

men at the time I was at Home—men who came back to New Zealand, but who found their way to the United States, Borneo, Australia, and to other places. The expenditure of this money for several years would enable the Board of experts to carry out work which would be of immense value and importance to New Zealand.

5. *To Mr. Hudson.*] As to the position of these men at the end of the five years in New Zealand, it is very probable that in any given industry if they had a research man working on the problems of that industry for four or five years the manufacturers would find him so valuable that they would give him a much bigger salary as a scientific expert in their industry than he would get from the Board. There are a number of such men employed, although the number is small. But the possibility of making such appointments has never been considered in many cases. We are not going to solve all the problems in New Zealand in five years' time. The position has improved so much in England, owing to the new attitude which has been taken in regard to science, that it must be reflected out here, and we think there will be careers in the future such as there have not been in the past. If such a scheme were brought into operation the result would, I think, be as I have indicated, but at present we cannot say that the student has anything in front of him except teaching science in secondary schools. This Board would work in with an institute like the Cawthron Institute.

6. *To Mr. Hornsby.*] The actual body set up in England is now called a Government Department. Although a Committee of the Privy Council is in charge of the scheme at Home, it is really worked by an Advisory Council of scientific men, and, as far as we know, the Committee of the Privy Council has never interfered with any of their recommendations.

7. *To Mr. Luke.*] The New Zealand Institute is a self-governing scientific society, and it would not give up its self-government. Something of the sort was proposed a few years ago, and the Institute opposed it. I am in favour of setting up a distinct Board apart from the Institute. In England the Government for many years have given grants for research, but more for pure than applied science, although I believe there has been set up an organization for industrial research. Here it was suggested that the annual grant would be increased if the Institute handed over to the Government the control of their publications, and the Institute refused. No self-respecting body would hand over the control of its publications to an outside body. They refused the increased Government grant under those conditions. I have every reason to believe that the relations between the Institute and the proposed Board will be satisfactory, and that the two bodies will co-operate in matters of scientific and industrial research. As to the local Advisory Councils, there is a very strong feeling in other districts against having a Board centralized in Wellington. They consider it would be very much better to have local Boards dealing with the industries of the provinces. I think the local Advisory Councils would be of great benefit in certain ways.

8. *To Dr. A. K. Newman.*] One of the proposed functions of the Board is to "Advise primary producers upon all questions of the application of science to their industries, and to advise persons, firms, or companies engaged in industrial pursuits as to improvements in the arts and processes employed, and as to the utilization of waste products." As for keeping a staff of experts and sending them out, I do not think that is what is contemplated under this scheme; but it should be the duty of the head office to keep a bureau of information. As to the Board having a number of experts or trade "doctors" to be consulted by manufacturers, that would cost so much that we would hardly venture to bring it forward. I do not know that I agree with your statement that trade manufacturers would be willing to consult these men, because up to the present it has been exceedingly difficult for men to earn a living in that way. The difficulty is that they are not willing to pay them on the same scale as a lawyer. If a scientific man asks for a fee, many firms are not willing to pay it. There is no doubt if the scheme were in operation many of the men holding research scholarships would ultimately set up as trade "doctors"; but I do not see why there should be a college of those professional men. We would, however, train up men of that kind by this scheme. I think the idea is too generally held that mineral wealth lies in the rare minerals and not in the common things like clay, limestone, coal, and oil. Those are the great sources of the mineral wealth of a country, and pure science finds out their distribution, depth and extent, &c., and you cannot get a short cut to that.

9. *To the Chairman.*] The report of the Efficiency Board deals with what is shown in this publication. That Board has made no other recommendations that I know of in connection with this matter. I think it might be satisfactory if a lump sum were to be granted to the Board, payable in five yearly instalments.

Dr. L. COCKAYNE, President of the New Zealand Institute, examined. (No. 19.)

Dr. Cockayne gave a sketch of the history of the New Zealand Institute from its foundation in 1868 up to the present time.

1. *To Mr. Luke.*] I subscribe to the policy of this extended system of a Board of Science and Industry. I do so as President of the Institute and as a member of the Board of Governors. I must be loyal to my brethren. Personally I am not in favour of it. I would strengthen the Institute. I think I would favour direct payment for special services in the local area for any special scientific or industrial research. I would like to see, say, a £2,000 grant to any one investigating the terrible disease now existing in flax. Investigators have to give all their time for nothing under these grants. That is one reason why these economic grants have been more or less failures. I favour the Institute having larger powers, and having the power to call in special scientists to make special researches. At present a young man may show himself to be competent for research work, and all he can get to begin with is £100 a year for one or two years from the Education Department. He becomes a research student. For instance, there is