1904.

NEW ZEALAND.

EDUCATION COMMITTEE

(REPORTS OF THE), ON INSTRUCTION IN AGRICULTURAL SUBJECTS.

(MR. BAUME, CHAIRMAN.)

Report, together with Minutes of Evidence and Appendix, brought up 2nd day of November, and ordered to be printed.

ORDER OF REFERENCE.

Extract from the Journals of the House of Representatives.

FRIDAY, THE 22ND DAY OF JULY, 1904.

Ordered, "That a Committee be appointed to consider all matters relating to education and public instruction generally—school training of teachers, higher education, technical education, and manual instruction—and for such other matters affecting education as may be referred to it; to have power to call for persons and papers; five to be a quorum: the Committee to consist of Mr. J. Allen, Mr. Baume, Mr. Buchanan, Mr. Buddo, Mr. Ell, Mr. Fisher, Mr. Fowlds, Mr. A. L. D. Fraser, Mr. Graham, Mr. Hall, Mr. Hanan, Mr. Hogg, Mr. Hardy, Mr. Lethbridge, Mr. Lewis, Mr. Major, Mr. Massey, Mr. T. Mackenzie, Mr. McNab, Sir W. R. Russell, Mr. Sidey, Hon. Sir W. J. Steward, Mr. J. C. Thomson, Mr. Wood, and the mover."—(Rt. Hon. R. J. SEDDON.)

REPORT.

THE Education Committee have the honour to report that during the progress of the session they have given attention to the question of the teaching of the rudimentary elements of agriculture and nature-study in the schools of the State. The Committee recommend that further consideration be bestowed upon the subject next year, and that this report, with the evidence attached hereto, be referred to the Government for consideration.

FRED. E. BAUME, Chairman.

MINUTES OF EVIDENCE.

WEDNESDAY, 28TH SEPTEMBER, 1904.

JAMES G. WILSON examined. (No. 1.)

1. *Mr. J. Allen* (Acting-Chairman).] What are you, Mr. Wilson?—I want to give evidence on behalf of the Farmers' Union.

2. Are you president of the union?—Yes.

3. Perhaps you will make a statement?—Yes, I will do so. I want to bring before you the importance of rural education for country children. I was unexpectedly called for to-day. I just had time to very hurriedly collect a few notes, but no doubt you will excuse that. I suppose I need not go so far as to talk about the necessity and importance of education for the future of the nation. We are all agreed upon this, and I suppose we are all agreed upon the necessity of stopping the influx of people from the country into the towns. I also expect that you are quite prepared to listen to any suggestion as to improvement that can be made with regard to education, or else there would be no necessity for the Committee. I would like to point out that there has been very little change since 1877—more than twenty-five years ago—and yet New Zealand has made enormous strides. I think it speaks very highly for the way in which the Hon. Mr. Bowen thought out the Education Act and the care he must have given to it that there should have been so little change. We have certainly improved education in relation to the universities. We have established a University in Auckland and another in Wellington since then, and I think every one must admit they are well managed—at any rate, the system of management is a good one. The Universities have a Senate and managing committee composed of men of high standing. We have high schools in the large centres; we have district high schools, and we have technical schools in some centres. This technical education is generally governed, however, not by any special body set up for the purpose, but by the District Education Boards, and the Education Boards having so much to do, it is obvious they have very little opportunity to attend to technical education. The members are very much scattered; but most of you gentlemen are members of Education Boards and know the position. It is, however, obvious that the Inspector really is the only man who has the opportunity of observing the work. There is a Director in connection with the schools. As far as technical education is concerned, in the primary schools the whole thing depends upon the teacher. Some teachers take up certain branches of technical education, while others leave the matter entirely alone. I believe that in some of the districts which are well served by a railway the teachers are able to get to a centre of population and are able to obtain some information on educational subjects and some assistance; but the teachers in the country schools, especially those in the back blocks, have absolutely no opportunity whatever of getting any additional education for themselves. There are some of them, however, who do enlarge their education; purely from the love of their calling they make an effort, take up certain subjects, and confer on their pupils considerable advantage thereby. But I should like to put it to you, and I do so with diffidence, that after all these years is it not possible that our system of management of education is behind the times? Is it not possible that the Boards of Education should have their time taken up in detail-work, and leave some other body altogether to have the work of looking after the educational subjects? Is it not possible that we should now adopt the system which has been adopted in nearly every country that is advanced in education—I mean the appointment of a Council of Education? I see a number of gentlemen here who are members of Education Boards, and they consequently know the difficulties the Boards have to contend with—the amount of time they have to spend upon the mere details of carrying out improvements to school buildings and mere routine. As a rule the Boards meet only once a month, and they have very little time to deal with educational subjects at all. If the Minister is an enthusiast, he may do something, but his time also is very fully occupied with other things. Especially is this so in the case of the Premier, who has a great deal to attend to. I believe that unless the Minister is pressed from below—that is to say, from the people themselves—he will prefer to leave things to run along as they are going without taking any active steps towards making any alteration If such a Council as I suggest were set up—and, of course, it has been suggested many times before this—the Minister would be at the head, and would represent the Education Department, and he might have the advantage of having representatives from the Agricultural Department and from the Mines Department—because there is special necessity in the mining districts to educate children in mining subjects. Then, he ought to have some person representing the Health Department and the Veterinary Department. All these Departments ought to be represented on such a Council, because in modern education all these subjects should be dealt with in certain districts where they would more especially apply to the future of the children growing up in those districts. Then, as to the balance of the men on the Council, there would be such men as Sir Robert Stout: He is a man of great attainments himself; he has been a schoolmaster and a Minister of Education; he has great knowledge on the subject, and has done a very great deal for education in New Zealand. (I am just looking at the matter from a Wellington point of view for the moment; you gentlemen, no doubt, know of people who would occupy positions on the Council with advantage to the country.) Take Bishop Wallis, for instance. He was connected with education at Cambridge for a number of years, and has also a wide experience on the subject. Such men as these, and the Hon. Mr. Bowen, and others of that character would be of enormous assistance to New Zealand, if able on a Council to attend to the education side of our system. I think that

if we had such a Council, instead of being at a standstill, as far as education in New Zealand is concerned, we should be making progress, and every child would be taught with special reference to the work and surroundings of its after-life. Take, for instance, a mining district: you would there have special subjects appertaining to the future life of the child; and you would have the same thing in agricultural districts. In certain districts you might make such subjects as bee-keeping or fruit-growing of special importance. You might thus in many cases give instruction, in an elementary form, in the primary schools on such subjects as might be of use in the future work of the child. Well, now, as far as the country is concerned, what are we doing in the way of technical education at the present time? I am afraid very little. If you take up almost any paper in New Zealand you will find, I am glad to say, a considerable amount of prominence given to technical education in the towns. I took up a paper the other morning—a Wanganui paper—just as I was writing these notes, and I came across such a paragraph as this: "The classes in electricity will be continued on Tuesdays and Thursdays. A thoroughly practical course will be taken on Tuesday evening," and so on. They try to encourage the people to go to continuation classes; but that is all for the towns. Now, as I ask, what are we doing for technical education in the country? We are making small efforts in a very spasmodic sort of way, but they are altogether too small in relation to the very great advantages that the country people would have if they had proper technical education. When you begin to think of these things I think the best step that one can take is to go to other countries and examine what they are doing, and see how we can copy their best. As far as England is concerned, I am sorry to say she is lagging behind very much, as we are, in this respect. Fortunately, some of the counties of England with more advantages than others have taken up the subject of rural education, and are doing something. But it is by no means common in England that anything is done at all. Some public-spirited people, like Lady Warwick, have taken up certain branches of the subject, and are encouraging girls in England to make special studies of various things which may be of great advantage to them in the future. In Ireland they are further ahead than in England, and this is almost entirely due to one man—Sir Horace Plunket—and he has a Council of Agriculture to assist him. The members of the Council are brought from all parts of Ireland. Different parts have different persons to represent them, and these people meet at certain periods and discuss questions in connection with the agricultural or rural education of the people. That alone must be of great advantage. I think, however, that we must go to newer countries to see what we can do in the matter of education, because England is a very conservative country, and it takes a long time to work the people up. In newer countries they see the advantages of newer methods much quicker. In America they have made enormous strides in rural education. Every State in America has a University of its own in connection with agriculture. One of these—at Wisconsin—is celebrated all over the world. Dr. Babcock, one of the teachers there, was the inventor of the Babcock milk-tester, but he had such a public spirit that, believing that a public servant should serve the public, he did not even patent the invention himself, but threw it open to the world. This shows that the people taking an interest in education there are doing so very largely from an unselfish point of view. Then, in America they have what they call Workers' Institutes, and if any of you gentlemen who may be interested in the question will inquire of Mr. Wilson, the Librarian here, he will show you copies of the works which the Institutes send out. An account in last year's publication is given of a conference of the workers. At this conference each member gave the experiences that he had in connection with his work, and some very interesting experiences were related. One of them said that the only way in which you could get farmers to come together was to give them something free. He offered them free seeds, and got a very good audience, distributing a few packets of cheap seeds. These people leave the University and go down among the farmers themselves. The more illiterate farmer has, as a rule, a great contempt for college education, but this has entirely been dissipated in America owing to the fact that the students and the teachers have gone among the farmers themselves, have discussed the ordinary work of the farm with them, have talked with them about their own difficulties, have shown them reasons for certain things taking place on their own farms, and when it came to any particular difficulty they have told them how, for instance, a neighbouring farmer has been able to overcome it. By this means they have broken down the barrier between the farmer and the educationalist. In America, though the politician has built up a great protection-wall as far as foreign goods are concerned, they are most liberal—they are absolutely prodigal—in the way of sending abroad educational literature. There is a great deal of it in the library here, and I shall be able to show you one or two things which I have got from America. Canada has received great advantage indeed from American educationalists, and Canadians have acknowledged this quite freely. One of the latest writers there acknowledged—I was reading this the other day—that they had taken a great deal of what America was able to supply them with in the way of educational ideas. We have had great difficulty in collecting information upon this subject, but Mr. Hall, one of our members, and one of the secretaries, went to Canada lately and made a special study of this question. He interviewed Professor Robertson there, who is Commissioner of Agriculture for the Dominion of Canada. When he returned Mr. Hall published a letter in an Auckland paper. This is printed at the end of this pamphlet which I have here, and which I thought I would perhaps leave with you. [Pamphlet produced.] I suggested that Mr. Hall should come down and give evidence before you, and I asked Mr. Baume if the Committee would pay his expenses if he did so, but Mr. Baume said they had not done so previously and he could not say that they would do it. So Mr. Hall did not see his way to come from Auckland to give evidence at his own expense. As far as Canada is concerned, I shall make a few quotations from his paper. Mr. Hall quotes Professor Robertson as follows: "No great advance in agriculture is possible except by education, and any system of education to help people who work on the farms must be a system that will help the common rural schools, because those are the schools where the future men and women on the farms will get their education." Professor Robertson goes in very largely

for consolidation. He says that it is a difficult matter for teachers to go to the schools, because each way they would waste one day, and if they could only collect a lot of children, and have the same teacher, they would be doing the same work by consolidation and would be saving a great amount of time. Mr. Hall says, "There are four main features in this plan—the first proposal is intended to show what improvements can be effected in education by the consolidation of a number of small schools into one central school, with a school garden and a manual-training department as part of its equipment. With this end in view it has been decided to offer financial assistance to one such school in each of the provinces of Ontario, Quebec, New Brunswick, Nova Scotia, and Prince Edward Island. Vans are to be employed to convey the children to and from school without charge, who live at any considerable distance, so that a number of weak rural schools may be consolidated into one well-appointed and well-sustained central school, when it is anticipated that much better results will be obtained. Such centralisation of schools would provide more experienced teachers. Instead of the coveted posts being, as they too often are, in the towns and cities, thus drawing the ablest teachers from the rural districts, large central schools in the country would provide prize places for teachers, specially adapted for the work, who might be induced to devote their lives to the advancement of education in the country districts." I may say that Mr. George, Director of Technical Education in Auckland, is the only one that we have noticed who has taken up the subject of rural education since Mr. Riley ceased to be Director at Wellington. Mr. Riley was not able to do much in this direction, because there really were no funds for the purpose. But Mr. George has brought forward a scheme—I have not got details of it here, but they can be obtained—which is very much on the lines of Professor Robertson's in Canada. Take the case of France. France is, perhaps, the most advanced of the older nations, and in our own papers we have a very excellent report on the system of rural education there. It is in the fifth report of the Department of Agriculture—the report for 1897. Mr. Gilruth was at Pasteur's Institute and took the opportunity of inquiring into rural education, and when he came back he read a paper, which is published in the Department's report. This gives information as to what they are doing in France—not full information, but it shows the way in which they are going on. The Education Department have also got a report of a similar character. They issued a report themselves, which was published in separate form. That was in 1899. It is entitled, "Teaching of Elementary Ideas of Agriculture in Rural Schools." It is Bulletin No. 2. I think it is obvious that if you are going to teach in primary rural schools something to do with agriculture, you must have an agricultural text-book. I brought under the notice of the Premier the necessity for this text-book. I suggested that a very handsome prize—not less than £500—should be offered for the best text-book. Nothing was done, however; but since then a very nice little text-book has been published by Messrs Whitcombe and Tombs (Limited). It is the original "Elementary Agriculture," republished by them and edited by Mr. Kirk, the Government Biologist. It is not a very attractive book, as you can see for yourselves [book produced], and latter-day photographic work could make it more attractive. The best thing I have seen of the kind came to me the other day. It does not belong to me, and so I cannot leave it, but I brought it down to show you. [Produced.] This is "Rural School Agriculture." It is published by the University of Minnesota. This book [produced] is Bulletin No. 1, "Exercises in Agriculture and Housekeeping for Rural Schools." First of all, it gives instruction to the teachers—how to teach the children by means of the exercises—and you will see that it is freely illustrated by different diagrams. Each teacher can take up any particular subject. There are, I think, 130-odd exercises in relation to agriculture and to domestic economy as well. It is very interesting indeed for one to read.

