

REPORT OF THE GOVERNMENT CHEMIST.

IN his report¹ upon the work of the Government Laboratory for the year 1911-12, the Government Chemist gives a short historical introduction, showing the principal steps in the progress of the department.

The origin of the laboratory dates back to 1843. Its duties at first were mainly concerned with checking the adulteration of tobacco; but subsequently its scope was extended, and other branches of the executive besides the fiscal departments obtained permission of the Treasury to avail themselves of its services. Recently, in order to promote the centralisation of Government chemical work, and to place all the departments using the laboratory on the same footing, it was constituted a separate establishment, with the official title of "The Department of the Government Chemist." There are two branches of the laboratory, namely, the main building, at Clement's Inn Passage, and a smaller establishment at the Custom House.

In the present report the matter has been classified more conveniently than formerly, and in respect of the chief substances examined explanatory notes are given, showing for what purposes the analyses are undertaken. These modifications make the report so much the more easily understood by the non-technical reader.

Evidence of the necessity for the kind of analytical control which the laboratory exercises is to be found in plenty in the pages of the report. For example, in the matter of safeguarding the revenue it was found that the "declarations" of brewers, on which the assessment of beer-duty is based, were erroneous in 20 per cent. of the cases examined during the year. Also, out of 2608 samples of certain exported spirituous articles on which rebate was claimed, the proportion of alcohol was found to have been wrongly stated by the exporters in 315 instances, and the amount of sugar in 185.

In connection with the supervision of foodstuffs, more than a quarter of a million pounds' weight of tea was condemned as containing sand or being otherwise unfit for consumption. This quantity of tea, it is noted, though apparently large, is small compared with the total amount of tea imported, namely 347 millions of pounds. The rejected tea was allowed to be used free of duty as a source of the alkaloid caffeine. Of the samples of imported butter examined, 30 per cent. were found to contain boron preservative, and 13·7 per cent. to have been coloured artificially. Oysters suspected to have caused copper poisoning were proved, on analysis, to contain not only copper, but zinc. A few samples of malt and beer were found to contain an excessive quantity of arsenic, which was generally traced to the fuel used in drying the malt.

For many years past analytical work has been done in connection with supervision of dangerous trades by the Home Office. Numerous samples of air from collieries were examined last year for

the purposes of the Mines Regulation Bill; and from pottery works where cases of lead poisoning had occurred fifty-six specimens of the glazes in use were taken; these proved to contain lead ranging in amount from 9 to 51 per cent. With few exceptions the whole of the lead present was "soluble" lead—accentuating once more the danger which attends the use of this form of lead in pottery glaze.

The total number of analyses and examinations made during the year was 195,170, as compared with 186,044 for the preceding year.

ANNIVERSARY MEETING OF THE ROYAL SOCIETY.

THE anniversary meeting of the Royal Society was held, as usual, on St. Andrew's Day, November 30, when the report of the council was presented, the president's address was read, and the new council, the names of the members of which were given in NATURE of November 14 (p. 312) was elected.

From the report of the council, we learn that the Government of India has agreed to appoint an additional European assistant in the Indian Meteorological Department, and to maintain the scheme of observations of the upper air for a further period of ten years, unless in the meantime they prove void of result.

The council of the Royal Cornwall Polytechnic Society has informed the Gassiot Committee that it will be necessary, owing to insufficiency of funds, to discontinue Falmouth Observatory at the end of the year. Individual members of the committee have been giving their support to efforts that are being made to secure the necessary financial assistance for that observatory from Government.

The attention of the council has been directed to the urgent desirability of installing self-recording magnetic instruments at suitable stations in South Africa, as few standard records of terrestrial magnetism are available for the southern hemisphere; and also to the great need of providing stations to take part in the observations of tidal disturbance of the solid earth, which are now being inaugurated in Europe and America under the general direction of Dr. Hecker, of Strasburg. The council has transmitted to the Royal Society of South Africa, for its information and for transmission to the South African Government, the opinion of the Royal Society that provision for installing and attending to permanent magnetographs, giving continuous magnetic records at suitable observatories at different places in South Africa, and also arrangements for observations on tidal deformation of the solid earth, are urgently needed in the international interests of the sciences of terrestrial magnetism and geodesy.

Reference was made by the council last year to the provision of new buildings for the National Physical Laboratory. The estimated cost of these buildings, together with the Wernher Metallurgy

¹ Report of the Government Chemist upon the Work of the Government Laboratory.—Cd. 6363.