

*By the Chairman:*

Q. You consider then that this information is of importance?—A. Not only that, but we are enabled to carry on investigations in two typical areas, where, otherwise, we should only be able to carry on one. The Geological Survey, for instance, send parties out all over the country. If some one in Alberta or British Columbia, for instance, would be willing to pay one-half of the cost of a party working on say a certain mining area, then for the same expenditure of money you could have another party working somewhere else. As it is the Geological Survey pays the whole cost. Our funds are so limited that we have to try and make the vote go as far as possible. We have arrangements with three of the largest pulp companies. Of course we would not undertake in any event to go on all limits. We selected these as typical. We took the St. Maurice as being typical of central Quebec. Then we took the Rouge river as being typical of the central western portion. Then we took the Abitibi as typical of the portion lying north of the height of land. In the St. Maurice valley, they have a mixed forest of spruce, balsam, birch and hard woods. Now in the days before white men went there, the forest consisted of immense pines towering above the hard woods. The pine has absolutely disappeared. These pines stood 90 and 100 feet high. Then the spruce and balsam projected above the hard woods. The lumbermen cut out the large spruce and balsam and the hard woods commenced to grow over the gaps. Then came the serious situation. There was too much shade and the hard woods cut out the spruce and the balsam. Thus the pulp and paper men who had counted on reproduction found that they were not correct. They cannot sell that hard wood at cost. Something must be done or else it will simply become a hard wood forest which is of no present value to the country as a whole. The trouble is how the forest is to be penetrated. Eventually, although done at a loss, it may be necessary to lumber the birch. Then again the question is: how does the closing in of the hard woods affect the spruce and balsam. If we cannot expect continuance of spruce, can we expect continuance of balsam. We made experiments to find out how far heart rot had gone. We found in some cases that it did not extend very far and among the balsams could be cut and the sound portion of the lumber left.

*By Mr. Loggie:*

Q. How long do you think the pulp will last in Canada? Have you any estimate?—A. No, it is impossible. We have made a survey of forest resources in British Columbia. That was published the other day. We sent a man into Saskatchewan, and he made a report.

Q. Was anything done in New Brunswick?—A. No. Nova Scotia was done in 1910 and 1911. We are now commencing in Ontario. That work has been held up because the officer in charge of it, Mr. Craig, was deputed in connection with the production of Sitka spruce for aeroplanes. We found out that there was approximately fourteen billion feet of aeroplane spruce in the province of British Columbia. We approached the lumbermen. We had access to cruisers covering 66 per cent of the areas under license. We loaned Mr. Craig to the Imperial Munitions Board and he went to these lumbermen and said: "This is confidential information. You have so many thousands of feet of aeroplane spruce. Will you put a man on these limits and cut it for us? If not, will you sell the right to some one else?" Then the British Columbia Government passed an Order in Council providing that where a man refused to cut Sitka spruce, men could be put in and the spruce would be lumbered for him and he would be paid at a fixed rate. The result was that we were saved a very serious situation. Although we had fourteen billion feet of aeroplane spruce in British Columbia, one year more of going under war conditions would have probably exhausted all the available supply of aeroplane spruce. Still we only cut twenty-one million feet. We cut trees that were 500 and 800 years old, trees which will probably never be reproduced. The waste in cutting aeroplane spruce is enormous. In southern

[Mr. James White.]