

but that the retaining power of the land is largely increased by the bush covering, which acts like a sponge and prevents the water running away too rapidly. You have a constant supply instead of an intermittent one.

5. *The Chairman.*] Can you give any specific examples of where permanent climatic reserves should be made?—One is already reserved—the Waimakariri National Park—and it should be made a reserve also as far as the forest is concerned. Canterbury College is a botanical resort, and one of its greatest assets in this connection is that park. Its proximity to the College makes it invaluable to students, and we should look to the needs of both present and future students. Another forest that should be preserved is at the headwaters of the Rakaia. It is a mixed bush of manuka, totara, and other trees, and is fairly accessible.

6. Apart from the value of scenic reserves for aesthetic purposes, what do you consider their importance from the standpoint of education?—They are extremely important from the point of view of pure botany. There is nothing like the variety in the European and English woods there is in New Zealand, which offers enormous advantages in that respect. If forestry in New Zealand is to be placed on a scientific basis the forests must be retained for demonstration purposes.

7. Do you consider that areas other than forest—*e.g.*, swamps, dunes, alpine meadows, &c.—should be made into scenic reserves for educational purposes?—Yes, it would be extremely desirable to have areas of that kind bearing on the general question of forestry; they are places of extreme interest botanically. In comparison to the Yorkshire moors, some of our swamps are far more interesting fields of research, and they bear on the general question of the science of forestry. It may also happen that if the natural flora is preserved in this manner you might thereby be able to gain a proper knowledge of some tree which at present we have not a full knowledge of, and which may become extinct before science has discovered all its uses. Not only do the trees become extinct, but we ought to know something about the matter from the point of view of zoology, and so preserve many types of animals and insects that would otherwise become extinct also. Of course, as it is a great many of the smaller animals have become almost extinct from the want of the application of this science.

8. Do you consider that men admitted into the Forestry Department should have a special scientific training?—I certainly think so; that is the general tendency in all industries, and in the science of agriculture, medicine, and other subjects. In medicine and agriculture through actual experience a great deal of valuable knowledge has been obtained, whereas forestry is a new subject.

9. What branches of science should they be fairly conversant with?—Forestry is not a science in itself, but the application of various sciences to a particular purpose, and it is necessary to have an acquaintance with the fundamental sciences that affect work of that kind. At Edinburgh University the students have to study botany, zoology, physics (including meteorology), chemistry, organic chemistry, mathematics, and entomology, and the different applications of all these subjects to forestry.

10. *Dr. Cockayne.*] Where in Edinburgh do they get their practical knowledge?—A certain amount is obtained by visiting the private estates. They have no public forests there. But it is actually stated in the University regulations that in connection with the essential part of the practical work students are recommended to go to Germany, as there are no State Forests they can use in the British Islands. That is also recommended at the Oxford School of Forestry; or they should go to France.

11. *The Chairman.*] What is the present position in New Zealand for obtaining such a training as you might consider desirable?—The fundamental sciences are all being taught in our University colleges. We have the Agricultural College at Lincoln, and the experimental stations of the Agricultural Department.

12. Would it be practicable for the New Zealand University to give a diploma in forestry of a grade somewhat lower than that for B.Sc.?—Yes. I am doubtful about the legal position, as to whether we can give that diploma without an Act of Parliament. We could issue a degree of Bachelor in Forestry under the present charter, and not make the regulations up to the standard of the present B.A. But the different University colleges have power to give a diploma themselves.

13. *Dr. Cockayne.*] Could the men in the lower grades of a forestry department be given a diploma in agriculture after two years' study?—It would be quite possible for the colleges to issue such a diploma, just as they do in connection with engineering and mining.

14. And such men could take their practical work at the present State nurseries?—Yes.

15. *The Chairman.*] What remuneration would you consider sufficient at the commencement for a young man who is entering the forest service, in view of the fact that the Transvaal Government is sending cadets to the Forestry School at Oxford under the condition that they enter the forest service at £200 a year, with annual increments?—£200 would not be too much for the full course such as you have at Edinburgh. If they do not want such a long training you might start them lower; the initial salary does not matter so much as long as there is some certainty of its increasing afterwards.

16. Would a forest laboratory be a valuable adjunct to the Forestry Department?—You might have one situated in a forest, where botanical research could be carried on. It would be not only useful but absolutely essential if forestry is to be put on a proper basis. The Chemical Department in Wellington could be utilized for some of the work, and the Geological Department for other aspects of it. There should also be a laboratory in the forest itself, as the experimental raising of trees under different conditions would have to be done in a forest, as it could not be done in a city like Wellington.