o the position of the Eastern Extension Company, and suggest a means by which, as it appears to me, the matter can be adjusted in the spirit of justice and fairness.

I have pointed out in what respect there is a general agreement in the views expressed by the several gentlemen examined by the Committee. I shall now refer to an extraordinary diversity of opinion. In this diversity I find ranged on one side the agents of the Eastern Extension Telegraph Company, and two officers of the Post Office Department. On the other side all the highest authorities on electrical science, together with the managers of two important ocean cables, whose evidence was submitted to the Committee. The two officers were Mr. J. C. Lamb, Secretary, and Mr. W. H. Preece, Engineer-in-Chief and Electrician to the General Post Office, London. Their evidence in the main agrees with that of the gentlemen who appeared on behalf of the Eastern Extension Telegraph Company, whose views are adverse to the establishment of the proposed Pacific cable.

The antagonistic evidence is voluminous; if examined it will be seen that the gentlemen who submitted it are substantially of one mind on many subjects. The tone and substance of their observations leaves the impression that they do not look upon the Pacific cable as a necessary or desirable undertaking, and that if established as designed it would be inadequate in capacity and a heavy burden on the public exchequer. I could not venture to take up the time necessary to refute the whole evidence. I will, however, give an illustration. The views of Mr. Preece are, perhaps, the least extreme and the least adverse to the project. Let me direct attention to the replies of that gentleman to question 1365 and following questions. He refers in his replies to a cable which, on the long section between Vancouver and Fanning Island, would consist of 552 lb. of copper and 368 lb. of gutta-percha per knot. The limit of the capacity of this cable would be (he says) three words per minute, that you cannot take a longer working period than ten hours a day and three hundred days in a year. "The result is" (reply to question 1366) "that you cannot calculate on transmitting more than 540,000 words between England and Australasia by means of this cable" in the twelve months. If we turn to other gentlemen who have no connection with the Post Office or the Eastern Extension Telegraph Company, but who are skilled and practical electricians of admitted authority, we find testimony of a very different character. The Messrs. Gray, of the Silvertown Company, state that the cable referred to (552 lb. copper, 368 lb. gutta-percha per knot) would carry fully twelve words per minute, the standard word consisting of five letters. Lord Kelvin confirms this statement. Mr. Alexander Siemens says that the cable proposed by his firm, although somewhat lighter (500 lb. copper, 320 lb. gutta-percha), would in practice give fifteen words per minute. Dr. Alexander Muirhead, the recognised authority on all such matters, states that the cable proposed by Lord Kelvin, and accepted by the Silvertown Company, would give a speed of eighty letters, or sixteen words, a minute simplex, and that by employing the duplex system with automatic transmitting apparatus 90 per cent. more work could be done with perfect ease. That is to say, the cable which the Indiarubber, Gutta-percha, and Telegraph Works Company tendered to the Canadian Government to manufacture, lay, and maintain in working-order for three years, for the total sum of £1,517,000, would be capable of transmitting 152 letters, or over thirty standard words, per minute. The managers of the Anglo-American Telegraph Company and of the Commercial Cable Company each testified that their offices are always open, that there is nothing to prevent them transmitting messages in a continual stream for twenty-four hours a day, and that they saw no reason why the same course should not be followed on the Pacific cable. If, then, taking eighteen business words a minute in place of thirty standard words, we will find that it would be possible to transmit in a year, reckoning twenty-four hours a day and three hundred days in a year, a total volume of 7,776,000 words in place of 540,000 words, the maximum limit given by Mr. Preece, of the Post Office Department.

