

MR. COUTLEE: I think, I am the only member of the Committee present. The idea has been to investigate on rather new lines the subject of transportation in Canada. We find that the people who make the freight tariffs know nothing about the cost of transportation. That is railway and boat tariffs have grown up on a system of taxing the freight all it will stand. The idea in this investigation has been to go into the physical features of the railway and water routes and their combinations, and get at the actual cost of haulage from two or three different standpoints. Perhaps, the best known system is that of train mileage. Not cost per ton mile; that is very deceptive when the distance is long and, therefore, we are putting it to one side to some extent, although it will be gone into also. As far as railways are concerned we are trying to get it on a basis of cost per train mile. You may have a very good road, with good grade, light curvature, a fair amount of traffic and still the cost per train mile is not less than on the second class roads which have a light traffic. That is supposing it was 90 cents per train mile, you would find it go up to, perhaps, \$1.15 on large roads. There is not a very great margin between the two. We have decided to take it up on that basis and to do that we must get the physical features and that is something on which we wish to appeal to all the members of this Society. We would like to get everything concerning the physical features of the railways. As to most of the traffic in this country the crossing of the isthmus of Ontario presents the first obstacle. You can either boat to the west coast of it and cross it or you can go around by boat. We want to get at, not the tariff charged, but the cost of carrying the present bulk of traffic, and also the cost later on of carrying that traffic when it increases somewhat. The investigation will take a little time, but I think when accomplished it will contain some very valuable information. At least, I hope it will. (Applause.)

MR. JOHN KENNEDY: Any attention paid to water routes?

MR. COUTLEE: Yes, Mr. Kennedy, the water routes are to be taken up also. I merely mentioned railways because the physical features are more easily got at.

MR. SING: I beg to move the adoption of the report, and in doing so, I may say, I have always felt that engineers are qualified in every way to give an expression of opinion on the transportation of any country. The engineer is engaged in transportation from the time he begins to practice, or even in his student days when he carries his pack across a river on a fallen tree. It is the duty of an engineer connected with transportation to make a complete study of it. He has to deal with it in a practical way. Canada has the greatest coast line and water system of transportation in the world undoubtedly. She has a waterway of 6,500 miles with only one land break of 150 miles. The field is a large one and can hardly be comprehensively dealt with in one report. I think the idea of having the branches connected with the parent society, assist in this matter is a very wise one. The branches are scattered from the Atlantic to the Pacific and are all equally interested in this question with yourself, Sir, and the members of the Society. I have much pleasure in moving the adoption of the report. (Applause.)

MR. MCCOLL: Mr. President, Mr. Coutlee has explained very fully, but I do not quite understand the practical part of it yet. Do I understand that the committee intend to report the best route for transportation? He said, the first thing was to cross the Isthmus of Ontario. Does he propose that they should select the route or that they shall report the cost of the various methods of transportation? It may be that a report can be got of a practical nature but I cannot quite see yet how it is to be done. Also he spoke of finding the cost per train mile on different classes of railway. Is the report to be in the nature of a paper to be discussed and to give the Government and the people generally an idea of the best method of transportation.

MR. COUTLEE: I think what you have said explains it pretty well. It is more investigation. The results of our investigation will form the report. It will hardly be an advisory report. It will be more an investigation and putting the results at the service of the profession.

MR. LAMB: I have pleasure in seconding the motion.

THE PRESIDENT: You have heard the motion. It carries with it that the sub-committee is to be formed into a committee. (Carried.)

THE PRESIDENT: I have just received a communication from Mr. T. C. Keefer, Jr., grandson of Mr. Keefer. He says that his grandfather feels that he could not face coming up the stairs to this room. He extends his good wishes to the Society, and asks to be relieved from attending you on this occasion. We are glad indeed that Mr. Keefer is still with us in good health, we appreciate the charm of his personality, and the tremendous amount of work he did in the organization of this Society. I will ask Mr. Dodswell to add a few remarks to mine. (Applause.)