4. *Sir W. R. Russell.*] It is not procurable here, is it?—No, but it could be procured by the hundred in America. Every teacher ought to have a copy. It is really a teacher's book—it is not a manual—and each teacher having this in his hands would be able to get up a particular exercise himself. For instance, here is a chapter regarding the strawberry-plant. He would take up that branch of the subject, do the exercise, and give a lesson to the children at the school on the following morning. On another day he would take a chapter dealing with something else, and so on. Then, in the same way, there is domestic economy for the girls. I believe this is a most invaluable book, and I think a large number of copies of it ought to be procured for New Zealand. It is quite on the lines that we ought to follow, I think, in a small way—to begin with, at any rate. The second proposal that Professor Robertson makes, which is detailed by Mr. Hall, is "to form groups of rural schools with a travelling instructor for each group. This part of the plan proposes to give object-lessons on the value of school gardens and nature-study at individual rural schools, as a part of general education, to be begun by means of a travelling instructor, who would visit and spend one half-day per week with the children and teachers at each school of a group of ten schools, for a term of three years, or until a number of suitable trained and qualified teachers would be available to carry on such work themselves." It is obvious, of course, that unless you have trained teachers to begin with you must have some trained person, and unless you can bring him you must go to him. "This nature-study is to be dealt with, not so much for the purpose of acquiring information about soils, plants, animals, and inorganic things, as to be a means of training the personal power of the pupil into a condition of symmetry and maturity, through a knowledge and sympathy with such things, acquired by doing something with them." I will refer by-and-by to travelling instructors. Professor Robertson also lays great stress upon the fact that there should be school gardens for the elder children, "to be used like slates, to put things on and rub them off again when they have served their educational purpose." Something is being done in New Zealand in that direction, but not very much, I am sorry to say. If you look around the schools of New Zealand you will probably think they are about as ugly buildings as you could possibly imagine, and have very few attractions round about them—a bare playground generally covered with mud. But in some parts of New Zealand they are doing something. I would refer you again to the Agricultural Report for 1903, and there you will see a very interesting account given by Mr. Kirk of what they are doing at Mauriceville, up in the Forty-mile Bush,

and there are illustrations of their work. This is a photograph showing the school itself. [Illustration in book referred to.] This one shows the flower-garden in front of the school. Then, here are the children working in the flower-garden, and then there is a plan of the garden itself.

5. *Mr. Buchanan.*] You might mention that that was originally a Scandinavian settlement?—Yes, I believe it was.

6. *Sir W. R. Russell.*] It is most successful, is it not?—Yes, most successful. I am going to refer to it again. I was just showing these pictures in the meantime. I think it was a very good thing that Mr. Kirk included this matter in the report. Of course, in the newer districts you cannot expect so much to be done. In some of the older districts there has been a good deal done in the way of beautifying the school grounds, and it is obvious, of course, that the children should be surrounded by beautiful things if they can be. Every one knows the great desire for flowers that all children have, and it ought to be encouraged in every way. Then, continuation classes have been suggested. Continuation classes, of course, are possible only in thickly populated districts. They are very useful. I may say that Professor Lowry is doing very good work in this respect in Canterbury, but we have not got a Professor Lowry here, and the whole thing is very spasmodic. Just a few people are gathered together at certain times, and there is no system adopted at all. The Veterinary Department started giving lectures, which were very useful indeed. Mr. Reakes is an excellent lecturer. He gave a series of lectures on veterinary subjects at Palmerston, which served a very good purpose. But there was a difference of opinion as to whether the people should go to the lectures free or pay 10s. for attending the course, and in consequence the lectures were stopped altogether.

7. *The Chairman* (Mr. Baume)]. What is your opinion?—The Veterinary Department are here to give the public information, and surely if the public want it they ought to receive it. A man ought to pay the 10s. if he is allowed to attend a course of lectures on matters of great importance to him in his calling. It is a small sum to pay. It pays for advertising and the hire of a hall, and so on, but it is a trifling matter for them to squabble about, and meanwhile the public suffers. I am informed that that is the position.

8. In your opinion, a fee ought to be charged?—Yes. I think it is a very small sum for a man to pay for a very valuable set of lectures. Mr. Kirk was also very kind in giving lectures in connection with rust, weeds, &c. Then, in the matter of teachers, Professor Robertson said, "To cope with the want of suitable teachers the third part of the plan provides for the training of persons who desire to qualify themselves in these newer subjects and methods of education. It is proposed to provide the Ontario Agricultural College at Guelph with such buildings (including a nature-study plant and growing-house), and such equipment as may be required for the accommodation of at least fifteen teachers, taking short courses in nature-study for rural schools."

9. *Mr. J. Allen.*] What is the date of Professor Robertson's report?—I am taking this entirely from Mr. Hall's paper, copies of which I have put in for members. "These teachers are not only to receive this instruction without any charge, but are to be granted financial assistance to meet their board and travelling-expenses, when they have taken a full course satisfactorily. The Government of Ontario have offered to grant every County Council the privilege of sending one student to this College free of charge as to fees, and the County Councils themselves also offer similar scholarships, to give other settlers an opportunity of improving their education." In regard to the latter, I may say that the County Councils under the Counties Act have power to start an Agricultural College, but they have no money for this. They find that the money they have at their disposal is absorbed in the making of roads, and so on. They might, however, very easily provide scholarships amongst a group of agricultural counties. They might very well consider whether they should not provide a scholarship for agricultural purposes at Lincoln College or some other college. The fourth plan that Professor Robertson suggests is not practicable in New Zealand, because we have not any institution like Sir William McDonald's Institute. He gave, I think, $300,000 for the purpose. This plan is only possible where you can board the girls. This plan is intended to assist in providing courses of training for young women in country homes, in domestic economy and household science, including dairy-keeping, fruit-growing, bee-keeping, and so on, in order that they may have opportunities for acquiring an advanced and practical education suitable and helpful to them, as other courses in the College are to young men. Then, I think, if anything of that nature were done, there ought to be the question of nursing taken in hand. One of the great difficulties that the country people encounter is when sickness occurs in their family. A nurse is very necessary, of course, but a nurse who cannot help in the domestic work of the house is of very little use. If the wife happens to be ill and the nurse comes in to nurse her, and there is no person to take the wife's place, the neighbours have to come in. So that, I think, elementary nursing is a very important thing as far as country school-teachers are concerned, in order to impart to the children some idea of the elements of nursing. I have said already that there is very great difficulty in getting teachers to go to the centres for instruction. Of course, those in places that are well provided with railways have a good opportunity of doing so—especially is this the case in such a place as Canterbury, where there is easy roading and easy communication, and in the centre a very excellent university. In Wellington, however, to take it as an instance, unfortunately the University is at the very furthest point of it, and any teacher who wants to take advantage of the classes in Wellington has to spend most of his time on the railway, and is thus prevented from availing himself of the opportunity of attending. They are doing a great deal as far as summer and winter schools are concerned, and a great number of things of an educational nature are discussed. The teachers in the Wanganui District are devoting a very considerable part of their holidays to summer and winter schools. These are very valuable indeed, because they are in the shape of conferences at which the teachers themselves discuss the difficulties they encounter, and tell each other how they are getting on. Besides that, they have valuable papers read on different subjects. So that these schools may be made the vehicle of carrying a great deal of knowledge to the teachers. I

suppose it is quite certain that all of us are very anxious to stop the influx into the towns from the country which is going on—not so much in New Zealand, but there is a great deal of it here—and anything in the way of teaching in the country schools in connection with nature or with country life must have a deterrent effect on this influx. If you make the children love the country you may depend upon it they will not be particularly anxious to go to the towns, and if we could only make them see "books in the running brooks, sermons in stones, and good in everything," I think the inclination to go to the towns would not be so great. Of course, there are great attractions in the towns for young people, but if we can only teach them to love the country we shall, I think, bring them to see that the country is a better place than the town. Now, how can we do this teaching in the country? First of all, we must encourage the teachers. The teachers now and then probably have a Committee which is not altogether in concert with them; they have an Inspector coming round every six months or once a year, or whatever the period is, and this is a very anxious time. The whole of their year's work perhaps is reviewed, and very likely for good reasons (a bad season, wet weather, bad roads, an epidemic) it is not satisfactory. There is absolutely no encouragement given to the country teachers at all. They never see anybody out there in the back districts. Nobody goes to see them, and nobody gives them encouragement; and even if they take up gardening, or nature-study, or anything of that kind, they get no better pay or encouragement. Every one knows that a teacher's natural inclination is to go to the place where he can get higher pay and more credit to himself. A teacher naturally looks to be at the head of his profession, and all the "plums" of the profession are in the towns. The average attendance is so much cut into the country that very often a teacher's salary is cut down, and very naturally all the teachers want to get into the towns where there are higher salaries paid. How are you going to encourage these teachers in the country who are prepared to devote themselves to teaching there? It has been said that we in the country are a dull-witted people. I do not think we are; but, anyhow, if we do not have education we shall certainly become a dull-witted people, and we want education for people in the country just as much as we do for people in the towns. How are we going to get this? I think we ought to offer a distinct prize or bonus, or some encouragement of that kind to each teacher who takes up these subjects. How much that amount should be I am not prepared to say; but if a man like Mr. Davis, the master of the Mauriceville School, occupies his time in teaching the children gardening and such subjects pertaining to country life, he certainly ought to get some bonus, and we ought to give him some encouragement, in order to induce others to follow his example. The syllabus at the Mauriceville West School consists of this: For the first year, "Parts of plants and their functions; fertilisation of flowers and formation of seed; storage of food in seeds, roots, &c.; germination." Then it goes on to soils, how they are formed mechanically, and so on. The second year Mr. Davis takes chemistry. I suppose we have all learned a little about chemistry. The smattering that I got when I was a youngster has been of great advantage to me in farming, because I have been able to understand the constituents of manures. In the second year he teaches "The properties of carbon, sulphur, phosphorus, silica, chlorine, potassium, sodium, calcium," and so on. The forms in which they occur in nature and their uses to plant-life." Then manures: "Objects of manuring. Farmyard manure and its management to prevent loss of value," and so on. Then pests: "Insects, useful and injurious. Life-history of a few typical insects. Parasitic fungi. Use of insecticides and fungicides." Then comes the practical work—this that I have mentioned is only the work indoors. (I may say that it is the Scandinavian settlement that has led us in this direction. The people there collected a sum of money amongst themselves, and gave Mr. Davis enough to build a laboratory in which he teaches the children in these subjects. They have not gone to the Government and asked them for money for building the laboratory, but have built it themselves. And these people came from Norway and Sweden.) The practical work for the first year is the dissection of plants, and so on. Then there are certain experiments made in this garden. The ground is divided into a great number of plots, and each of these plots is experimented on in connection with manures. These are examined, and Mr. Davis points out to the children the result of the application of the manures, and gives demonstrations as to the advantages of them, and so on. If it is the case that we have such a man as Mr. Davis in the country and he is successful, would it not be possible for the Government to employ such a man as a peripatetic teacher, by way of an experiment? We do not need to go out of the colony for the purpose. If we have men here who are prepared to devote their lives to the work and who have special knowledge on the subject, would it not be a proper thing for us to encourage them and place them in the position of teaching others? I only speak of Mr. Davis because we have a public record of what he has done; and I make the suggestion that the Government should make some special provision in regard to this as an experiment. It is quite clear that the Education Boards cannot take in hand such work as this unless they have more money—unless they have specific funds for that particular work, because in some cases their wants are so great in relation to building that we are not quite sure these funds would be spent for that particular purpose. We know that in one case the money which the Board received as a grant was confiscated by the bank. I do not mean to imply that the Education Boards would do anything other than what they ought to do, but I want to see this money specifically set apart. In certain districts we have had cookery experts sent round, and the Education Boards have found that they could not afford that, and even drill-instructors in many cases are not sent round to the children to teach them the ordinary drill which they ought to be taught—in fact, the drill-instructors are not sent round at all now. The Education Boards cannot afford it in many cases, and it is obvious that if they cannot afford even to do that they cannot afford to have a peripatetic teacher in their employ if you do not provide the money. I would suggest that the experiment be made. It is a very small matter, and if such a great amount of good can be got from such an experiment it is well worth the trial, and if this is successful there are plenty of other people in the colony equally prepared, I am sure, to take up these subjects and make a specialty of them. We do

not need to go outside the colony for the purpose of employing experts. In relation to the female teachers we have just the same sort of thing. If any of you gentlemen are interested in this subject, and will take up the report of the United States Institute of Workers' Conference of 1902, you will find there some very valuable papers that were read before that Institute by lady workers in America. Domestic sanitation and nursing, and so on, are all taken up. If you encouraged the girls of the colony to take up these subjects by offering them bonuses, they would be taken up by the female teachers in the same way as the male teachers would take up the subjects I have already referred to. The taking-up of domestic economy would also be of great advantage—and domestic economy is of immense importance—as important as rural education, or any other system of technical education. I have an extract here showing what they are doing in Victoria in the way of extension schools. The extract is as follows: "The Director of Agriculture (Mr. Williamson Wallace)"—who is a very useful man—"claims, and justly so, that the system of establishing classes for the instruction of farmers during the winter months, in suitable agricultural centres, has proved a thorough success." I may say that they started to have these winter classes there in a small way. Everybody prophesied they would have nobody there at all, but I am glad to say that the prognostications of the people who threw cold water on the project were not borne out. Those of you who read the *Australasian* will have seen there a picture of one of these classes, the attendance shown by the photograph being probably from forty to fifty people. The article (it is taken from the *Australasian*) goes on, "The inauguration of such a system was advocated in these columns for years, and the soundness of the views expressed is now being amply proved. The course of instruction, as formulated by Mr. Wallace, and carried out by the officers of his Department, extends over several weeks, and the popularity of the teaching is increasing in a gratifying manner, showing that the practical men to whom the instruction is given have faith in their teachers. A reproach often levelled at farmers is that they will not try to lift themselves out of old grooves, or try to keep abreast of the modern developments of agriculture. It is true that the farmer is shy of taking advice from a theoretical faddist, but from a teacher of proved worth he is always ready to absorb ideas, and give them practical effect, as far as circumstances will permit. This year seven centres of instruction were selected by the Department—namely, Nhill, Warragul, Tatura, Benalla, Wodonga, Rushworth, and Wangaratta. Up to the present, the attendance has been remarkably good at each centre, much better than it was on previous occasions, and is expected to average fifty students per class. The forward movement is indicated by the fact that the agricultural societies enrolled the classes without any special urging on the part of the Department. It is evident that this method of instruction has come to stay, and will doubtless extend over the whole of Australia. To insure progress and continued interest it will only be necessary to adapt the lectures to local conditions, and give instruction in regard to the industries, which are most popular in and best suited to the climate and soil-conditions of each locality. Valuable as these agricultural classes are, the Director of Agriculture has, with the assistance of Dr. Howell, Victorian Government Chemist for Agriculture, matured a scheme, which will continue work throughout the year, which can now be carried out only during the winter months. The proposal is to hold evening classes of two weeks' duration at farm-houses." This new proposal is a very important advance. It is not proposed to hold the classes in centres, but to go to the farm-houses and hold them there, the classes being of two weeks' duration. "The number of farmers attending at any centre to be from ten to twelve, and the classes to be held all the year round, each district being taken in turn, except in winter, when the officers would be fully engaged at the farmers' classes held in towns as at present. As described by Mr. Wallace, the scheme is as follows: 'The lectures would be held in the evening, say, one and a half hours' lecture and half an hour devoted to asking and answering questions. Four lecturers would be required, one of whom would arrive on a Monday and stay three days lecturing and discussing such subjects as manuring suitable to the district, tillage, rotation of crops, and kindred subjects. On the fourth day he would leave for another centre, say, twenty miles away, and would be replaced by an officer competent to lecture on farm-stock, their breeding and management. In two days the second lecturer would leave, being replaced by a third, who might lecture upon poultry, the best breeds to be kept for export and laying purposes, the management and feeding of poultry, &c. Two days later this lecturer would be replaced by a fourth, who would lecture on other agricultural subjects. The course of instruction at this particular farm-house would then terminate after ten days' instruction. Four classes would be in progress at one time in farm-houses sufficiently far apart to prevent overlapping, and yet near enough for the officer to reach the next centre and lecture on the same day. It will be at once seen that the success of such a scheme depends very largely on the patriotism of the leading farmers, as it is not every one who has a room that would accommodate ten or twelve farmers, and who would be willing to give that room up for two hours each evening for two weeks. As to the lecturers, they would find their way to the nearest township after the lectures were over—to cycle eight or ten miles on a summer evening would be no obstacle. I would not like the scheme to fail from any idea that it would be necessary to offer hospitality to lecturers. I should be glad to hear from farmers who are prepared to give a room for farmers' classes, and that at least ten farmers are prepared to attend for two consecutive weeks.'" You see what they are doing in Victoria. We, as I have said, are trying, somewhat spasmodically, to make some efforts in that direction. The Government officers are always willing to come and lecture, but their time is very much occupied, and to have to travel long distances is a great trouble to them. But we must get down to the farmers. The farmers will not come at first. They are shy, and do not like to come in the evenings; but if you once interest them, and if they once have confidence in the man who is going to lecture, you will have good attendances, and great advantage will be derived. Mr. Gilruth, however, says it is no use lecturing to the older farmers: you must teach the youths: the older farmers know too much—they are doing exactly what their fathers did, and they think they know all about it. I do not agree with him in that. I think the farmers of New Zealand

are a very adaptable class. They are prepared at any time, as far as I have seen, to take advantage of any suggestion made by anybody; but it is very difficult to get meetings of them, and therefore you must go to the farmers, and you must get them to have confidence in the lecturer. To summarise the whole thing, I would suggest, first of all, that—but I do not know that I am justified in suggesting this, in relation to the Council of Education. It is rather outside the subject on which I am giving evidence.

