Museums of British Territory in Africa and the Mediterranean

HARD on the heels of the report on Canadian museums by Sir Henry Miers and Mr. S. F. Markham, which was reviewed in NATURE of January 21, p. 84, comes the same authors' "Report on the Museums and Art Galleries of British Africa" together with a "Report on the Museums of Malta, Cyprus and Gibraltar by Alderman Chas. Squire and D. W. Herdman". The report is accompanied by a "Directory" (price 5*s*.) of all these museums, and of those of Mauritius, constituting the third volume of the "Directory of Museums" being published by the Museums Association. To visit the forty museums of Africa was a strenuous enterprise even with all the resources of modern transport. Those museums cover a wide range in quality and administration as well as in distribution, from the fine South African Museum in Cape Town to the poor apology for a scientific museum, which, as the authors say more than once, is unworthy of that rich city Johannesburg. Poverty coupled with handsome buildings are the characteristics of the South African museums—a combination not unknown in other lands. Their chief needs are said to be "greater financial security, some forms of active co-operation between all museums, and the development of educational work".

THE museums of the East African and West African territories are barely out of the shell, so that the reporters can do little more than tender good advice. The Coryndon Museum at Nairobi and the Zanzibar Museum are the only institutions worthy to be called public museums. Over areas to be measured in millions of miles, museums are needed to fulfil what is still the first purpose of a museum—the preservation of objects that would otherwise be lost, and nowhere is civilisation more destructive than in Africa. The Mediterranean museums present different problems, but here too it is this primary function that comes first in the report, as shown by its insistence on permanent curators, a higher standard of curatorship, protection against fire, and cases that will keep out dust and insects. The value of these reports to the museums concerned, and the usefulness of the directories to those elsewhere, can scarcely be exaggerated. That on Canada is already fruitful of results; though its criticism was severe, its expression was tactful and it has aroused no resentment but rather a determination to profit by it. Great credit and warm thanks are due to the Museums Association which does the work and to the Carnegie Corporation which provides the funds.

Measurement of Chimney Smoke

MAJOR C. E. PRINCE gave an interesting lecture to the Junior Institution of Engineers on February 24 on the practical applications of light-sensitive apparatus. The effects produced by a beam of light when projected on vapours, the particles of which, like drops of water, are possessed of reflective and refractive powers, have to be studied. The most useful effect for observation is the deflection or scattering of the beam. In the case of smoke, the interruption of the light by the particles of carbon gives the easiest and best method of measurement. Major Prince showed apparatus in which a beam projected through smoke and then on to a light-sensitive element gave a continuous quantitative record on a moving chart of the diminution of light due to the smoke. One difficulty was to interpret the readings in terms of a definite unit as the cut-off varies with the depth of the column penetrated by the light. The problem is of importance as it gives a method by using indicating or recording instruments for proving or refuting a contention that excessive smoke was being or had been allowed to issue from industrial chimneys. The present method of visual observation and comparison with a Ringelmann screen at the chimney top takes little or no account of the size of the chimney and consequently of the volume apart from the density of the issuing smoke. It neglects also the direction of the wind and its effect upon the apparent density of the smoke. It is necessary to define more accurately the density of smoke at a given distance. By using a selenium or a photoelectric cell, this is possible. It remains for those who have the managing of smoke-producing units and those who apply the regulations governing smoke nuisance to agree on a standard method.

National Institute of Agricultural Botany

ONE of the ways in which the Government in Great Britain is aiding agriculture is through grants made to the National Institute of Agricultural Botany. This Institute is doing very important work for the farming community by testing seeds and by encouraging the use of better varieties of plants. The thirteenth annual report, which has just been published, states that the record number of 30,689 samples of seeds was tested in the year ended July 31, 1932, at the Official Seed-testing Station. Trials with oats showed that one variety, Golden Rain II, gave the best results, although it is not widely grown; and that in Wales the variety popularly believed to be the best (Record) was significantly inferior to the three other varieties tested. The outstanding problem in the home beet-sugar industry is to improve the yields of beet and of sugar per acre; whereas the average for Europe is about 1½ tons of sugar per acre, in Great Britain it is only slightly more than 1 ton. The Institute has been attacking this important problem and has demonstrated how much these yields depend upon the variety grown. Trials extending over three years have shown differences of nearly 20 per cent between varieties in use by farmers, and Kleinwanzleben *E* has in general been found to be by far the best; at one centre it gave no less than 3 tons of sugar per acre. As a result of this work, it is now possible to recommend twelve different strains for use in the British Isles. Other activities of the Institute include the provision of pure stocks of cereal seed, the improvement of varieties of potato in respect of yield, and, especially, of immunity from disease, and the prevention of the use of more than one name for the same variety.