I am afraid I am unable to congratulate the officers of the General Post Office—at least, those whom it has been my fortune to meet—on the soundness of their estimates or the accuracy of their statements. In the report on the mission to Australia by the Canadian Minister of Trade and Commerce I find at page 76 a reference to a letter addressed to the Colonial Office by Mr. J. C. Lamb, of the General Post Office, London (dated the 5th July, 1893). I beg leave to refer to the whole letter, and I ask permission to quote one paragraph: "On the Vancouver–Fanning section he (the Engineer-in-Chief of the department) is of opinion that to secure even the moderate working-speed of twelve words a minute the cable must have a core of 940 lb. of copper and 940 lb. of gutta-percha to the knot; and the cost of manufacturing and laying such a cable would probably be about £600 per knot, or, say, £2,374,000. The total cost of the whole line from Vancouver to New Zealand would thus be about £2,924,100." This letter was first seen by me in Australia a few weeks after it was written. I have reason to remember the effect it produced when such estimate, coming from such authority, confronted the Canadian delegate on the first week of his arrival in the colonies. I have still further reason to remember the letter, as it had much to do with a journey on my part from Australia to London to inquire into the accuracy of the statements it contains. As the result of my inquiry, I ask permission to direct attention to page 76 of the report on the mission to Australia, and my letter therein contained (dated the 6th February, 1894).

The year following Mr. Lamb's letter of July, 1893, the Canadian Government received tenders for establishing the Pacific cable with precisely the same working-speed as that mentioned by Mr. Lamb—viz., "twelve words a minute." I am aware that during the recent examination a new issue has been raised as to the number of letters in a word, but it cannot be denied that when Mr. Lamb's letter was written a "word" was a conventional term agreed upon by the cable world, and was understood by every one to mean an average word of five letters. Clearly, then, it may be assumed that if Mr. Lamb or Mr. Preece wished to be understood differently they would have stated that they did not mean the common standard word of five letters, but some other word containing a different number of letters.

The tenders received by the Canadian Government embraced more than the estimate contained in Mr. Lamb's letter. In order to make a comparison, therefore, it becomes necessary to add to the estimate what it did not contain—viz., the cost of a cable from New Zealand to Australia, and the maintenance of the whole work from Vancouver to Australasia for three years. The data for these additions is furnished in Mr. Lamb's letter and in the recent evidence of Mr. Preece: (1) Estimate in Mr. Lamb's letter of the cost of a cable between Vancouver and New Zealand, £2,924,100; (2) cable from New Zealand to Australia, 1,066 knots at £150 per knot, £159,900; (3) maintenance for three years, minimum estimate by Mr. Preece, £180,000: total, £3,264,000. We have thus presented to us the estimate of the officers of the Post Office Department, amounting in all to £3,264,000. The Canadian Government has a *bonâ fide* tender to carry out in a complete and satisfactory manner precisely the same work for £1,517,000.

What can be said of such a discrepancy as this? I entertain no doubt as to the great ability, the varied information, and the value of the services of these gentlemen. I can only regret that in my extremely limited knowledge of them I should be so unfortunate as to be driven to the conclusion that, however important the offices they fill, their importance does not make the occupants of the office infallible. In short, I am constrained to form the opinion that they have made a grave mistake, and that to this mistake, and to the unfortunate letter of Mr. Lamb in which it is contained, may be traced the seeming antagonism to a Pacific cable which will be found in the evidence recently submitted. But the tendency to error in matters appertaining to the Pacific cable on the part of officers of the Post Office, I regret to say, is not new. I can recall to my memory the immediate predecessor of Mr. Lamb. He was introduced to the Colonial Conference of 1887 by the Postmaster-General in these words: "I have been fortunate enough to secure the attendance here to-day of my friend Mr. Patey, who is the Secretary of the Post Office, who is specially charged with the telegraphic department, and than whom I suppose no greater authority upon telegraph matters exists. He will be most happy to place his knowledge at the disposal of the Conference, to answer any questions, and take part in any discussion which may arise upon any particular point concerning the telegraph-service of the Empire." Almost the first statement made by this Post Office officer had reference to the depth of the ocean between Australasia and Vancouver. He said: "I think in one or two cases the depth goes down to 11,000 or 12,000 fathoms." After some discussion, in which it was pointed out that the greatest known depth upon the route of the Pacific cable was 3,200 fathoms, the Secretary of the Post Office was again asked the question, "Did we understand you to say 12,000 fathoms?" His answer was, "Yes; 12,000 fathoms." I need scarcely remark that no such ocean depth as 12,000 fathoms is known anywhere, and I refer to these matters simply with a view of showing that, without any intention to mislead, the statements and estimates of these officers concerning cable matters at least are highly misleading, and must be received with caution.