10. *The Chairman.*] You have already spoken about it, and may as well continue?—When speaking to the Premier on the subject we brought before him the suggestion as to a Council of Education, and he very properly said that he was being advised very largely by this Committee. But I do not think this Committee can ever occupy the position of a Council of Education, valuable as your work is, and must be. It can never take the position of a Council of Education. It would have no continuous policy, so far as I can see, and you are only intermittent—you only meet during the session—some four or five months of the year. There is that disadvantage. You want a body which has regular meetings and is a continuous body. So I make the suggestion that the time has arrived when a Council of Education should be set up. Then, our most important point, as far as the country is concerned, is that rural education should be given by means of peripatetic teachers—and I have suggested that we have in the colony men who could be prepared, I believe, to the great advantage of the different schools and teachers—to go about among the schools and impart rural education. Then, I think we ought to have further instruction of female teachers in domestic economy and nursing. That, I believe, is being done in some instances, but I think it ought to be done systematically. If you will allow me to go back to the suggestion as to a Council of Education, I would like to point out that this is the position of New Zealand: We have some good Boards of Education and some indifferent Boards. The good Boards are, no doubt, doing good work, but we are not level in education. We have no system of levelling up; we have no system of seeing that the level of education is the same all over New Zealand, and it is very important that we should have. It can never be so under the present conditions, as far as I can see. Where you have a thick population in the rural districts, continuation classes—and I am glad to see that Mr. Seddon alluded to continuation classes in his appropriation speech of last year, but he did not do anything—might be gone on with, and something done in the direction taken by Mr. Wallace in Victoria. It must be begun in a small way, and you must try to get the farmers together in that way. Then comes nature-study. I have not said anything specially about nature-study, because, of course, everybody accepts the fact that it ought to be taught in our schools. I have a great number of books here in relation to nature-study—a very valuable book by a man called Hodge, published in England, and a great number of other books. There is "Nature in New Zealand"—a very valuable and interesting little work of Captain Hutton's. [Books produced.] This is another nature-study book, published in Boston, and written by Captain Charles William Burkett, professor of agriculture, and two other gentlemen. [Produced.] It is a highly instructive book, well got up, and full of photographs. There is a great deal of literature on this subject. Mr. Gillies has written a book on nature-studies in Australia. Although these works, of course, are interesting, a proper text-book on nature-study would be most valuable in New Zealand, and I think we ought to have a better one than we have got. I think, too, that nature-study ought to be taught in all schools, because the love of nature is inherent in a child, and if you do not encourage and cultivate that, the love will, at any rate, be deadened. In my opinion, nature-study ought to be very carefully encouraged in the large city schools, in order to make the children desire to get into the country. I think, too, that we do not take sufficient pains in taking children out for walks. It is a very irksome thing, because the children have so many questions to ask; but at the same time it is a very necessary thing. I do not mean to say that we ourselves ought to do it; it ought to be part of the teachers' duties to take the children out and explain things. I thank you very much, gentlemen, for listening so patiently to what I have had to say; but the matter is a very big one, and the Farmers' Union looks upon it as a very vital one for the future of New Zealand. We want to encourage rural education, believing that it will be of immense importance to the future of this colony.

11. Have you any other suggestions to make?—No; but I shall be pleased to answer any questions.

12. *Mr. J. Allen.*] With regard to your suggestion, Mr. Wilson, as to a Council of Education, do I understand that the Council would be a central body?—I have not thought about that. I have only suggested that we should have a Council of Education. The University Senate is the same class of body, and it does not always meet in the same place. The Council would be for the whole of New Zealand, and therefore it would probably be much better if it moved about—both for the education of the Council itself and for the benefit of the people.

13. I presume you do not wish to compare this Council with the University Senate, which is only an examining body?—No. I am speaking more of the class of men composing it.

14. Are you aware of what has happened in America with regard to these Councils of Education?—No.

15. You are not aware whether they are local or not?—I have no information on that subject.

16. You said that every child ought to be taught with special reference to its surroundings?—Yes.

17. You do not mean by that with regard to its future life?—I do partially. In the country I want to teach the children something which will encourage them to remain in the country and to take up country life. It is preferable to going into the town to become a clerk or to take up other town work, and that is what I speak of, having regard to their future. In the same way I think that the children in mining districts ought to be specially taught in relation to the subject of mining. The subject ought to be specialised in that way.

18. When do you think the specialisation ought to begin in the child's life?—It ought to begin at the primary schools.

19. I should like to know your reason for saying that?—A child can be more easily impressed at that particular age than at any other period of its life. If you impress it when it is a child with a love of nature and the surroundings in the country you will encourage it to remain there. If, on the other hand, you teach the whole of the children in New Zealand in the same groove up to a certain age you will have them all growing up with the same thoughts. You see, in education you have two things to do—you have to teach certain things, and also to train the mind. Well, why should you not take up subjects by studying which the mind would have exactly the same training, and which would have special reference to the child's future life? I think it ought to begin in the primary schools.

20. Before you go any further, will you tell us what you mean by "specialisation," because the whole thing depends upon that? Let me put it in this way: do you mean specialisation with regard to the child's future occupation?—More or less—yes. Take, for instance, the exercises that the child would do. The teacher should take up, say, this book that I have here. He would take, say, Exercise 30, which is in relation to the country, or any other.

21. What is that exercise about?—The teeth of domestic animals. I should say that the teacher could show the child the advantages of knowing something about the teeth of animals. Here is an exercise on removing dirt and grease. This one, again, is about clothing on fire. And so they go on. I do not want to specialise professionally. I do not want to do it in the same way that you differentiate between medicine and law, or anything of that kind. I do not want to make it so complete as that. I want to make it more general. For the law there are special classes and there is the University to go to. You are trying to specialise in the different universities as to the degrees even.

22. Have we not in New Zealand a special college for agriculture—Lincoln College?—No. Canterbury has.

23. What is it, then?—It is quite beyond the means of most people to attend.

24. But it is there?—Yes.

25. It is practically a college specialising in agriculture?—Yes, that is for extended agricultural knowledge; and a very valuable institution it is. I have everything to say in its favour, and I think we are very fortunate in having it.

26. Do you think the children should begin to learn agriculture in the primary schools?—I do not want to say that they ought to be taught agriculture there.

27. I want to get at what "specialisation" is?—I want to direct the child's mind in the direction of agriculture.

28. Can that not be done by ordinary nature-study and pure science?—It could be done by nature-study, very largely.

29. And pure science?—Yes.

30. Which might be made general for all children up to a certain age?—No. Specialised in the sense that you would take up primary agriculture, say, in the country, and education more of a commercial nature in towns.

31. Do you think it is advisable for the children in the primary schools to be taught about manures?—Yes.

32. Do you not think it would be better to give them elementary lessons in chemistry instead?—Very well. You can teach them elementary chemistry by teaching them about the composition of manures.

33. I want to know whether you think the actual specialisation for a child's future occupation should begin at the primary school or later on?—I say, take the subject of manures up. It should be done in the garden. I have shown you where they have experiments with regard to manures. The children are taught that certain potash manures have certain effects on plants, and they see the effects. You can teach children better by showing than in any other way. I do not see that you need go into the chemistry of manures at all; but I should say the teacher would show the effect of manures on certain plants.

34. Yes; but the effect of manure as seen by the eye and the effect as judged from the chemical point of view are two different things?—You cannot teach the children, perhaps, the minutiæ of all the constituents of manures; but you can teach them generally the result of the application of potash, of nitrogen, or of phosphates, and you can show them that certain plants are affected in a certain way by the use of these manures. And you can go a little further with the higher children, and make experiments in the laboratory, and so on. But these, of course, are all details.

35. With regard to the books now in use by the Department, are you aware what books are already authorised by the Department upon agriculture and nature-study?—I have only got that text-book of Captain Hutton's on nature-study.

36. These papers that I have here, which have been received from the Department, show the books that are recommended and those that are in use. The marks in the columns show which Boards use the different books. [Papers handed to witness.] Will you read the list of books on agriculture and nature-study, please, that are recommended for the new list?—Yes. Whitcombe and Tombs's "Agriculture," "Principles of Agriculture" (Blackie and Sons), "Elementary Agriculture" (Whitcombe and Tombs). That is one that I have put before you. "Plant-life in Field and Garden" (Cassell), "Trees and Shrubs." Now come the books on nature-study. "Nature in New Zealand"—that is one that I have shown you. Miall's "Object-lessons from Nature" (Cassell and Co.), "McMillan's Science Primer." Marlborough uses the first and last of these three.

37. There is another recommendation, with regard to books for teachers. I think the names of those books might go into the evidence, because it will show from the Department's point of view whether they are alive to the question as regards books or not. Will you read them?—"Elements of Agriculture," Fream (Murray); "Elementary Agriculture" (Whitcombe and Tombs); Blackie's "Agriculture." We have no good book, as far as New Zealand is concerned, upon agriculture. I know Professor's Fream's book well.

38. Are any of those books good?—"Elementary Agriculture" is the one I have shown you. I do not know Blackie's "Agriculture"; but in my opinion Fream's book is not suitable for our country. There has never been a suitable book written in New Zealand upon agriculture in New Zealand, in my opinion.

39. Have you read all those names of books?—The remainder are nature-studies—there are several. Of course, there is great objection to multiplying the books, because of the difficulty to the children in getting them.

40. These ones are for teachers to select from?—The teacher's ought to be supplied with them. It is not fair for the teachers to have to buy books, as they have now.

41. If a long list is sent to the teacher to select from, you would not expect him to be supplied with the lot?—No. Certain books are more suitable than others.

42. If the books in those lists are not suitable, will you recommend to the Committee some books that you think would be suitable for us, or suggest some method of getting books suitable for New Zealand on agriculture or nature-study?—I have seen no book that I could recommend to the teachers, as far as exercises are concerned, as I could recommend this Bulletin No. 1 of the Minnesota University. That seems to be an ideal book for teachers.

43. What about the children in the elementary schools?—I think it would be advisable to get a book such as this and look over it. These are much better got up than most of ours. "Agriculture for Beginners" is also an American publication.

44. Is this one suitable for the school-children?—No, I do not think so.

45. Can you recommend one?—I think that "Nature-study," by Captain Hutton, is a very nice little book.

46. That is on the list?—Yes.

47. You have no book to recommend for children on agriculture?—No.

48. Or on nature-study?—No; except Captain Hutton's. I think it would be well if the Department got a number of copies of this Burkett book. But it is for teachers only.

49. Might I be permitted to read to Mr. Wilson a sentence from Professor Reichel's report? He was a member of the Moseley Commission that visited America. Professor Reichel says, "Manual training in American schools derives its strength from two independent motives—(*a*) the educational"—and I lay stress upon that word—"working up from the kindergarten; (*b*) the professional, working down from the technical colleges." This is the point that I have been trying to get at—the question of specialisation. I want to know from you whether you think that the work in the primary school ought to be educational or professional from this point of view?—It should certainly not be professional. You cannot teach a profession in a technical school or in a primary school, and you ought not to try to do either. That is my opinion.

50. If there be specialisation for after-employment—I mean working for a profession—that ought not to be done in the primary school?—No, I think not. You refer to teaching a profession. I may say, with regard to that, that in Ballarat they were very anxious to have a first-class engineering school in order to teach young boys their work for after-life. They had an elaborate school; they had most expensive machinery; but I am told that it was a complete failure—that you could not teach the trades in a technical school, but that you could assist the trades enormously.

51. By scientific training?—Yes.

52. With regard to the distribution of this general training—that is, the educational training—you say there is great difficulty in the smaller schools in the country—the back-blocks schools—and you recommend to us a system of agglomerating these schools and providing for means of transport?—I read Professor Robertson's suggestion, and I think it is a valuable suggestion; but in New Zealand the conditions are very unfavourable.

53. Is it possible to carry it out in New Zealand, do you think?—In portions of New Zealand it is, but in certain portions it would be impossible. But I think the suggestion is well worthy of consideration. I think it could be used advantageously, but in many parts it could not be.

54. In certain districts it could not be adopted?—That is so.

55. Then, for these districts a special teacher is needed?—Yes.

56. I want to deal with the training of that special teacher. How, in your opinion, can such a teacher be trained in New Zealand?—Very indifferently, I admit. The way in which we are absolutely ignoring the teaching of teachers is simply lamentable, in my opinion. I think the fact that we have difficulty in getting young men to take up the profession is as much due to there being no places for them to go and be trained at and encouraged, as it is to their not being properly paid.

57. You think we should make better provision for training teachers?—I have spoken of rural education, but this affects education generally.

58. Do you think, then, that in the training of these teachers they should be given a broad-enough education to permit of their going into the country districts and teaching these educational subjects—I mean elementary pure science, elementary chemistry, and elementary botany?—I am not quite prepared to say that. Botany is a very useful subject. Elementary chemistry is a subject that would scarcely require a peripatetic teacher.

59. I am not speaking of a peripatetic teacher—I am speaking of a fixed teacher?—I think they ought to be capable of doing it.