MR. DODSWELL: Mr. Chairman, I may say that I regard Mr. Keefer as the grand old man of the profession in Canada and one of the greatest engineers we have had in the country. I had the great honor of being associated with Mr. Keefer in the formation of the Society some 23 or 24 years ago. I was one of the youngest of the original nine, and Mr. Keefer has always been a very great friend of mine, professionally, personally and in every other way. It was with me as my first assistant that his lamented son, Harold Keefer was killed. I was building the bridges at Ste. Anne's and Vaudreuil. I sent Harry Keefer to lay out the bed plates on the piers and he had the misfortune to slip and fall from the pier. He thought at the time he was not seriously hurt, but he sank into unconsciousness

and died. I shall never forget the grief of Mr. Keefer on that occasion, the loss of a splendid son. Although nearly heartbroken then, happily he is still with us and well, although enfeebled. I think he has done more for the profession in Canada than any other man. He was our first president, and no one has deserved more thoroughly the universal respect of the country, not only of the engineers but the whole public. He did noble work in connection with the Paris Exhibition and it was his services there that earned him his well merited C.M.G. I hope that another year, we may still have Mr. Keefer with us, to cheer us on in the work of the Society. As long as he lives we shall respect and love him, and I regret very much that he is not able to be with us to-day. (Applause.)

MR. THOMPSON: The American Society of Civil Engineers has been proud to have Mr. Keefer for their president.

THE PRESIDENT: Gentlemen, the scheduled business of the day is practically over except that I trust some one will move a resolution that the sub-committee on ties, rails and roadbeds shall be made the same as the sub-committee on transportation. That is that they shall report to council only.

MR. T. C. IRVING: Mr. President, Mr. Leach confessed this morning that he was a member of a committee that had never done any work, and, in fact, he did not know whether it was still in existence or not. I would like to read a short extract from the report of the annual meeting of January 9th, 1907. "Mr. Stuart Howard called the attention of the meeting to the desire of the Militia Council to inaugurate an engineering reserve corps and moved the following resolution, which was seconded by Mr. W. McNab.

"That a Committee be named to consider the formation of a Canadian Engineer Reserve for active service, with authority to forward copies of the scheme read to all those connected with the Canadian Society of Civil Engineers, asking those willing to enroll themselves to send in their names, occupation, and place of residence. The list of such men to be sub-divided into districts and forwarded to the Militia Council for further action."

That motion was adopted and it was further resolved to gather information with regard to the proposal, and a committee was formed. I do not know what that committee has done. I have the honor to hold a commission in the Second Field Company of Canadian Engineers, and I think I may say on behalf of the Engineer Corps that we feel the need of some action of this kind being taken by the Society. I would like to call the attention of the committee, if it is still in existence to a circular sent out by the Institution of Civil Engineers, Westminster, dated 1st September, 1908, with regard to a "special reserve of officers, Royal Engineers." The circular sets out the particulars of the formation of this reserve, the qualifications necessary, age limit, courses of training and so on. I think the Canadian Society of Civil Engineers has supplied the greater number of the officers of the Corps of Guides, but I think the Field Engineers are even more worthy of the attention of the Society and I should like very much to see this Committee brought to life again and some action taken in the matter.

MR. COUTLEE: Mr. Chairman, I am bubbling over with Imperialism and patriotism on hearing the very able way in which the last speaker has shown that engineers should do something for their country. I think, we should all join heartily in doing something for our country; the only objection I have is that at my age, I really cannot wear those little pantaloons.

MR. SCHWITZER: Before entering upon this discussion I would move, seconded by Mr. Francis, that the committees mentioned by the President be discontinued as sub-committees, and made committees of council. (Carried.)

THE PRESIDENT: Any further discussion on what Mr. Irving has brought up?

MR. MAUNSELL: As a military engineer, I was rather surprised that the society had not before taken this question up. Looking around the room I see many faces of civil engineers who have had a good training in military engineering; some graduates of the Military College, others who have taken McGill courses where they deal with military engineering, and others from Toronto University. No doubt, in case of war every one will do his best to defend his country, but why should not the Canadian Society of Civil Engineers co-operate with the military engineer in preparation for the defence of Canada? It is rather a pity that the committee has done nothing. Two years ago, Col. Ward and several British officers tried to get something done. The question is one which should be taken up and not lost sight of.

MR. LEOFRED: Mr. Chairman, I think the previous speaker embraced military engineering because he liked it. I hope he will succeed in it as he has always succeeded, but as far as I am concerned, I prefer to follow ordinary civil engineering, without having anything to do with military engineering. I think a great many engineers will feel as I do on this matter. Anyone is at liberty to take up military engineering who chooses; there are several schools for that purpose; but they should not interfere with those who want just to practice common civil engineering and to make their living. We respect the military engineers very much; we admire their success, and we think they are doing very useful work for the country at large, but we are doing our best too, and I feel that we want to be left alone. (Applause.)

MR. LEACH: Mr. President, I do not know whether it was necessary for that committee of which I was named a member to be continued from one annual meeting to another, but had I received a summons to duty on that committee I should have been delighted. As somewhat of a military man—although I never have had the privilege of smelling powder