave-Browne-Cave, of the Transport and Machinery Section, Mr. Hope Bagenal, of the Building Section, and Sir Henry Richards, of the Organising Committee. The Science Museum has placed generous accommodation,

including a cinema theatre, at the disposal of the Exhibition and it is hoped to display many interesting exhibits of noise abatement appliances. A small silent house is to be erected which will incorporate the latest architectural and building designs and materials for sound proofing and sound absorption. There will be a number of demonstrations, including silenced pneumatic drills, motor-cycles, typewriters, vacuum cleaners, electric motors, circular saws and so on. The latest devices for the measurement, analysis and filtering of noise will be shown, the psychological aspects of noise will receive attention, and experiments on the value of ear defenders, the masking of noises, the effect of noise on loudness of speaking and the use of noise-level alarms will claim the interest of most people. The effect of noise on output in industry will be illustrated by the results of recent investigations.

#### The Microscope and the Metal Industries

Dr. C. H. DESCH delivered a Research and Development Lecture under the auspices of the Royal Institution and the British Science Guild on February 6, taking as his subject "The Microscope and the Metal Industry". Although a careful drawing of a metallic object (the edge of a razor) was published by Robert Hooke in 1665, it was two hundred years before any further use was made of the microscope in the study of metals. H. C. Sorby, a Sheffield amateur, began in 1854 to apply the microscope to polished and etched surfaces of steel and succeeded in identifying correctly a number of separate constituents in the varieties of steel and cast iron available to him. It was twenty years before these results attracted any attention, but from that time onwards, the microscope has become an indispensable tool in the metallurgical industry. Specimens of metals are ground and polished, care being taken to avoid distortion, and are then etched by means of a suitable reagent which will distinguish between the various constituents. All metals and alloys are built up of crystals, and the relative sizes of the component crystals frequently determine the properties of the mass. With this object in view, systematic measurements of crystal size are made as metals are passing through the processes of manufacture. The reading of a micro-section may be compared with the reading of a map, which conveys the more information the greater the experience of the person using it. A further important application of the microscope is in the study of failures. The fracture of crankshafts and other moving parts by fatigue, the cracking of boiler plates and superheater tubes, the breakage of wire ropes, and the cracking of severely cold-worked sheets, are typical examples of occurrences on which the microscope is capable of throwing light by indicating the nature of the processes concerned in the failure, and thereby giving a clue as to their origin. The microscope has now become an essential part of the equipment of every works dealing with the production of metal, and also with the transformation of metals into useful products on a large scale.