60. What would be needed in a teacher that was stationed in a back-block school in order that

he should teach what you think ought to be taught—what ought he to know?—He ought to know something of botany; he ought to know something of chemistry; he ought to have a considerable knowledge of gardening, and be able to go out and impart the interest that he has in ordinary country life to the children.

61. Will you give us your idea as to where that ought to be taught to the teacher in order to prepare him?—Those things can only be taught to the teachers in the centres.

62. In training colleges?—In training colleges if possible. There is no reason why you should not have classes of this agricultural nature in your universities. In almost all the English universities they have extensions in that connection, and most of them have professors of agriculture. Such men as these could have classes, and these teachers ought to be available. The difficulty, of course, is the cost here. The Macdonald Institute is providing means by which you can, in Canada, send teachers there and have them boarded for a reasonable sum. Here we have not that opportunity.

63. Are you acquainted with the recommendations made by the Committee last year and printed in the blue-books with regard to training colleges for teachers?—I saw something of them, but I do not recollect at the moment what the recommendations were. They occurred to me as being valuable.

64. From what you know of the training of teachers, do you think it wise that the training should be through the means, first of all, of pupil-teachership, and then training-college education, or should it be from the primary school to the high school, and from the high school to the training college? Which would be the more valuable man as a teacher—one who was trained in the former way or one who was trained in the latter?—I have not made a study of that, and I have not any special knowledge which would make my opinion at all valuable.

65. What is a peripatetic teacher? What is he to teach? Who is he to teach?—He is to teach the teacher, first of all, as far as possible. He—and I refer to females as well as males—goes to a school, takes up a certain subject, gives the children a lesson on it, and demonstrates to the teacher who watches him how to teach the children at this particular point.

66. How long is he to stay at one school to teach the teacher?—Do you not think that is a question of detail?

67. I think the whole question is a matter of detail?—I should say it depends on the amount of money you are prepared to spend.

68. You say that he must know botany. How long would it take the peripatetic teacher to teach the teacher if the latter did not know botany?—Is it possible for a teacher nowadays to go through the course and not understand elementary botany and elementary chemistry?

69. I am assuming that it is possible?—Then he need not expect the peripatetic teacher to teach him those subjects.

70. You made use of the expression "the level of education." What did you mean by that?—I say that in some districts of New Zealand governed by Education Boards the level of education is lower than it is in others—that is to say, that the system and the amount of education a child can get at the schools is not so good as it is elsewhere, or it is better, as the case may be.

71. *Mr. Fowlds.*] The Council of Education would bring the education up to the level?—I think the working of the Council would have that effect. The Council would have the overlooking of the whole of New Zealand. It would know what was going on all over New Zealand—not like the Education Boards, that cannot tell what is going on across their own borders.

72. *Mr. J. Allen.*] That seems to imply that you favour a Council of Education that is central and not local?—How do you mean—"local"?

73. Shall I say "provincial"?—I do not mean that it should be a Council for each province or each district. I mean that the Council of Education should have the supervision of the educational part of the work of New Zealand, but have nothing to do with the details of school-management, and so on.

74. Do you think the Council of Education should take over some of the functions of the Education Boards?—Yes, as far as education is concerned, but it should have nothing to do with the details of management of the schools, or anything in connection with the Committees. The Council would not have executive power, but the Minister being at the head of it would surely, if he were wise, or if there were good to come from the Council at all, carry out the conclusions arrived at.

75. *The Chairman.*] I understand you to suggest an advisory body, pure and simple?—You could not have an executive body.

76. *Mr. J. Allen.*] I understand Mr. Wilson suggests a body that should bring all the education in the various districts up to or down to the same level. Is that so?—This is a very wide subject.

77. I only touched on it because I did not know what you meant "by the level of education." The only other point I wish to ask you about is with regard to the training given in the United States and Canada. Are you aware, Mr. Wilson, that in the United States of America the central Federal Bureau, for instance, freely distributes reports?—Most freely.

78. They distribute them very widely—they spend a lot of money in doing so?—Yes, a great deal, and we ought to spend more. There are very valuable papers which nobody gets hold of in New Zealand. They are sent to post-offices, and if asked for are delivered free, but I think they ought to be posted. I am afraid a great many would be wasted; but an effort ought to be made to get these papers down to the farmers and to get them to read the papers.

79. Are you aware that in America there has been a great growth of Farmers' Institutes, which have educated the farmers up to reading and making use of these reports?—Yes; I have alluded to that. I may say that in the United States they have a man at the head of agriculture who is a great educationalist himself—the Hon. James Wilson.

80. Are you aware that the Department takes the initiative there, and does not wait for investigations with regard to new crops, and so on?—Yes. I may say that in Canada the Department has revolutionised the north-west district with regard to hay-crops. They could not grow hay-crops there because they had no grass that would stand the winter. But they sent out experts to other countries where the winter was severe, and they succeeded in getting from Russia a grass that would stand the winter—*Bromus inernis*. This they distributed in the north-west province, and now that province can grow hay, which is so essential to animal life there, and can grow it in large quantities. Thus the expenditure of a few hundred pounds has been the means of enabling the farmers of the North-west Territory to winter their animals, which they could not do before.

81. Do you know whether they have spent £60,000 annually on supplying seed-specimens to farmers?—I do not know about that.

82. You told us about the Guelph University. That is an agricultural university at Toronto?—Yes.

83. I have some remarks about the Guelph University here by Professor Reichel, which I would like your opinion upon. He states that "its remarkable success is due to two causes—(1) the capture by the staff of the farming population through the organization of Farmers' Institutes; (2) the insistance upon a sound basis of exact science in the course from the very first." Do you agree with those two courses?—I think that very largely the result is due to the fact that they have had a very able man at the head of the University; to the fact that they have had their students all over Canada and have continued to correspond with them; and to the fact that they have sent out seeds, for purposes of experimenting, all over the different provinces. In this way they have kept in touch with students who have gone through the College, and have kept the interest of these students up. With the assistance of the different Farmers' Institutes, and so on, they do a great deal of useful work. I have read a work on the Guelph College, and it interested me very much. It is in your library here.

84. Can you tell us what the main college courses are at Guelph?—I have not the particulars by me.

85. Are you aware whether this is correct—it is Professor Reichel's statement: "There are two main college courses—(1) The short course of two years for lads who are going to be farmers, success in which leads to the associateship of the college; (2) the long course of four years, leading to the university degree of B.S.A. (bachelor of the science of agriculture) for professors of agriculture, Government organizers, &c."?—I have no doubt that is the case. Professor Lowry is suggesting short courses for farmers at the Agricultural College in Canterbury. It is a very proper thing. They have short courses for farmers' sons at Professor Dick's Veterinary College, Edinburgh, and these are very valuable, because they cannot take the four-years course which a veterinary surgeon has to take.

86. I think some of Professor Reichel's statements and suggestions should be printed with this evidence, Mr. Chairman, and thus go on record. He goes on to state, "There is also a three-months practical dairy course, and various short courses of two, three, or four weeks for farmers in stock and grain judging, &c."?—You mention dairy instruction. I certainly would not recommend a short course in dairy instruction. The best place where you can obtain a knowledge of the dairy business is in our own creameries and factories. What the farmers want, and what the dairy people are crying out for, is not a school at all, but an experimental station, which stations are so frequently met with in America and are so absent here. I do not want to have it understood that I am favourable to short courses in the dairy business.

87. *Mr. Buchanan.*] If your recommendations regarding the primary schools were carried out, would it be necessary to make any change in the present syllabus?—I do not think so. I am led to understand it would not.

88. Do you think there would be room and time for what you think is advisable, together with the present syllabus?—I believe it is possible. I think that some of the subjects might surely be left out for such an important one as rural education or nature-study.

89. I want to put another question with regard to this matter of specialisation. If you commence too low down with that, do you not run the risk of getting the square peg into the round hole—in other words, are you not running the risk of commencing before the child has developed sufficiently to know its own mind and before its powers in certain directions become obvious?—Can you tell me at what age a child begins to love flowers, and I can answer you the question?

90. I do not think you would get a very clear answer upon the subject?—It is a matter of dispute; I admit that—I mean the age at which you should begin to teach a child certain things. It is a question for experts and scarcely for me to offer an opinion upon. I do not pose as an expert. I speak as a person who wants to express the views of a certain body of men who look upon this as a very important matter; and we should be very pleased to have any modicum of my suggestions carried out, if it is in the direction of encouraging the children to remain in the country rather than herd in the towns. Anything I have said I have only offered as an opinion, or the opinion of others. I set great store by Professor Robertson's opinions. He is Commissioner of Agriculture in Canada, and I read his view that "no great advance in agriculture is possible except by education, and any system of education to help people who work on the farms must be a system to help the common rural schools, because these are the schools where the future men and women on the farms will get their education." This is what an expert says—a man who occupies a high position in Canada, which country is in the very forefront in agriculture at the present moment and is a most successful country as far as agriculture is concerned. I say that if Professor Robertson makes this statement so conclusively and so emphatically I pin my faith to him very largely, and his statement has had a great effect upon my opinion. But as to the actual moment when you should begin to teach the child I could not offer an opinion.

91. Am I to understand, then, speaking broadly, that you would have the elementary prin-

ciples connected with agriculture taught in the primary schools, leaving the specialisation to a later period?—I do not want to specialise and try to teach a child farming. I do not want you for a moment to understand that I suppose that agriculture can be taught at the primary schools, because it cannot be taught there. It is a thing which requires a long time to learn. I only want to take certain subjects and use them, as it were, from an educational point of view, to turn the child's thoughts into the channel in which it will afterwards have to be taught further. Between the ages of five and seven and eight, and so on, a child's mind is extraordinarily adaptable, and if you can only turn it in the direction that you want to turn it it will then perhaps go in the same direction itself; but if you allow the child's mind to diffuse itself it will have no direction at all—my experience of children is that diffuse knowledge is of very little avail. If you try to direct it into the channel in which it will have to go by-and-by I think that will have a great effect possibly on its future life.

92. Have you formed any idea of the increased cost that would be incurred if what you have in your mind were carried out in New Zealand?—Take the Wellington Province, and suppose that you selected a man like Mr. Davis. I have no knowledge of him myself; I am speaking of him from the results he has obtained. Supposing that you gave Mr. Davis an opportunity of going round to the schools and trying to instil into the teachers some spirit and enthusiasm towards teaching nature-study in the rural schools: you could do that, and pay all expenses for a comparatively small sum. I should think you could do it for £700 or £800 a year. You would need to multiply some such sum as that by the number of districts, and I think you would get something for the cost. I do not know the actual salaries that these people get.

93. *Mr. Fowlds.*] Mr. Buchanan has asked some questions on a point that I would like to have a little further elucidated—that is, the question whether your suggestions could be carried out without altering the syllabus. The taking of the children out for a walk to study nature in the way suggested and gardening at the school: it seems to me that these would all take up time and this would make it impossible to carry out the ordinary syllabus.——

The Chairman: Those are provided for already.

Witness: I understand so. At our conference when the subject of education was taken up we were informed directly from the Department—the information came to me at only second hand—that the syllabus at the present time could stand all the things we had spoken of. I cannot give you anything further than that, but you can get it from the Department. Time, of course, is the essence of a good many things, but surely if what I suggest is going to do a good work you must give up time to it.

94. *Mr. Fowlds.*] But it would be necessary to sacrifice something else?—If you take the children out into the open air that is a good thing in itself.

95. *Mr. Hall.*] You made reference, Mr. Wilson, to lectures being given to the adult population in regard to scientific farming—bee-culture, and so forth. In England, I understand, the County Councils have taken this up, and employ lecturers very widely?—Before you came into the room I stated that the County Councils were doing something, but there are only a limited number of County Councils in England that have taken it up. I said that England was rather behind the times in relation to technical and rural education.

96. *Mr. J. Allen.*] They are waking up very much now there?—There are only a limited number of counties that have got these schools and lecturers going round, but there are a certain number.

97. *Mr. Hall.*] Do you not think the County Councils would exert an influence over the local population that possibly could not be exerted by a central body?—I confess that the County Councils are not doing what they ought to do in New Zealand. They have power under the Counties Act to do a great deal, but they do not do it. I happen to be Chairman of a County Council, and I have had an idea in my mind as to whether I would not bring before the neighbouring counties a suggestion that we should do something, but it has not taken shape yet. Very likely I will bring before the neighbouring counties a suggestion that something should be done under the Act. I admit that the County Councils might, if they were given something to assist them, do a great deal, and the effect might be that the County Councils would be the medium through which you would work. But the idea has not developed in my mind.

98. Do you not think the Councils would have the means of arranging for meetings and rooms, and so forth, with much greater facility than could possibly be the case with a central body?—But you would use the schoolroom. I do not think the arrangement as to a room would have much to do with it, because you have always got the schoolroom.

99. It has been suggested to me to ask you this question: How about the finance?—That must come from the Government. It is quite clear that County Councils cannot do it. The ratepayers are very difficult people to deal with, and the County Councils are bodies that have to keep the rates down as much as possible. All that I suggest, however, is to make the trial of a peripatetic teacher, even if you only do it in one district, and watch the experiment. If we go on considering and do not make a start, I do not know what is going to be done. If we make a start next year, and the Government give, say, £800 for the purpose, and try the experiment in one province—that is what I want to do. Do not let us search for the best means just now; let that evolve. I admit, as I say, it is just possible that the County Councils might be utilised, but let us take some step—let us make a start.

100. Is it your opinion that even though the present syllabus did suffer to some extent, if you had a greater advantage in regard to the matter that you have been advocating to-day, it would be better for the children and the people in general. It would be infinitely better, in my opinion.

101. *Sir W. R. Russell.*] Have you formed any idea as to how many schools a peripatetic teacher could teach?—He could do a great deal in a very short time in the summer. It is a thing that would grow up. He would have to pay a considerable number of visits before he could do

very much. I think he might easily in the country districts give a lesson in the morning and another in the afternoon, to begin with. I want to see the thing started. We have so little detail knowledge on the subject that unless you make a start and find these things out by experience, it seems to me that it is of little use my offering an opinion.

102. *Mr. Hardy.*] You have spoken a good deal about peripatetic teachers. Do you really think it is a good plan to get these teachers to go about to teach the teachers?—I was not supposing they were going to teach the teachers. I only said in reply to a question that during the time the peripatetic teacher was showing the children what to do with certain things the teacher would be observing, and with his trained mind and knowledge he would pick up very quickly what was going on; and by that means the peripatetic teacher would be teaching the teachers. I do not propose that he should go round and teach the teachers separately.

103. As you would like effect to be given to your recommendation, do you not think it would be better for these subjects to be dealt with in the training colleges?—For the teachers?

104. Yes?—That eventually must be done, if the thing is to be of any effect at all. It was in reply to a question by Mr. Allen that I said that the teacher who did not have a special knowledge of this kind—who had had no opportunity of being trained in this way—would be able to see how this peripatetic teacher was imparting the knowledge he had gained to the children. The teacher would only be watching. You could not teach the teacher by having another peripatetic teacher. That would be a wasteful process. You must gather the teachers together to teach them.

