New Laboratories of the Mond Nickel Co., Ltd.

AT a reception which preceded the inspection on October 21 of the new Research and Development Department Laboratory erected by the Mond Nickel Co., Ltd., in Wiggin Street, Birmingham, Lord Weir referred to the great extension that has taken place in the use of nickel and its alloys during the last decade. Before 1914, most of the nickel produced in the world was utilized for armament purposes. As a result of the research and development work that has been carried out since that time, both by the International Nickel Co. and its associates, and by nickel users throughout the world, the metal now enters into a wide variety of alloys and is employed to an increasing extent in nearly every industry. In 1922, the world consumption of the metal was only eight thousand six hundred tons, but this rose to seventy-five thousand tons last year, most of it for uses unconnected with war.

The new laboratories, which are magnificently housed, are fit to take their place among the more important organizations of their kind in the world. The structure is of reinforced concrete, and consists of a basement and three floors on a site 186 ft. × 43 ft. The building is faced with red brick, and a feature of the front elevation is a curved window extending the full height of the building and lighting the main staircase in the centre of the block. It is a pleasing example of modern architecture.

The opportunity has been taken to display the decorative qualities of some of the Company's products, and nickel alloy metal work is extensively used; the nickel-silver balustrade to the main staircase is particularly effective.

A notable feature of the laboratory is that it is heated and ventilated by the introduction of fresh warm clean and filtered air from a modern air-conditioning plant. This not only avoids the inconvenience of radiators in the laboratory, but also keeps the building free from dust. The automatic control of temperature and humidity thus obtained, as well as the freedom from dust, has definite scientific advantages, particularly in the corrosion laboratory, for the building is situated in the heart of industrial Birmingham where the atmosphere is at times very impure.

Service supplies of gas, water, electricity, etc., are led from the basement through enclosed longitudinal ducts and are distributed to the laboratories through channels in the walls and floors which are enclosed by flush-fitting panels. The benches are mainly tile-covered, and drainage channels are enclosed and hidden under the floor. The walls are finished in cream coloured enamel and, being provided with big windows, make the rooms very light. The absence of pipes and fittings on the walls gives a general air of tidiness, which is further enhanced by the use of nickel alloy sink and other fittings. The general effect is rather that of a modern luxury bathroom than of a typical scientific laboratory.

A portion of the building is devoted to a large semi-technical laboratory, in which new processes can be studied on a larger scale, preliminary to their transfer to the works.

The general equipment of the laboratories is excellent, and the apparatus available for physical metallurgy is particularly to be commended. The wide variety of alloys of which nickel forms a component renders necessary a particularly wide range of testing appliances, and, except for an X-ray spectrometer, nothing of importance appears to have been omitted.

The laboratory is clearly designed principally for development work rather than pure scientific research; that is, it is intended to supply information, mainly obtained by known testing methods, to users of nickel alloys. For this purpose it is excellent, and it is doubtful if any better laboratory of the kind exists in Great Britain. There is, however, a certain rigidity about the lay-out of the building itself and of the apparatus which is perhaps not quite so desirable in a laboratory devoted to scientific research; but it is, perhaps, ungracious to criticize where there is so much to praise.

Development of the Scottish Highlands

THE drastic depopulation of the Highlands, its causes and the possibilities of development form the subject of a broadsheet on the "State of the Highlands" which has recently been published by Political and Economic Planning. In 1931 the population of the Highland counties, which represent nearly 19 per cent of the area of Great Britain, was 356,615, or less than 1 per cent of Great Britain's population and 100,000 below the 1861 figure; nearly 40,000 of the shrinkage has occurred since 1921.

This depopulation is due partly to the poverty of the region in natural resources but also to political, social and economic handicaps. The Highlanders are extraordinarily poor. Crofting was formerly an adjunct to fishing, which has now in almost every area been killed by the trawlers, with consequent impoverishment not merely through loss of income but also through a change-over to a less satisfactory diet in which tinned and packaged foods figure prominently at higher cost. Deer-stalking has lately suffered a heavy eclipse, and grouse-shooting and fishing, while bringing in a certain amount of income, do little to benefit the mass of the population. Except for hydro-electric power development in connexion with the aluminium industry in the Kinlochleven and Fort William area, the natural resources of the area have not proved suitable for exploitation.