suitable timber for piles?—Yes, if you can judge from one specimen. But I do not think it is at all wise to judge from an isolated sample of any timber.

21. If we can get a tree that comes to maturity in a short rotation of time and fulfils the conditions of supplying suitable timber, would it not be a good thing?—Yes, but none of the eucalypti I have seen converted into timber appeared to be anything like well matured. None of the timber I have seen cut from big blue-gums forty years old has stood. It splits and warps, and decays comparatively quickly, but this sample may be from the right tree. I am not sure if it would suit every locality.

22. Would you care to express any opinion at this stage as to the effect of the powellizing process? Do you consider, as far as the experience of the Department goes, that it is going to be a success in this country?—It is impossible to express a definite opinion as to it yet. Up to the present the timber which has been treated in the North Island by the Powell Company has been anything but a success, and I attribute the fact more than anything to the way in which the treatment has been applied. The company stipulated and made a strong point of having any timbers submitted to them for treatment as fresh as possible from the saw, so that the sap would be liberated freely in the powellizing process. Of all the sleepers which we had treated there, on examination—I think there were some seven thousand, most of which came as nearly as possible direct from the mills to the works—only fifteen hundred gave any greater life than the ordinary untreated kahikatea. These fifteen hundred kahikatea sleepers, which were an overflow from the Woodville works, where there was not sufficient creosote to treat them, were sent to Rangataua for treatment by the powellizing process. Only these fifteen hundred exhibited any greater length of life than the ordinary untreated kahikatea sleepers. They were all seasoned when they went to the works, and at last reports they were still sound, with no deterioration at all. That was after two years' trial; whereas from 40 to 60 per cent. of the others were bad.

23. *Mr. Murdoch.*] And did not show any increase of life from the ordinary timber?—I think not. You might depend on kahikatea for eighteen months, but if you got the heart it would last well; there is, however, so little heart in that timber.

24. In your experience does the treatment by the powellizing process affect the strength of the timber in any way?—No. The company asserted that their treatment increased the transverse strength of the timber, and to ascertain this some tests were made, but it was found that there was nothing in the contention. Seasoned timber, of course, is stronger than unseasoned; but there is no deterioration in strength that I could detect.

25. *Mr. Lethbridge.*] Does the process keep it from warping and splitting?—No. We had a metal bin attached to a stone-crusher. It was constructed of powellized birch, and the report I got about it was that this timber had done everything which the company guaranteed it would not do—it warped, split, twisted, and shrank.

26. In the case of the sleepers treated in the Southland works, is that timber seasoned before it is treated or taken straight from the saw?—We give it as long a seasoning as is convenient, and hold it back from treatment as long as we can in regard to keeping the works going, especially since the result of the trial up here.

27. What classes of timber have been treated there up to the present?—Kahikatea, rimu, and red-birch so-called down there (*Fagus Menziesii*)—that is, birch from the Longwood Range.

28. Any kamahi?—No. We tried creosoting it a few years ago, but it splits all to pieces, like hinau.

29. *The Chairman.*] We saw some timbers under treatment which were badly infected with the worm?—You refer to kahikatea?

30. Yes?—Well, the Powell people claim that the process will arrest any insectivorous decay. We have submitted treated sleepers to the Colonial Analyst to ascertain whether the preservative has penetrated through the whole sleeper, and those that were treated at Kew showed arsenic in the centre of the sleeper. Those treated in the north showed the preservative going in only a short distance. The arsenic is intended to render the timber immune from insects, and I understand it has had that effect as far as the white ant infesting the Australian timbers is concerned.

31. *Mr. Murdoch.*] If we could grow timber such as that represented by the sample of *Eucalyptus* you have seen to-day, would it be a good thing for the Government to plant that kind of timber?—There can be no doubt about it.

32. *Dr. Cockayne.*] As to the birch sleepers, some, I understand, were cut up after twenty years?—I have seen sound birch sleepers after twenty-two years—an odd one. I have seen a stockyard built of birch—*Fagus Solandri*—and quite sound after thirty years.

33. Have you noticed the kind of sleeper where there has been a fungus growing on it?—I cannot say I have. I do not think I would have attached any importance to the hard fungus that grows on the outside of a tree.

34. Do you think an examination of all our beech-trees, in order to determine the effect of this fungus on the trees, would be an important and useful matter commercially for the country?—I think it would.

35. *The Chairman.*] Is there any other matter you wish to mention?—Our Department has always tried to get the timber for its use felled during the winter-time, but we have never yet been able to succeed thoroughly in doing so. We are quite sure that the winter-felled timber is the best. The sap is then down and the timber does not warp and split in the same way as timber felled at other times of the year does.

36. *Dr. Cockayne.*] When you use the term "birch" in regard to sleepers do you include any of the birches which are supplied by the timber people?—No; we specify that the timber shall be only *Fagus fusca*, *Fagus Solandri*, or *Fagus Menziesii*.

37. Then you are using three different timbers?—Yes, and we class them all as "birch." In some districts we know of only *Fagus fusca* being used. On the West Coast, between Grey-