105. Would it not be better to train the teachers to teach the children themselves, rather than get these peripatetic teachers to go round and teach the teachers, because you would have a sort of divided authority?—There would be no divided authority, because the peripatetic man would be able to have half a day, and he would do certain things.

106. Do you not think it a good plan for the Boards of Education to almost compel the teachers to go to the centres once a week?—I think so.

107. For the purpose of meeting and exchanging ideas?—I think it a very valuable thing, and not only that, but I think the teachers are very willing to do it.

108. Instead of the travelling teacher going about, would it not be better to fix him at a place and bring the teachers down to him?—You could do that too. You could have him going round the country on the week-days, and bring him into town on the Saturdays.

109. You were speaking of drill. Do you know that the Defence Department at the present time places drill-instructors at the disposal of the Boards of Education for the purpose of instructing the teachers? I just mention this in order to show that you were making a mistake?—Is that so? I may say that my suggestion is only a means towards an end. If you wait until you get teachers' colleges, and you teach those teachers, and they have to go away and teach the other teachers, you will have waited five or six years. I do not want to do that. I want to begin this year. I feel that if we do not start we shall go on discussing as to the best means of doing things. Let us find out the best means by experience, and I think eventually it will come about that we shall have training colleges in our midst and the teachers will be taught there, and they will then go out into the country. Let us make a start. I do not want to say that my suggestion is to be permanent at all. I do not think it will be—it cannot be, in fact.

110. *The Chairman.*] Throughout your speech and your evidence, Mr. Wilson, you seemed to lay the whole onus of giving all this kind of education on the State—the providing of money, the providing of teachers—everything is to be done by the State. What would the Farmers' Union do, what are the County Councils prepared to do in the matter—anything at all?—Why should they be prepared to do anything when all provision is made by the State for other education?

111. Let me put it in this way: is there a country in the world where the matter is not undertaken locally first? In France it is undertaken by the departments; in other places by the counties. In all these places is there not some provision made by the local departments or divisions for some work in that direction?—We have the local divisions in the Education Boards. But I do not quite understand your question.

112. You referred to the French system. In France, I understand, the department contributes a certain sum of money—which is subsidised by the Government—towards the teaching of agriculture in its district. Are the counties prepared to do anything here?—I cannot answer for the counties. You have a technical school here in Wellington, for instance, and you find the plumbers and so on have got certain classes.

113. They pay fees?—Well, if Parliament in its wisdom thrusts upon the County Councils the necessity of paying, they will have to pay for this education. But do not let us squabble about who is to pay for it. The sum will be a very small one if the end is to be a great one; and if Parliament says, after considering the matter, that the County Councils should pay for it, make them pay.

114. It is not a question of payment. The point is that if a thing is wanted, and people show it is wanted by being prepared to pay for it, there will be more work done—there will be better work done by people who value a thing than by people upon whom it is thrust?—Yes.

115. We have the same trouble in many branches of our educational work. Can you suggest nothing by which something like local payment could be provided?—That is a big question. I would not like to tackle that. It is a big question of policy which I have not considered. All that I suggest as a beginning is to make the experiment in the way I have indicated. It would cost a small sum of money, which ought to be provided by the State.

116. What sum of money?—If you take the Wellington District alone, or any other, and observe the experiment, it will cost you at the outside £1,000. If you multiplied that sum by four or five and made the experiment with four or five men it would cost £4,000 or £5,000—say, £1,000 per man.

117. Ten thousand pounds a year would be put on to the cost of our education system?—What does technical education in the towns cost the State at the present moment?

118. Sixteen thousand pounds. That is for the whole of New Zealand, and covers I do not know how many thousand people. This certainly would not cover as many?—What is the greatest industry in New Zealand—is it not agriculture?

119. That is quite right; but what I want to find out is whether you make any suggestion at all by which any portion of this cost should be paid otherwise than by the State?—I have not considered that.

120. You referred to Mr. Gilruth's article. You know Mr. Gilruth's idea on this subject about the teachers teaching the children during the summer vacation?—I have heard him make a few remarks upon the subject.

121. Did you read what I said during the debate in the House?—Yes.

122. Do you agree with those suggestions—that there should be a course of summer instruction undertaken by the officers of the Agricultural Department?—To be given to the teachers or the children?

123. To the teachers?—That would be a very valuable thing.

124. Would that not be an economical way of beginning this work, at any rate? Would it not be useful, supposing the teachers met at one or two stations in the colony during the summer vacation and there received a course of instruction from the Government officers—from such experts as the Government have—in agricultural subjects?—Yes, but I do not think that would be sufficient, nor would it be long enough. For instance, in Canada a certain number of people are sent to the Macdonald Institute, and even the girls there take two years to be taught. Here it is, "Normal course in domestic science, two years." It would be distinctly valuable to have lectures given by Mr. Gilruth or any other officer to the teachers, but you could not say they would take the place of a training college, because in a training college a young person would have all the necessary surroundings and would mix with others.

125. You have missed my point altogether. I do not want to do without the training college. To give the children in the country what you want to give them—that is, an interest in their life, a belief in the pleasures of country life and in its possibilities—you want to have teachers who have a little enthusiasm and a little knowledge of that which underlies rural life. Would you not get this result as easily and as economically, and would you not distribute the advantages of such a system of training all over the colony if Mr. Gilruth's idea was carried out?

Mr. J. Allen: Perhaps it would help Mr. Wilson if you state what Mr. Gilruth proposed to teach the teachers.

126. *The Chairman.*] This is what he suggests: (*a*) Practice and theory of agriculture, such as the use of cultivation, drainage, manure, &c.; (*b*) rudimentary botany, and the common plants and weeds, trees, fruits, &c.; (*c*) rudimentary anatomy and physiology of animals, stock feeding and rearing, dairying, &c.; (*d*) rudimentary chemistry relating to soil, &c.?—Yes, but I do not think that listening to the lecturers and going through a short course like that would disseminate the knowledge that I want to disseminate among the children. It would be left entirely to the individual unless you made it a subject in the syllabus. The individual might have a sort of love for it himself and might go on with it. But the mere giving of lectures will not do what is wanted. It would be a very valuable adjunct, but it would not carry it out.

127. What you suggest is a lecture in the morning and another in the afternoon given by the peripatetic teacher?—A demonstration.

128. A demonstration. You say two lectures would be sufficient, and then he could go away. Would not the work done during the summer vacation in teaching the teachers to teach the children at an experimental station have a much more lasting effect than an afternoon's lecture upon the children?—I say it would be a very valuable adjunct, but I do not think it would achieve the end in view unless you had more instruction.

129. But would it not be more valuable than this instruction of the children? Would not three weeks' instruction of the teacher be necessarily much more valuable than a short instruction of the child itself?—There are two different objects. I want to train the teacher, and I want to begin to turn a child's mind into the direction in which I want it to go. If the teacher has not the gift and the interest, then instruction would stop at Mr. Gilruth's lecture. I want to get at the child, to be sure that he gets there. Supposing the lecturer takes a flower, say, a sweet-pea, and he demonstrates the different parts of the flower by pulling it to pieces, showing the petal, stamen, ovule, and so on. Every child would be interested in that. He does not give a set lecture, but he makes demonstrations and interests the children. I repeat that your suggestion would be a very valuable adjunct, but it would only be a means towards the eventual end.

H. HILL, Inspector of Schools for Hawke's Bay District, examined. (No. 2.)

130. *The Chairman.*] I do not know whether you have come down to give evidence on the subject of agricultural instruction, Mr. Hill?—Any questions you may ask me I shall be prepared to answer; but I have simply prepared certain facts with regard to the expenditure of moneys by the different Boards.

131. You have heard Mr. Wilson's evidence as to agricultural instruction?—Yes.

132. And you have grasped the main proposals—the principles underlying his speech?—Yes.

133. Will you tell us how far, in your opinion, the work that he says should be undertaken by the peripatetic teachers—how far it is advisable it should be undertaken in the manner he suggests, and will you generally make such comments upon the evidence as you feel yourself justified in making?—There are so many points that I should prefer to be asked questions, because I might possibly miss some of the more important matters that Mr. Wilson has dealt with. As to these peripatetic teachers, however, I think it would be very inadvisable to employ them.

My own opinion is that teachers themselves should be prepared to give the instruction; and if they were prepared by being brought to a centre, say, weekly—and such opportunities are now being given by the Department—to prepare special subjects, you would at once diffuse the specialised knowledge among the children in a way that it is impossible to do where you simply have a peripatetic teacher who could only go to half a dozen schools or so a week. If you brought the teachers into a centre for instruction, they would, of course, spread the information far better, and naturally in a more economical manner. It is the question of economy equally with the question of efficiency that you have to decide.

134. With regard to what Mr. Wilson suggests should be taught in the primary schools, could that be done without any disarrangement of the syllabus?—I think it inadvisable to take any specialised work in our schools in the way of agriculture. My own view is that we have so many means of preparing the children in a scientific manner, anticipatory to their entering upon agricultural pursuits, and of giving them that information which would be of far more value to them subsequently, that it would be better to leave the specialised work either to the Seventh Standard, or further on still; but agricultural training should not be in the ordinary routine of the school syllabus.

135. That, of course, does not refer to nature-study?—No. We have many means of preparing the children in nature-study. We have, for example, to obtain a local knowledge of the plants, the animals, the insects, the soils of a district, and then we want a knowledge of ordinary natural phenomena. If the children were prepared in these things, such as I think they should be, and were trained to observe the various aspects of the country, I say that would be the true stepping-stone to scientific training afterwards, because you are training the children by means of the perceptive faculties, and that is where our education is so defective to-day.

136. *Mr. Fowlds.*] Is that education being given now?—Not in that way. I doubt, for example—and I am sorry to say it—if you take the teachers of New Zealand, whether 5 per cent. of them would know, shall I say—5 per cent. of the native plants, 5 per cent. of the native grasses, and 5 per cent. of the birds indigenous to New Zealand. I doubt whether a score of them know what constitutes the native flora as distinct from the imported flora.

137. *The Chairman.*] That is all provided for in the syllabus?—But we have no means of training in it. What we want to do in connection with our syllabus is to insist that every teacher shall have a knowledge of the things that are around him, instead of simply having book-knowledge. The teachers teach botany from books instead of from nature. That is where all our weakness is to-day. If you take the ordinary teacher in our country schools—I am speaking from experience—that teacher will be teaching from the book, and whatever the book says, whether right or wrong, is accepted. All our early school training ought to be by means of concretes in the first instance, and a teacher should have an elementary knowledge of the things that are around him, so as to give that information first, and then base his teaching subsequently upon that information.

138. Would it be advisable, do you think, to adopt the suggestion made by Mr. Wilson—viz., that while not going in for absolute specialisation, such things as the chemistry of manures and the other matters that he referred to should be taught in the primary schools in the country districts?—You mean to say elementary lessons in chemistry practically applied?

139. In agricultural subjects?—It is allowable now. It is possible now to do that, and a grant by the Government is available for it. It is allowable under the Manual and Technical Instruction Act.

140. *Mr. Hall.*] It is not compulsory?—No; but I think it is advisable not to make a thing compulsory in education. You can foster it. This tends to the adaptation of a subject to a district—that is, taking up a subject that is suitable to that district in anticipation of the future needs of the children.

141. *The Chairman.*] Mr. Wilson is anxious that in the country schools, while there should be no absolute specialisation, yet something should be done with regard to the children in the way of applying the principles of science, that they may be taught to the objects which may engage them in after-years?—Some time ago in my report I drew special attention to this, that the services of the Agricultural Department should be given to our schools with a view to benefiting the children who enter a milk-factory. Children who carry milk to the factory should have a lesson there in the art of buttermaking and cheesemaking. When the children are available, why cannot they take a lesson from a practical man? They could receive that special instruction as a part of a morning's lesson, and instead of being late for school the lesson could count as a part of the morning's instruction. I see no reason why such practical instruction should not be given.

142. That is only one branch. What was put by Mr. Wilson was that the teacher himself should direct the child's education more especially to those objects which may be of use in after-life?—I say that the teacher himself should be capable of doing that, and you should train him in order that he may be able to apply the information that he possesses to the training of the children in the country. The teacher should be adapted to his environment.

143. Can that be done in the country schools under our present system without disarrangement?—Yes, certainly. You can adapt the training, but not carry on the specialisation of it. I say the specialisation should not go into the schools, but the generalisation should. If you say that the children in the country should have a knowledge of elementary botany, elementary geology, and aspects of elementary agriculture—all these things can be dovetailed as the child passes through the various standards, so that he will have a general knowledge, and it can all be based on concretes by means of nature-study if that child is properly trained.

144. Should the work of the expert be directed towards the education of the children or the education of the teachers?—The education of the teachers, and the teachers should take the knowledge into the school, because the expert would possibly be no teacher—that is, have no aptitude for teaching children.

145. You admit, of course, the importance of agricultural instruction?—Most certainly.

146. How do you suggest, then, from the colonial point of view, that the object which Mr. Wilson and all of us have in view can be best attained under a general scheme?—By training the teachers and giving them the necessary preparation—that is, you should have teachers adapted to country life, and you should have teachers adapted to town life; and you will be able to do that the moment you have a proper scheme of training for the teachers.

147. Then, the expert work should be done by the teachers. You have heard the suggestion that I have read from my speech in the House?—Yes.

148. Would you agree with that as a good beginning in the work?—It would be an excellent beginning, but it has a danger—viz., that of overworking the teacher. If you take the teacher, there being such a heavy strain as there is at the present moment—and the tendency is to break down much earlier than was formerly the case—and require him to work during his holidays, I am afraid of the result. My suggestion is that he should come in on Saturdays to a centre, and take that same kind of instruction. It is a relaxation from the isolation of country life.

149. It is proposed, of course, to do this partly by way of a holiday—to give opportunities, for instance, of coming to town at cheap rates on the railway?—We tried it in Hawke's Bay, and the teachers were simply wearied out. Twenty-four years ago, in the summer-time, we had five weeks' training in that way in order to train the teachers in those subjects in which defects were found in the schools. We tried the experiment again, during the midwinter holidays last year, in the case of the country teachers who had been unable to attend the Saturday classes which are carried on regularly. Those teachers who had been unable to avail themselves of the classes the Board brought into town, and the teachers underwent a course of training in certain special subjects that were deemed necessary for the country schools; but at the close of the session the teachers were so tired that it seemed to me unfair to expect them to go back into the schools and do their work the moment the classes were ended.

150. Then you do not concur in Mr. Wilson's scheme about the peripatetic teacher?—No.

151. What would you suggest supposing you were asked this question: Give the general outline of a scheme by which agricultural instruction would become universal and efficient?—Bring the specialist into the town; bring your teachers into the town on Saturdays and give them a course of special lectures, and every week those teachers will go back and impart the information that they have received from the specialist to the children in the school, but adapted to each district and locality.

152. Mr. Wilson also made a suggestion with regard to the instruction of farmers at different farmhouses. Do you believe that the instruction of the grown-up men and the farmers of the country would be of utility?—I think if you infuse into the children a little practical knowledge they will disseminate it among their parents, and it is quite possible for the parents to become interested. You well said just now, and I quite appreciated the force of it, that it is no use forcing any kind of education into a district—no kind of subject should be thrust upon a district unless there is a demand for it.

