

(9.) Scientific and Industrial Research : Memorandum by Sir Ernest Rutherford, 12th November, 1925.

Dr. E. Marsden, chairman of your Committee on Scientific and Industrial Research, has placed before me the report of your committee, the report of the Canterbury Industrial Association, and reports from the head of the Dominion Laboratory, Secretary to the Department of Industries and Commerce, and Dr. A. Thomson's report on the research publications in the Dominion. I have also inspected the physical and chemical laboratories in each of the four University centres, and the engineering department of Canterbury College, from the point of view of their suitability for carrying out special industrial researches of a physical and chemical nature.

I agree in the main with the proposals put forward by your committee—viz., to make the Dominion Laboratory the nucleus of a Department to advise the Government and manufacturers on the various problems connected with industry and to form a centre for the special scientific investigation required.

The additional staff and equipment proposed—viz., one engineer-physicist, one physicist, and a first-class mechanic with a workshop—should suffice for a start, but it is clear that it will require supplementing as the manufactures develop and the usefulness of the institution becomes apparent.

In order to obtain good men, adequate salaries should be paid, and in no circumstances less than £600 per annum, increasing to a good maximum. The officers should be selected only after expert advice, and if necessary should be allowed to travel for a year to gain experience in the national laboratories of England and Europe. In this way they will become acquainted with the methods adopted in the large research institutions, which play such an important part in the development of industry in the older lands. For example, a visit of some duration to National Physical Laboratory, Teddington, would be advisable and of great value.

No doubt a considerable portion of the time of the new men appointed would be taken up in advising on technical problems, and there would not be much leisure for experimentation unless additional assistance were provided in some way. For this purpose I consider it very desirable that they should obtain the co-operation of such University instructors as may be in a position to help along special lines. For example, no doubt the Engineering School at Canterbury College would be able to give material help, for I understand it already is doing a considerable amount of testing of materials. In a similar way the various chemical and physical laboratories may be able to undertake special investigations. However, from what I have seen, it seems clear that the personnel of the University colleges is already largely occupied in routine duties, and that the professors and assistants would have little time to undertake such investigations themselves. They would, however, be able in many cases to supervise the work of a young investigator detailed to undertake an investigation along lines on which the professors are experts. I feel that much of the research work could be undertaken by young investigators in the laboratory under the supervision of the professors, provided the salaries of the investigators were paid by the Department and a reasonable sum allowed for expenses. (I understand that the National Research Scholarships are intended for some such purpose.) In this way the investigation could be carried out at a minimum cost, and with benefit both to University and State, by bringing scientific and State industrial interests more closely together.

The question as to whether any special research should be undertaken by any of the University colleges should be a matter entirely for its own discretion, since obviously the University retains full control of its laboratories and equipment. In addition, if a University department undertakes supervision of a considerable amount of work of this character, some arrangements should be made to give the professor concerned some assistance so that he may give more time to the work. It is essential for the success of such a scheme that the Department should co-operate with the Universities. There will undoubtedly be a tendency for the Department to undertake as much as possible of this work without using the University laboratories to a reasonable extent. In order to see that the work is properly allocated it is desirable to have a strong and independent Board to advise the Department and review each year's work. Such a Board might well have on it one member nominated by the University Senate (not necessarily confined to one of the members of the latter).

It will be important to have a good scientific library situated in or near the central laboratory. Possibly this may be developed in connection with an already existing library of this character. The ideal to aim at is a library such as that of the Patent Office, London.

With regard to the physical and electrical standards of the Dominion, these should be in the custody of the proposed laboratory, whose officers should be in charge and be the final authority on matters of accurate standardization.

(10.) Naval Mission to the Dominion of New Zealand : Report of Admiral of the Fleet Viscount Jellicoe of Scapa, G.C.B., O.M., G.C.V.O., August–October, 1919.

It is recommended that the Admiralty should be asked to keep the New Zealand Naval Board advised as to the progress made by the Scientific Research and Experiment Department. It is also recommended that an organization on similar lines should be provided in New Zealand when practicable.

A number of the best scientists should be selected to form the Department, under the presidency of the C.N.S., New Zealand Naval Board. A scientist of wide experience should be appointed as vice-president.