trained assistants required on the teaching staffs. I am therefore of the opinion that the Government should be urged to move as follows:—

(*a.*) Scientific professors engaged by the affiliated colleges of the New Zealand University should be expected to give advice to manufacturers and to spend their spare time in research bearing on the industries of our country. For such work they should be permitted to receive remuneration. The present salaries of professors, many of whom are engaged at £600 per annum, are but poor payments for highly trained experts.

(*b.*) Such professors should not be expected to devote their time to the instruction of students below university standard; this work could be done by assistants at £300 per annum. It is poor economy to set a professor at a salary of £600 per annum to teach work of high-school standard to a large proportion of his students, and yet that is precisely what is happening in our University colleges to-day.

(*c.*) The Government should increase the number and value of the scholarships or fellowships granted for post-graduate research. The present payment of £100 per annum to a man or woman who has probably spent a minimum of five years in a secondary school and four years in a University college, and who up to the age of twenty-three or twenty-four years has earned nothing towards the cost of his living and education, gives very little encouragement to take up post-graduate research. Should the holder of such a scholarship be required to travel to prosecute his researches he should be paid his travelling-expenses. There is no reason why a student should not be sent from Victoria College, Wellington, for example, to investigate diseases among the fruit-trees in Nelson, or in flax at Feilding, or from Otago University to investigate coal-deposits in Southland. The universities have professors capable of supervising such work, and the research students would be available if reasonable encouragement were given to them. I would go further and say that research students should receive a bonus for achieving useful results in their research. We may then expect, when the expert has gained the confidence of the manufacturer, that our industries will flourish and develop. But so long as our universities remain isolated from, and uninterested in, the problems of the industrial, aye, and of the social world too, so long will they fail to take their proper place as the guiding spirit of the nation.

To Mr. Forbes: I am sorry to say anything against a movement towards taking a forward step, but in the meantime I think the proposed Board is rather needlessly elaborate. I do not think we are making use of the agencies right to our hand to-day. Our universities could do a great deal more than they are doing. The Board of Science could not work without a large laboratory, and it would have to possess a laboratory in each centre.

To Mr. Craigie: The experts are in nearly all cases in the universities now. I do not see how one director can keep satisfactory control over the students who would be researching in different branches. If we subsidize the universities to have an expert, with the staff necessary, it would be as well done as by a central Board. It would be as effectively done and as cheaply.

To Mr. Sidey: As far as duplication is concerned there need be little fear of it. I have spent a good many years in research, and have seldom found there were two men actually engaged in research on the same subject. Our universities are not being paid sufficient at present, and I am afraid that if the Board is set up it will mean more starvation for the universities. I think it would be a difficult matter to carry on work between the Board and the staffs of a university. It is very desirable to have a Board with funds at its command. I am not opposed to the Board, but I think the University has not been given a fair chance, and the University, I consider, could meet all the demands of the present day.

To Mr. Luke: If it is a question between the University and the Board I favour the University.

To Mr. Veitch: I do not object to the Board as long as the University is adequately subsidized. I welcome the idea of the Board as long as the University does not suffer. Under the existing organization it is not possible to get into touch with industry. If our University governing bodies were more representative of the trades and industries of the country I should say that a scheme such as I suggest would render the Board unnecessary.

The Production of Beet-sugar.—Sugar, as one of the carbo-hydrates, must be regarded as a necessary food constituent and not as a luxury, hence the necessity for a greater measure of attention to its production in increased quantities in the various parts of the British Empire. In the matter of consumption of sugar the people of our Empire head the list, the average requirement per head being approximately .88 lb. per annum, exceeding even that of the United States, and far exceeding the average for France, Germany, and other European countries. In the twenty years from 1886 the production of sugar throughout the world increased from 5 million tons to 12 million tons. Of these amounts, the cane-sugar production increased from $2\frac{3}{4}$ to $4\frac{3}{4}$ million tons, the beet-sugar from $2\frac{1}{4}$ to $7\frac{1}{4}$ millions, so that the latter promises finally to exceed the former in importance in the world's markets. The cultivation of sugar-cane can be carried on only in the tropical climates under the most unhealthy conditions, but the sugar-beet is grown best in temperate climates.

Cultivation: In the cultivation of the sugar-beet great care has to be exercised not only in the fertilizing of the soil, but also in the selecting of the seed. This has been illustrated clearly since the war commenced, for in several American States which drew their seed from Germany for each season's crop the production has decreased seriously since it has been necessary to rely upon home-grown seed. The sugar-beet requires only a moderate rainfall, with plenty of sun in the late summer and in the autumn for the proper development of the sugar. The alluvial soils of some parts of Southland and Canterbury should serve well for its growth, and undoubtedly many suitable areas could be selected in the North Island. The beet requires also heavy manuring—stable manure, potash, sulphate of ammonia, and above all superphosphate being found neces-