153. Do you agree that the demand is better exemplified by the willingness of persons to pay something for it?—I think so. They get indifferent to a thing they are offered, and a feeling grows up among the people that the specialists come round because they have nothing else to do.

154. You regard it rather as spoon-feeding them?—I dislike it very much. I think that if a man wants education in a certain direction he will make an effort to get it.

155. Do you think it is possible to get local divisions, counties, or gatherings to provide something of the kind?—I do. We are trying to foster it, and we have found no difficulty as yet. I happen to be on the Science Committee in Napier. Our Education Board, the controlling authority in the district, has, in my opinion, wisely appointed a controlling body of representatives from the town. We have several members of the Board; we have a representative of the High School, a representative of the borough, and myself. On making application to the Napier Borough they gave us a grant-in-aid; on making representations to the Waipawa County Council they also gave us a grant; and the Dannevirke Borough also granted us a sum. No one has refused as yet. This shows me that by fostering the thing a little and exercising a little careful discretion, and letting the people see the advantage of this technical education, they begin to appreciate the work and see the need of helping it. I might say that I thought it proper in the interests of scientific education to give lectures in these various places. I have given lectures to show the scientific benefits that might be derived by the people in the town, and I have found this lecturing very beneficial. Our Board at the present time is sending a specialist down to Dannevirke to exemplify by a lecture the advantage of technical education. We have had magic-lantern slides prepared, and our Director of Technical Education in Napier has been authorised within the past week to give a lecture in the Dannevirke Borough, and he will address the teachers so as to make them certain as to the direction of the new regulations with regard to drawing, &c.

156. You would place agricultural instruction, if not as the most important subject, in the most important portion of the general scheme of technical instruction?—Yes, but not the specialisation of agriculture. There are so many things included under "Specialisation" as, for instance, the ploughing of the land. That includes, not merely the turning-over of the soil, but it implies a knowledge of the characteristics of the soil and of the plants which that soil will grow, hence my reason for saying that if you want to train children in specialised agriculture they must first know the plants that surround them, the grasses and the weeds by the wayside. How many farmers know them? We have the Agricultural Department sending out certain pamphlets about noxious weeds. If all information were properly prepared and issued to the schools, children would get a knowledge of it, because they would collect specimens as they see them by the way, especially if the illustrations were issued in natural colours.

157. May I summarise the position in this way: You believe the work of the expert should be devoted to the instruction of the teachers, and not to the instruction of the pupils?—I do.

158. Secondly, that Government aid for the purpose of further instruction should be based upon a subsidy?—Yes, a subsidy.

159. And upon local willingness to assist in the work?—I would go so far as to make local government partly responsible in the way of a small rate. That is my view of the matter.

160. *Mr. Buchanan.*] You have stated to the Committee, Mr. Hill, that the teachers, speaking broadly, are not equipped for teaching what Mr. Wilson recommends should be taught, and you recommend that the teachers should be taught by coming into the town on Saturdays and being instructed by a specialist?—Yes.

161. Would not their coming into the town on every Saturday have much the same effect, in the way of overtasking the teachers, as their working during the holidays—of the effect of which you spoke?—I do not think so, because they have Sunday to rest. Their coming into town I find acts very beneficially upon them, because they thereby come into contact with their fellows.

162. How would you apply what you recommend in, say, a district like the Forty-mile Bush? How would you bring these teachers into Wellington from the backwoods—right away from the railway-station, letting alone the great distance, say, from Pahiatua to Wellington?—I will tell you how we do it in Hawke's Bay. We have two centres—the Dannevirke centre and the Napier centre. The trains are suitable for both.

163. Do you get the teachers in the schools towards the coast to come into Dannevirke?—We do as far as we can. That is why I made that explanation with regard to the winter classes. For cases where the distance was too far for the teachers to come in on Saturdays we had the winter classes, and we required all the teachers who had not been able to attend the Saturday classes to attend the winter classes, and to take up work that we thought was necessary under the regulations to carry into the outlying districts.

164. Would you propose, then, to wait until you had got your teachers trained before you did anything in this direction at all, instead of accepting Mr. Wilson's suggestion that there should be introduced, at all events, for a commencement, travelling teachers?—I think the travelling teacher would be a failure. That is my view. I think it would be a great deal better to bring the teachers to the specialist in the town. You could carry the work into the country by so doing, because you would train the teacher and the teacher would spread the teaching. Where the peripatetic man would visit one school you could have twenty teachers teaching, and twenty schools would be benefited every week.

165. Accepting that, what would you do in the meantime until your teachers were fitted to teach the children?—I am telling you that I should prefer that before you had the specialisation you should have the teachers trained in those elementary necessaries, without which, to my mind, the man is only a bookman—he teaches by the book; he does not train the children to observe, which is the first essential in all training and anticipatory to all successful specialisation.

THURSDAY 29TH SEPTEMBER, 1904.

Examination of H. HILL continued. (No. 3.)

1. *Mr. J. Allen.*] When we adjourned yesterday, I think we were in the middle of your examination, Mr. Hill, on agricultural instruction?—In continuation of what I said yesterday, I should like to put in a portion of a paper which appears in the New Zealand Institute's Transactions for 1902, dealing with technical and scientific training, especially with regard to our schools. I should like to have it put into my evidence or to have it read.

2. Would you like it read?—Yes. If you will allow me to do so I will read it: "It has become fashionable to change and add ornaments (?) to our system of education, and, without considering what is really necessary to place our system on a foundation of its own, adapted and adaptable to modifying conditions of environment, we have taken our cue from the Mother-land, where conditions are very unlike our own. Let any one take up the English blue-book, such as is issued by the Board of Education in London, and there will be no doubt as to what is intended by the syllabuses of instruction that may be taken and taught in the night schools, the continuation schools, and the upper or secondary schools of that country. England is supremely an industrial country. She is sustained by her manufacturing superiority; but competition is so keen, internal and external alike, that every circumstance that adds to the utilisation at an earlier period of the youthful material as it comes from the schools, and everything that can be done to help motherhood in nursing her offspring so that she may toil in the factory, and in assisting young men and women to become more skilful in their industrial work, is done by the State. To England industrial skill, manipulative and scientific, is everything. It means work, bread, comfort, success, power, and influence. It means the supremacy of England in directing the trade, and in a large measure the government, of the world. And observe what effect this trending of education to competitive necessity is having on the upbringing of young children: Half-time scholars should not be subjected to any system of exercise or drill which, if practised in the morning, might render them unfit for their afternoon's labour, or, if practised in the afternoon, might press heavily upon a tired boy or girl.' These words are quoted from the 'Revised Instructions' of the English code of 1899, page 659, with reference to physical exercises, and they suffice to show what so-called primary education is becoming in England as interpreted in the public-school system of that country. The schools are already little less than preparatory workshops to meet the stress of industrial competition, and an 'instruction' such as is here quoted shows the tendency of the so-called technical and manual form of instruction in countries where competition is a case of life and death. But are we in this country called upon to adopt a similar scheme of training for the children of our pubilc schools? It has already been explained

that environment is an important factor in the education of the people, and that our needs and ways of living, and even our national aspirations differ from the ways and needs and aspirations of people who live in other lands. It may be that the course of instruction adopted in the public schools of England and Germany is best suited for the present needs of those countries, but is it to be said that what is good for England and Germany is therefore good for us? The case of the boys and the frogs as told by Æsop should give us the answer. What, then, are we in this country to do if we may not accept the schemes of education such as other Governments have adopted for the benefit of their people? The answer is an easy one. We must provide a scheme adaptive and adaptable to our own ever-varying conditions, where the law of evolution will operate and education will be modified to meet environment as presented in the unlike conditions that now exist in the colony. We must foster a knowledge of natural science among the teachers so far as relates to local and even colonial environment, and we must have teachers prepared as teachers in anticipation of the profession they are to follow. Our country sadly lacks teaching experience and skill, and the two training institutions in the South Island are certainly running along on unscientific lines. There is an abundant supply of bookmen who teach the book, the whole book, and nothing but the book, but who are ignorant of the great book of nature, of which we need so much to encourage the study among children. Mere book knowledge makes a good show to the outside world, which only reads of examination results; but teachers who know nature even as far as their surroundings, and who can interest children not alone in the dead past but in the more important living present, are badly wanted by this country, and they must be obtained if our education is to be anything better than the mere varnish of knowledge. The industries, the scientific progress, the material, and even the social and political status of the country are in the hands of the six thousand or so teachers who are occupied in the noble work of education. Provision must be made for the training of teachers in technical skill apart from mere academic instruction; and this must not be on the antiquated lines of 'normal schools,' such as were established in England and elsewhere when provision was first made to prepare teachers suitable for the elementary instruction then deemed sufficient."

3. *Sir W. R. Russell.*] You spoke yesterday of the undesirableness of technical education in agriculture commencing until the Seventh Standard was reached, so I understood?—Yes.

4. Then, does not that virtually amount to failure to teach any technical agriculture in the primary schools at all?—Certainly not. To give the children an acquaintance with their surroundings they should have a knowledge of elementary botany—that is, a knowledge of the local plants of a district.

5. In the Seventh Standard?—No, the children in the lower classes. I would take all these lower-class children in real nature-study. That is what I am wanting.

6. You have not understood my question. I understood you to say yesterday that we should not teach agriculture to the children until they came into the Seventh Standard?—That is so; but anticipatory to the teaching of agriculture I would like nature-study in the matter of environment to be taken in the case of every school district—that is, so far as a knowledge of the plants, of the insects, of the noxious weeds, of the birds, and of the rocks of a district are concerned. Every pupil should learn things anticipatory of the Seventh Standard specialisation. Then would be the time, when they had that information, to prepare agriculture in a scientific manner.

7. What do you mean by the word "agriculture"?—Everything pertaining to the scientific preparation and growth of cereals and the production of live-stock—everything pertaining to scientific production on a farm really.

8. Then, in other words, agriculture would only be an advanced standard in the same class?—Exactly. Agriculture is an art just as is the manufacture of cloth. It is applied science. And I want to bring all the concrete information bearing upon the subject to bear upon the children before introducing them to applied science.

9. How would you, without materially interfering with the present syllabus, teach the earlier stages of agricultural science in the primary schools?—You must begin with the teacher first. I stated yesterday that the teachers were not prepared in this. They are unacquainted even with elementary natural science.

10. You disapproved of the peripatetic teacher?—Certainly.

11. But you said that the study of nature ought to be from nature itself and not from the book?—Yes.

12. How are you going to teach the teachers in the large centres from nature?—By bringing them under the very conditions that you want to apply to those various places. You want to take the technical man, the man who is able to teach the teachers, and what the technical man gives to the teachers let them carry into the country and into the schools.

13. But if you have to study from the book of nature, how are you going to learn on Lambton Quay the flora and fauna?—I would not take nature-study here the same as I would take nature-study in the Seventy-mile Bush or on the Heretaunga Plains. I would take what is here and available.

14. If you are going to bring the whole of the teachers into local centres, then you study the book of nature on the pavement?—But you have your different centres. For instance, I should have a centre here and another at Palmerston. I should have certain centres and adapt my work to the centres. We have three centres in the Hawke's Bay District.

15. You have trained your teacher and have got him ready to teach whatever the syllabus directs in this matter, we will say; at what age would you begin to impart to the children a knowledge of plant-life?—You could take them even in the lower standards in observational lessons. To give, for example, a concrete illustration: You could take for young children all the types of plants common to a class or order. You could take the stock, the ordinary wallflower, the turnip, the radish, and the cabbage. The children know these but they do not know that these flowers are similar. I would get them to discover likenesses from the flowers followed by a near de-

scription of each plant. My description when I took the cabbage-plant would be almost identical with my description of the turnip. I would make the children curious to observe, and they would say, "These plants are like each other, for the same words were told us about each." They begin to see from the words used that there are family likenesses, and they get interested. Carried on a little further, it is being applied in this way: A road-side plant is taken and the teacher says, "I would like you to bring such-and-such a plant." The child brings it on a certain day, and it is made the subject of a lesson. He knows where it grows; afterwards it is pressed in the drawing-book, and it is painted on the opposite page exactly to nature by applying the brush. I could have brought some books to illustrate this kind of work. This is nature-study applied to school study, and it is training the children to do and to observe, and observation to my mind is the root of all knowledge, as it gives power to do.

16. How many hours per week would you give to this in country districts?—At least two hours a week, but you could extend the time. In the first instance we are encouraging it. At the present time we have to foster and encourage this form of work in our schools.

17. I want to arrive at the possibilities of teaching in the primary schools, and to ascertain your idea as to the number of hours per week which could be devoted to this special branch without interfering with the other work?—You can give two hours a week without any inconvenience at all—even three. If you applied it a little way further on when the children begin to do plasticine, you could so dovetail the work as to make one subject run into and help the other; and instead of having the so-called object-lessons without objects you would have the whole material before the children for observation and instruction.

18. Then, in connection with teaching in a particular branch in a technical school, could reading-lessons in any way be devised bearing upon the subject which is being taught—that is to say, instead of reading about the Battle of Crecy, could there be a reading-lesson on cress?—Certainly, further on. I would not take that in the lower classes, although at the present time there are some suitable readers edited by Buchanan and Gregory, published by Macmillan, but they are adapted to England. There is, however, the same type of book issued by Whitcombe and Tombs for country schools. These books are called Nature Readers. Even in England adaptation is setting in. The authorities are beginning to see the necessity of adapting their reading-books to environment. A child gets accustomed to what he sees, and his attention is directed to the more particular points in connection with those things which his own ordinary observation simply sees and passes by.

19. I am taking it that your answer is that there is no reason why interesting reading-lessons should not be taken upon any technical subject?—I only want the observational foundation, and then to widen the child's experience by reading. Show him that what is within his immediate surroundings has its likenesses elsewhere, and you can widen and enlarge upon it in the mind. All actual knowledge is gained in that way.

20. In teaching children—always remembering the short time they have in school—if you taught them reading by lessons on technical subjects would you dwarf their general knowledge, or their knowledge of history, for instance?—Certainly not. You could encourage reading a little further on.

21. Then, in the rural schools, I suppose that not more than fifty per cent. of the children could be termed followers of agriculture in any shape. The remainder would be the children of engineers, carpenters, plumbers, and so on. Could you then in a primary school differentiate the technical training at all without interfering with the whole syllabus of the school?—No; you could not have a perfect system in an imperfect community. You want to get the nearest you can to environment. The point is to get the nearest you can to the actual wants of a district—that is, to meet the greatest number of needs in a district. You must have exceptions in everything.

22. Then, you think that practically there would be no difficulty in establishing in a primary school a system of teaching that would suit the locality?—It could be done without any great change in our syllabus to-day, because under the Manual and Technical Instruction Act science is fostered; but it is impossible with our syllabus to do all the subjects satisfactorily, and that is my reason for saying that our syllabus ought to be so arranged that the compulsory subjects should be merely arithmetic and English, including, of course, reading, writing, drawing, and composition. These should constitute the foundation of all our final work so far as mechanical preparation is concerned. I would then allow every district to select the subjects, say, two, or three, or four, or five, as the case may be, best adapted to a district.

23. Taking a school with this environment and this special syllabus, how would that affect the pupils who were not going to develop on the lines of their immediate environment?—They have the elements, or the foundation, according to environment, and when they go into another district it is simply a modification. There are similarities, whether you take the flora or the fauna, or the soils, there are similarities in the different districts.

24. *Mr. Fowlds.*] At present a good deal is being done in the schools along the lines you have indicated?—They are beginning to work along those lines.

25. And the main thing is the more complete training of the teachers?—That is what I desire to see.

26. *Mr. Buddo.*] Do you think there is any room in our present syllabus for any further special subjects?—I have just answered that question for Sir William Russell in this way: Our syllabus is so extensive that the difficulties under the Manual and Technical Act of introducing the subjects required under it are so great that I fear the result—I am not satisfied as to the result. The pressure is too great.

27. You consider, then, that the taking-up of further subjects would be a matter of great delicacy?—That is where the difficulty is at present.

28. Would you approve, then, of studies in nature, we will say, being taken up other than as a pastime or reading-lesson?—I think you should do a great deal more than as a pastime. I

would make them a part of our ordinary school training. We should have the right to drop out certain subjects under the syllabus. Take the syllabus as suggested here. Here is the work for Standard I.: English, reading, composition, writing, spelling, recitation, arithmetic, drawing, singing, physical instruction. Then, additional subjects are: A definite course of nature-study, handwork, needlework. These are additional subjects that may be taught. Now, the average child in Standard I. is, say, eight years. There are too many subjects. They are too various. What we want really are English as suggested and arithmetic, with nature-study. I approve of those, but any others should be optional on the part of a teacher. You should not compel a teacher who cannot do a thing to try to do it.

29. It would only be a prodigy who could grasp such instruction, I take it?—I am afraid it is done at the expense of the future intelligence of the child.

30. I do not wish to labour the point now, but it occurred to me. You previously stated that you thought it inadvisable to teach agricultural subjects earlier than the Seventh Standard?—Yes; agriculture as a science.

31. Nature-study is prior to that?—Yes.

32. Do you think that any considerable proportion of pupils would or could attend classes for agricultural instruction after they had passed the Sixth Standard?—I think so. I think you will find that the country children remain at school longer than the town children. The demands in town life are greater than they are in country life, and the children as a rule remain at school longer; and I consider those children should be trained in agricultural science.

33. You are speaking now of the larger centres?—Yes; but I might say, if you will allow me to amplify that, that I was asking for the various annual reports so as to make up a statement as to the pupils who pass the standards. I wanted to take a period and to find out how many on an average out of every thousand drop out between the Fourth and the Fifth Standards, the Fifth and the Sixth, and the Sixth and the Seventh, because it would be very interesting to discover as to the time when the children really enter into the business of life. I have not made any tabulation, but I think you will find that between the Fourth and the Fifth Standards more children leave school and enter upon the business of life—especially in the towns. I would like that inquiry to be followed.

34. Just one more question—to generalise. Am I to draw this conclusion from your remarks, that it is largely your opinion that primary education to the Sixth Standard is primarily for the purpose of educating pupils to take up other subjects?—Yes, anticipatory of technical training.

35. *Mr. Hall.*] Mr. Wilson, in his evidence, dwelt very strongly upon the advisableness of getting children to imbibe knowledge in regard to the growth of plants, and he quoted the example of the Mauriceville School, where the teacher has a garden and interests the children in the culture of different vegetables, &c. He very strongly advised that a man of the character of the Mauriceville school-teacher should be sent round as an instructor, and to encourage each school to have a garden as an object-lesson by which the children could learn the rudiments of the growth and culture of plants. You seem to agree with Mr. Wilson to a certain extent, but instead of having peripatetic teachers you would teach the school-teachers in the centres?—Exactly.

36. How could you teach those teachers in the centres unless you had a garden from which they could be taught?—You do not want every teacher to be a gardener. You do not expect each teacher is going to be a gardener and to prepare children for becoming market-gardeners. What you want to do in scientific training is to let a child know the various characteristics of plants, and you can teach these without teaching him to grow onions, or radishes, or cress. These country schools are mostly under the charge of a schoolmistress—the smallest schools.

37. So that a schoolmistress, too, would have to undergo this course of training?—There is adaptation. If the schools were organized as they should be you would find the teachers adapted to those places coming in and going to the schools, because it would be made worth their while to do so.

38. New Zealand is an agricultural and pastoral country?—Then adapt your education to it.

39. You have said that England has adapted her education?—To the industrial needs of the country.

40. So that the bulk of the children may become artisans. You would advise that a similar course be pursued here?—I am speaking for adaptation. Mr. Wilson has well said that our greatest industry is agriculture. I have drawn special attention, in the paper from which I have quoted, to the effect of the growth of our meat industry; and exactly the same thing applies. Our children should be biassed—should receive a bias according to the industries of the country.

41. You have told us that the bulk of the children leave school between the Fourth and Fifth Standards?—It is my opinion that a large proportion leave between those standards.

42. Is it your opinion that the bulk of the children go to agricultural and pastoral pursuits?—They have been withdrawn during the past few years into the towns. It is only in the towns.

43. Are you entirely in accord with Mr. Wilson when he says that you should encourage a love of floral production in the children in order to get them to live in the country instead of drifting into the towns?—I have said that their early training should be that, because it is the foundation of all knowledge—that is, the training of the perceptive faculties; and you cannot make an agriculturist until you have trained him to a knowledge of the things around him.

44. In your opinion is there sufficient agricultural training in our technical schools—of course, Mr. Wilson advised that our technical schools should also include agricultural training among their subjects?—We have a technical school so-called at Napier, but certainly no agricultural training is given there.

45. Would you advise that it should be?—If the Department will give us a grant to do it, we will have a specialist.

46. Take the technical school at Dannevirke. The whole of the country round it for fifty miles is agricultural and pastoral?—I would adapt it as a centre for the giving of instruction in agriculture. It would be a natural centre.

47. *Mr. J. Allen.*] You heard Mr. Wilson speak of the Council of Education, Mr. Hill?—Yes.
48. You understood what he meant by it?—Yes.
49. A central body, I suppose, he meant?—Yes.
50. Do you approve of that?—At the time he spoke I thought that the best Council really was the Council he was speaking to. It seemed to me that you gentlemen appointed to this Committee have the best opportunity to gain knowledge, and to make suggestions and recommendations with a view to improving the education of the country, and certainly it is needed.
51. In your opinion, an advisory committee such as we have here to advise the Minister would serve the purposes of education as well as the Council suggested by Mr. Wilson?—I think it would serve the purposes of the country most admirably—that is, with the addition of what I should call "technical men," to give the Committee advice on questions about which of necessity they can know very little.
52. Then, Mr. Wilson spoke of the consolidation of schools in the country districts, and the conveyance from outlying parts to the consolidated school by some means of transport. Is that feasible?—I have made a recommendation to our Board that that should be done, instead of establishing a school at one of these outlying places; but the people at such places feel that they are entitled to a school like their neighbours, and that if their neighbours have a small school they should have one. I believe it would be a great deal better if arrangements could be made to carry the children within a radius of, say, six miles to a school. It would be more economical, and the children would be placed under more favourable working-conditions.
53. Do you think it impossible to get over the local feeling on the matter?—It is simply a matter of government, to my mind. If there were a little bit of backbone shown by the authorities it would be done.
54. The question of local support arose during Mr. Wilson's evidence—I mean local contribution to the education fund. Do you approve of that?—Most certainly. Formerly, it was very much more common, in Hawke's Bay, at any rate, to give help than it has been in later years. The reason is that the feeling has been growing among the people that they are entitled to and must have a school, and that everything must be done by the Government. There is no self-reliance at all fostered in our education system.
55. You are, no doubt, aware of the American system of raising funds: What is that?—I am taking it now from the Moseley report. They are provided by the central authorities, the governing authorities.
56. The central authorities of what?—In the various counties—the various boards.
57. It is local taxation?—Yes, and in one of the Moseley reports it is stated that more than half the income of a district is spent upon the furtherance of education, so determined are the people to have good education.
58. Do you ascribe to that the activity and interest in education in America, or to what do you ascribe it? Do you mean the interest among the pupils themselves as well as the teachers?—I would not like to say that, so far as America is concerned. I have not been to America, and I can only go by what I read about the work there; but I have read Professor Armstrong's report—and he seems to know more about the technical work of a school than most of the other visitors—and he remarks that there is not as much thoroughness in the schools there as is to be found on the average in the Old Country.
59. I was alluding to the general interest taken in education. Is there more interest taken in education amongst the people in America than there is here?—I do not think so. I think our people and children are very much interested in education. I believe local government is the very heart of our education system.
60. You mean by that local taxation too?—I would carry out local taxation. In order to adapt—I am bringing up that matter of adaptation again—in order to adapt and increase the interest I would throw some of the duties on the County Councils and boroughs. Every County Council and borough should manage technical instruction because they have a rating-power.
61. Would you mind, for the edification of the Committee, explaining to us your own ideal of an elementary school in Wellington, say, and an elementary school away in some country district—what the training of the child should be, from the earliest stage up to the Sixth or Seventh Standard. Take Wellington first of all: what should the little child begin with?—I would take him in the training of his observing faculties—that is, everything should pertain to the sensory part of his nature. His sensations should be perfectly educated in accordance with his environments. Everything connected with nature, such as the clouds in the sky, why the wind blows, why it rains, and a hundred similar things provide for a young child lessons for training and thought. At the same time you can teach him the ordinary forms that represent words, and he can learn to read. He can learn to represent words of his own by learning to write—that is, along with the ordinary observational training you introduce the mechanical devices such as reading and writing, and the cognates of reading along with the reading; and there you have the child all prepared and ready to proceed into any of the directing channels of more specialised forms of knowledge.
62. Do those remarks apply to the country school, too?—Yes; but, of course, modified in nature-study to the country.
63. You would differentiate with respect to nature-study between town and country?—I would in every district.
64. Now, I get to the point of supplying the teachers for these various schools with their differentiated nature-studies. Where would you train those teachers?—You would teach them the general principles and they would apply them.
65. Where?—At their own places.
66. Where would you train them? What is your idea of their training?—I would only give them a technical training in a training school—only technical; the university colleges should give them the academic training.

67. Considering our conditions in New Zealand, where is it possible that we could have training schools such as you think about?—Would you like me to give you my own opinion?

68. Yes, your opinion only with respect to the possibilities of New Zealand. It is no use theorizing of what is impossible?—I do not want to theorize. I want to make it practical. I would say there should be a technical training school for teachers in every education district.

69. Assuming that that is not possible, and that all Parliament sees practicable with the means at its disposal is four schools in the large centres, what do you suggest as the training of the teacher there?—My opinion is that the moment you attempt to have four training schools you will find the expense too great. There are not sufficient teachers required to keep four training schools going. No doubt the four university college centres—assuming always that each district does not have a training school—are the proper places for the training colleges, because you can apply the academic preparation.

70. If the cost is too much for training schools in the four centres, what about the cost of them in each educational district?—It would not be as much.

71. Why?—You could utilise the students' services in school-work, which you do not propose to do in the four centres.

72. Do you think it would be advisable to utilise the services of the students in school-work?—I do not see how you are going to train them as teachers unless you train them to teach. A person would never learn to be a shoemaker simply by hearing lectures on how to make shoes.

73. I will not follow up the question—it would lead us too far. Let us come back to the four centres. Considering the possibilities of New Zealand, supposing you trained these teachers so that they got sufficient education in pure science to enable them to fill the positions in country schools, and so on, do you think there is sufficient inducement nowadays for a teacher to go to a country school who had had the kind of training he would get under the training-school system you suggest?—There is not; but if the rating authorities had the control of education they would see that it was very cheap for them to get a skilful teacher, instead of taking a teacher who could not adapt the preparation of the children. You would have the teachers to fill the proper places, because the local authorities would make an effort, over and above the Government grant, to make up the salaries of such teachers.

74. Do I understand you to mean that the teacher to-day in the country school is insufficiently paid for the work?—For the work he does perhaps his pay is sufficient, but for the work we want him to do much more pay would be required. The higher the skill the greater the wage, I should put it.

75. Does it require, in your opinion, as high or higher skill to teach a country school, with its necessary nature-study, and so on, as it does to teach a town school?—I think it requires even greater skill, because relatively the differentiation is greater.

76. What suggestion have you to make, if any, with regard to the supply of teachers for country schools under such conditions as we have been talking about?—Simply prepare them—give opportunities for the technical training of teachers, and provide inducements for those teachers to go into the country.

77. What inducements?—By large salaries. I said I wanted to foster their growth by the process of rating.

78. The teachers should have increased pay?—You would have to give increased pay, because the skill would be greater.

79. Would that involve an alteration of the present system of pay—practically, I understand, it is according to the number of pupils attending?—No: you could have a capitation allowance, but every district wanting a special teacher would give a subsidy. A district wanting a good teacher would be willing to give a certain amount as aid. That has been operating for twenty-five years to my knowledge. Where a district has wanted a special teacher it has said, "We will make up the salary."

80. Assuming that the district does not do that, and the thing is left in the hands of the Government, how are you going to manage?—You will have to go to the fountain-head and ask for more money, because greater skill is required, and you cannot induce specially trained teachers to go into the country for the salary that is offered in a small school at the present time.

81. What do you think of the suggestion that the pay of teachers should not be according to the number of pupils, but according to the classification and capacity of the teacher?—"Capacity" is a very indefinite term. You must have a factor to determine the salary in my view.

82. The factor that we are talking about is, in your opinion, so I understand, that the teacher in a country school requires more powers of teaching than one in a town school. How are you going to provide more pay unless you alter the system, supposing the Government does it all?—If Government does it all you will have to modify your salary-scale.

83. In what way?—Give a greater capitation allowance for the small schools—in other words, increase the capitation.

84. With regard to what you said about rating. Do you suggest a supplementary rate in the country, or the whole education rate?—I want it optional. If the County Councils and boroughs had the control of education in their respective counties and boroughs, and they had the right to subsidise the grant, I say that naturally the county or borough that wanted a better standard of education would make an effort to give a little towards obtaining it.

85. Supplementary to the Government grant?—Yes.

86. *Sir W. R. Russell.*] I want to ascertain why you think that one particular class of property in a county should pay for the education which owners of other classes of property are deriving the benefit from?—The towns would have the same plan of optional rating that all the boroughs would.

87. Do you know that under the Rating Act only one particular form of property is taxed for county purposes?—I must confess ignorance there, Sir William. I was taking it that property is taxed as property.

88. *Mr. J. Allen.*] Is there any danger, if you specialise in the way you suggest from nature-study, and so on, of getting the elementary education on too narrow a basis?—To my mind, it is the only way to get it on a wide basis, because you begin in the very place where a child gets first concepts, so far as observation, and language, and thought are concerned, and you expand your base by building knowledge upon it.

89. If you study cress without Crecy, do you think you are getting on to a narrow line?—I do not know. I should not like to determine that question.

90. You said that the study ought to be according to basis—that the child should be biassed towards the industries of the country. Is it possible in a young country to say what the industries are going to be?—That is what we have been saying. If you take a district and prepare the child according to its environment you bias the child according to it.

91. The only environment of a child in a new country is the life that he sees around him. There is no bias towards a manufacturing industry?—Pardon me. He has it in the town.

92. I am talking of a new country that has only small towns. If you adopt that principle, are you not limiting yourself to the particular life that is immediately around the child?—A child cannot get a thought about the buildings in London and the wonders of London from the whare in which he lives, and until that child sees larger things his thoughts must be all curbed and cribbed in proportion to his environment.

93. If you attempt to bias towards the particular industries of the country, do you not limit the possibilities of a child's education by excluding the things which are not immediately around him, but which have to come in the course of time—like manufactures?—I do not anticipate what is going to be. I simply accept what is there for the time being. The knowledge I have of my surroundings is the knowledge upon which all my new thoughts must be based.

APPENDIX.

Agricultural Education.

At a recent meeting of the executive of the Hawke's Bay Branch of the Farmers' Union Mr. G. Hogben, M.A., Inspector-General of Schools, gave an address on the subject of agricultural education.

Being invited by the Chairman to express his views upon the remit from the Hastings branch—namely, "That the subject of introducing technical agriculture education into the primary schools is of the greatest importance, and is recommended for the support of the union"—Mr. Hogben said,—

I have first to thank you for the opportunity you have given me of explaining what has been done, and what I think can be done, in this most important matter of agricultural education. I state not what I regard as a mere platitude or truism, but as a most important fact, when I say that in my opinion properly organized instruction in the principles of agriculture is one of the most urgent needs of this colony. Agricultural and rural pursuits engage the efforts not only of far more people than any other single trade, business, or manufacture, but, I believe, of more individuals than all other productive occupations put together. While, therefore, we are making provision for training apprentices and foremen in other pursuits, we ought to see that we do not neglect that which concerns the interests of the largest class of producers.

I have read with much interest the remarks made at the last meeting of the Colonial Council by your president, Mr. J. G. Wilson, by Mr. Edwin Hall, and others, in reference to this question, and find myself largely in agreement with them. I note especially the stress laid by Mr. Hall on the necessity for sound preliminary work in the primary schools—such work to include nature-study and the keeping of school gardens—not so much with the view of imparting technical knowledge in agriculture, but rather as a part of general education, to train the observation and other personal powers of the children. Unless this training of the observational and reasoning powers of pupils forms the foundation, the remaining superstructure of agricultural instruction will be unsound. I should therefore be inclined to omit from your resolution the word "technical." Very little instruction that can in the strict sense be called technical—that is, bearing directly upon the principles that underlie a given trade or trades—can be given, or ought to be attempted, at a school, least of all at a primary school. But the preliminary training in nature-study, in the observation of the common objects and phenomena of the every-day life around him, ought to form part of every child's education, and I am convinced that when this is realised in practice, the intellectual training that is afforded him will not only not suffer, but will gain immensely in depth, reality, and interest thereby.

Mr. Hall holds up as worthy of imitation the scheme of rural instruction being carried out in Canada. This scheme is in many ways most admirable, but it depends in a great degree upon the centralisation of schools, whereby several small country schools are replaced by one larger central school, so enabling classes to be formed sufficiently large to tempt teachers of marked ability to devote their lives to the advancement of rural education. I do not think we are yet prepared for such a radical change, although it has much to recommend it. Other countries have done much towards fostering specially adapted courses of instruction in elementary schools, the French scheme for the "Teaching of Elementary Ideas of Agriculture in Rural Schools" being admirable. (A translation of this publication, I may point out, was issued by the New Zealand Education Department as a special paper in 1899, and copies of it are on the table before you.)

It is often assumed that nothing has been done in the desired direction in this country. This, as I hope to show presently, is quite a mistake. I would preface my remarks on this head, however, by saying that, whereas in many other countries the control of education is largely centralised, in New Zealand we go to what some may regard as the other extreme of local control by means of Education Boards and School Committees, even the inspectors of schools being officers not of the Education Department, but of the local Boards. The function of the central Department is, therefore, not to establish schools or to introduce compulsory this or that form of instruction, but by its general regulations and the grants it offers to encourage the local controlling authorities to introduce such instruction as is most suited to the district.

This, I claim, the Government of the colony, through its Education Department, has done.

1. The new syllabus, about which you, no doubt, have heard much discussion, expressly encourages such an arrangement of the school course that the various portions of the work shall have immediate reference to the facts and needs of the children's daily life. The methods of instruction suggested, for instance, in geography imply the giving-up of the learning of mere lists of names of foreign places and the useless copying of maps from an atlas in favour of the actual observation of the physical features of the country in which the children live, and the drawing of maps and plans based as far as possible upon their own rough measurements. Similar principles underlie the proposed reforms in the teaching of other subjects. Some amount of nature-study must be taken up in every school, whether large or small; and, at the risk of repetition, I will quote what is declared in the syllabus to be the purpose of nature-study: It is "to train children in the careful observation of surrounding objects and of common phenomena, and to set them to ask themselves questions such as, 'What does this mean, and how does it act, and why?'" Such questions cannot properly be answered out of books, however well written. The children must use their eyes and reason from what they see. Only years of experience can give the ripe judgment of the skilful farmer, but those trained in their early years to habits of intelligent observation will be likely to acquire far sooner and more easily that sound judgment that so many of their fathers have bought at the cost of repeated mistakes.

2. In schools of grade 4 and higher grades—that is, schools with more than forty children in average attendance—there must be a definite course of nature-study, or elementary science, or of handwork that includes a training in elementary scientific method, such as cottage-gardening, dairy-work, agriculture, elementary physics, &c. The choice of the subject is left to the individual school and the local authority; but it is enjoined that the subject chosen should in all cases have immediate reference to the local surroundings. This, of course, implies rural subjects in rural schools. Allow me to call your attention especially to clauses 53, 54, and 56 of the standard regulations. Clause 54 suggests subjects for a course of nature-study. For instance: "The structure of a well-known mammal, as a rabbit; the differences in form and habit of various mammals. . . . Insects: The life-history of a few common insects—butterflies, moths, flies, beetles, grubs, and caterpillars, hive-bees, and wild bees, &c. (Butterflies or moths may be reared in the school.) . . . Plants: Flowers (wild and garden), roots, leaves, seeds, and fruits; the life of plants, germination, and growth; the effect of light, moisture, soil, and manures. Trees and the common kinds of timber. Wheat and other useful grasses. The weather, rainfall. Milk, cream, butter, curds, whey, cheese, tests for milk. Outdoor studies in geography, land-measuring, natural history calendars, weather calendars," &c.

Clause 56 gives an indication of the topics from which there may be selected subjects for a course of lessons in elementary science suitable for the upper classes of a country school. Most of these have an even more direct bearing upon agriculture than the topics already referred to under the head of nature-study, but the treatment suggested is similar in character. For example, various experiments and observations of plant-life are given, to be carried out by the children individually, on seedlings and plants raised in pots and in small plots in the school garden. Almost every successful scheme of rural instruction includes the keeping of school gardens, in which children, under proper guidance, can rear with various methods of treatment as to soil, manure, &c., most of the plants that are found on an ordinary farm, keeping calendars and careful notes of their work and its results, of the productiveness of the seeds under varying conditions, the cost, and so forth. Your chairman has referred in terms of praise to a school garden, laboratory, and museum that he has seen at the Mauriceville School. I am glad to say that is not a solitary instance. There are gardens in connection with many other schools, and in almost every case, from the reports I receive, I believe the benefits are very great. Under the Manual and Technical Instruction Act, "cottage-gardening" is recognised as a subject in ordinary primary schools, district high schools, or secondary schools, and a capitation of 5s. per head is paid if forty lessons of not less than one hour each are given during the year. "Dairy-work" similarly receives a grant of 10s. or 15s., according to circumstances; and elementary agriculture and kindred subjects receive grants of 2s. 6d. or 5s. per head, according to the amount of time devoted to the instruction.

Other grants in aid of the necessary apparatus and of the instalment of such classes have been given from time to time, although I am not in a position to say whether such grants will be continued in the future. Many schools have established such classes without any other Government assistance than the capitation named above, which I believe to be in all cases sufficient for the annual maintenance of the classes. It is for you, gentlemen, and others similarly placed, to use your influence with Education Boards, School Committees, and teachers to see that these subjects of rural education, for which the syllabus and the regulations under the Manual and Technical Instruction Acts make such ample provision, are introduced into all our country schools, and receive therein the attention they deserve. The Government can hardly do more without interfering with the local control, which is the characteristic feature of our education system. You, if any one, ought to be able to move the local educational authorities and local public opinion in the desired direction. And if the union did nothing else in a whole year than to emphasize this, it would be doing as good work as any body of men could do.

Before passing to the next point, I should like to mention the anomaly (for such it seems to me) of schools in country districts taking up such subjects as typewriting and shorthand in preference to agriculture, dairy-work, or cottage-gardening. Surely, to mention such an anomaly is sufficient.

3. It has been said that to expect such instruction as has been indicated from untrained teachers is to put the cart before the horse; and it is further implied that the Department has done and is doing nothing towards the training of the teachers. Now, this does not exactly describe the facts. For many years past the Government has made grants to the several Education Boards for the training of their teachers in those subjects of manual instruction that may be taught in schools, and free railway passes have been issued to teachers desiring to attend the training classes established by the Boards. The application of the money to the particular branches of manual instruction has been left to the discretion of the Education Boards. I regret to say that in very few instances do I find that the Boards have applied the money to the establishment of classes for training teachers in elementary agriculture. This, again, is another point you might urge upon your local Education Board. I must not omit to say that these training classes for teachers receive the statutory capitation grants under the Manual and Technical Instruction Acts in addition to the special grants given to the Boards.

The present regulations for teachers' certificates encourage the study of agriculture and agricultural science to a far greater extent than the former regulations, and any teacher who gives evidence of special qualification for teaching these subjects may in future have that fact indorsed on his certificate. I know of no reason *a priori* or from experience, why women teachers should not do as good work in teaching nature-study, dairying, and elementary agriculture, or in conducting school gardens as those of our own sex.

The training colleges will be expected in future to make agriculture a part of their course; and it is intended that all teachers, if possible, shall pass through the colleges. The two to be established, as well as those already established in Christchurch and Dunedin, are to be open to persons from all parts of the colony, and in the case of those who have been pupil-teachers, the allowances made to the students are liberal enough to meet all the expenses of board and tuition.

But I contend that any intelligent teacher, who is worth his salt, and is in earnest about the matter, can begin forthwith to introduce systematic nature-study into his school, and will find that his work will grow easier and the interest greater the further he carries the new methods. New Zealand teachers I believe to be as capable of making progress in this way as those of any other country. Cannot we do here as much as was done twenty years ago without special previous training in France and Denmark?

4. I have spent a long time in showing what I believe can be done in the preliminary stages; but we should not rest there. There are those who have left school to be provided for—*i.e.*, the sons and daughters of farmers, and others who intend to take up farming or other rural occupations. Something ought to be done at once for those persons. The Technical Committees of several of the County Councils in Great Britain have done excellent work of this kind, and in many respects their example might be followed very closely here. I may mention in England the County Councils of Cheshire, Wiltshire, and Hampshire, &c., and in Scotland, Ayrshire, Lanark, &c.

In New Zealand full powers have been given to local authorities for the establishment of classes for agricultural instruction as for any other branch of technical education. I would especially direct your notice to subsection (3) of section 4 of the Manual and Technical Instruction Act of 1900, which enables, among others, an agricultural and pastoral association, or any similar body, a County Council or other local authority to join with a Board of Education in forming "associated classes" for manual or technical instruction (including, of course, agricultural instruction) or continuation classes. Section 16 of the Act, as amended by the Act of 1902, allows any local authority to give land or buildings, or money out of its general funds for aiding classes under the Act. Societies or local authorities joining in the formation of classes are entitled to representation on the boards of "managers" in proportion to their contributions to the cost of maintenance; and a subsidy of £1 for £1 is, by statute, payable upon all voluntary contributions from any private person or any local authority. If City Councils and Borough Councils join with industrial associations and trade-unions (as they have done) to form classes intended for training apprentices and others in towns, why should not the farmers' union, the agricultural and pastoral association, and the County Councils join in forming classes for the farmers of the coming generation?

I do not think the fear of financial difficulty need stand in the way. The Act provides a higher rate of capitation for classes held in country districts. For each individual attendance of one hour a payment of 4½d. is made—that is, for each lesson of two hours (practice and theory combined) a payment of 9d. a head is made. An attendance of twenty would give 15s. for each lesson. Grants may be made by the Government for buildings, apparatus, and material; and there would be the fees payable by the students, as well as the voluntary contributions (doubled, as I have said, by the subsidy). The Boards of Education might be somewhat timid in this matter, but they would, at all events, allow the use of their buildings, if they did nothing more.

The Act of 1902 makes special arrangements for itinerant classes in country districts. The regulations (see clause 45) name as subjects that may be recognised: "(19) Agriculture, (20) horticulture, (21) dairy-work. . . . (24) wool-sorting," and, what is surely wide enough, "(25) other similar subjects."

Technical scholarships may be held under certain conditions at such classes as I have suggested by any pupils who have previously gained a certificate of proficiency (Standard VI.) in the public-school course; and in that case 3d. per head per hour may be added to the capitation named above, thus making for holders of scholarships the payment 1s. 3d. for a lesson of two hours in length.

I do not think that the farmers' unions and similar bodies in this Education District of Hawke's Bay, perhaps in conjunction with the Wellington, Wanganui, and Taranaki branches, would find any real difficulty in employing and paying one or two fully qualified instructors to conduct classes for two or three months in each district on the principal subjects of agricultural education. Such classes would also be available for the teachers in primary schools to gain a fuller knowledge of agricultural subjects. The best pupils from these local agricultural classes would be eligible for the senior technical scholarships. The best of these, again, should receive scholarships tenable at Lincoln College, or at any other higher agricultural college or special dairy school that may be established. By the National Scholarships Act of last session, the senior National Scholarships may be held at such higher agricultural schools, so that the advantages and distinctions of these scholarships are open as much to the future farmer as to the future lawyer or schoolmaster.

I have not nearly exhausted my subject, but I think I have said enough to show that it rests not so much with the Government as with yourselves to take the next steps for the establishment of classes for agricultural instruction. If your own fervent desires and my humble explanations produce a practical effect, and you are in a position definitely to propose the establishment of classes, I shall be most happy either to come myself or to send some one else to discuss the details with you, and to point out the formal steps that require to be taken to put the classes on a satisfactory basis.

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