

1887.
NEW ZEALAND.

TELEGRAPHIC COMMUNICATION BETWEEN GREAT BRITAIN AND AUSTRALASIAN COLONIES

VIA PACIFIC CABLE, VANCOUVER'S ISLAND, CANADIAN LAND
LINE ROUTE, AND ATLANTIC CABLE.

(PAPERS RELATING TO).

Presented to both Houses of the General Assembly by Command of His Excellency.

No. 1.

Messrs. COOTE and ROWAN, Melbourne, to the Hon. the POSTMASTER-GENERAL, Wellington.

SIR,—
29, Queen Street, Melbourne, 21st January, 1886.
We have the honour to inform you that we are about to lay before the Federal Council, and the Australian Colonies generally, a proposal for establishing cable communication with Great Britain and Europe *via* the Pacific and America. We are acting as the representatives of a powerful syndicate, and we advise you of our intentions thus early because it seems possible that New Zealand might desire to co-operate in such a scheme, by which cable rates will be materially reduced, and communication opened up with America. The proposals submitted by us to the Federal Council, and the calculations accompanying them, are now in the printer's hands. Copies will be forwarded for your consideration at the earliest possible moment.

We have, &c.,
AUDLEY COOTE.
F. C. ROWAN.

The Hon. the Postmaster-General, New Zealand.

No. 2.

Mr. W. KENNAWAY to the Hon. the COMMISSIONER of TELEGRAPHS, Wellington.

SIR,—
7, Westminster Chambers, London, S.W., 11th August, 1886.
I transmit to you herewith copies of letters I have received from the High Commissioner of Canada, relating to the project for establishing direct telegraphic communication between the Dominion and Australasia. At present it seems not to have reached beyond the stage of preliminary consideration and discussion, from which it is hardly likely to emerge unless the Imperial Government should give it active encouragement and large pecuniary support.

I have, &c.,
WALTER KENNAWAY,
(for the Agent-General.)

The Hon. the Commissioner of Telegraphs, Wellington.

Enclosure 1.

Sir CHARLES TUPPER to the AGENT-GENERAL for NEW ZEALAND.

SIR,—
9, Victoria Chambers, S.W., 28th July, 1886.
With reference to our recent meeting respecting the establishment of direct telegraphic communication between Canada and Australasia, I now beg to send you, as arranged, some letters and memoranda, containing a definite proposal, prepared by Mr. Sandford Fleming and the other gentlemen who undertook to go thoroughly into the question.

I shall be glad if you will be so good as to bring the subject before your Government, at your convenience, for consideration; and I venture to hope that they will give you such instructions as will enable us to take some further steps towards bringing about so desirable an object.

The Agent-General for New Zealand,
7, Westminster Chambers, S.W.

I have, &c.,
CHARLES TUPPER.

Sub-Enclosure.

DOCUMENTS in reference to the ESTABLISHMENT of DIRECT TELEGRAPHIC CONNECTION between
AUSTRALIA, NEW ZEALAND, CANADA, and GREAT BRITAIN.

Order in Council in reference to the Establishment of Telegraphic Connection between the Australian Colonies, Canada, and Great Britain.

SIR,—
Privy Council, Canada, Ottawa, 10th June, 1886.
By direction of the Right Honourable the President of the Council, I forward you a copy of an Order in Council, dated the 8th June, 1886, with respect to the subject of the proposed

establishment of telegraphic communication by cable from the Australian Colonies, for your action and co-operation as therein expressed.

I have, &c.,

JOHN J. MCGEE,

Clerk, Privy Council.

The Hon. Sir Charles Tupper, G.C.M.G., C.B.,
High Commissioner for Canada, 9, Victoria Chambers, London, S.W.

CANADA.

Certified copy of a Report of a Committee of the Honourable the Privy Council, approved by His Excellency the Governor-General in Council, on the 8th June, 1886.

ON a memorandum, dated the 22nd May, 1886, from the Minister of Public Works, submitting a communication from the High Commissioner for Canada in London, enclosing a copy of a circular addressed by the Colonial Office to the Agents-General of the Australian Colonies, on the subject of the proposed establishment of telegraphic communication by cable from those colonies to San Francisco, the last paragraph of which is as follows: "In view of the completion of the Canadian Pacific Railway, it would seem to deserve consideration whether such a cable, if constructed, might not more advantageously have its terminus in British Columbia," the Minister represents that several communications have been received from Mr. Sandford Fleming, C.E., setting forth the scheme of a company, represented by him, to connect either Queensland or New Zealand with Vancouver, B.C., by way of Fiji and Hawaii, by which it appears that the estimated cost of the cable would exceed £2,000,000 (say \$10,000,000); and that as it is the intention of the company to very greatly reduce the rates at present existing for telegraphic messages between England and Australia, the company would require assistance from the different Governments interested, in the shape of a subsidy, which is roughly estimated at about £70,000 per annum for a period of about twenty years. Mr. Fleming represents that the Governments interested in the project are Canada, Great Britain, India, Victoria, New South Wales, New Zealand, South Australia, Queensland, Tasmania, Western Australia, Hawaii, and Fiji, and states that advances have already been made towards some of the Agents of the Australian Colonies, with a view to having the terminus of the proposed cable in British Columbia instead of San Francisco, which have been favourably received. Mr. Fleming suggests that, as Canada is greatly interested in establishing direct telegraphic communication with Australia, India, and the East, it would be advisable that this Government should take the initiative in the matter, and invite a conference of the Agents of the colonies interested to discuss the subject.

The Minister, agreeing with the suggestions made as to the advantages likely to accrue to Canada from the establishment of direct cable communication between British Columbia and the East, and that it would be advisable that this Government should take the initiative in the matter, recommends that advantage be taken of the Colonial and Indian Exhibition now being held in London, and the presence in that city of representatives from the colonies interested, to obtain an expression of opinion on the project, and that the High Commissioner for Canada be requested to invite a conference of the Agents-General of all the colonies interested, and ascertain how their respective Governments would be disposed to act in the matter, and what amount of assistance they would be prepared to give; also, that the High Commissioner should ascertain from the Imperial authorities what assistance might be expected from them on behalf of the United Kingdom and India, and that the High Commissioner report the result of his inquiries as speedily as possible.

The Committee concur in the report of the Minister of Public Works, and the recommendations therein made, and submit the same for your Excellency's approval.

The Committee further recommend that the High Commissioner be instructed to put himself in communication with the Secretary of State for the Colonies, and endeavour to secure the co-operation of Her Majesty's Government on the subject.

JOHN J. MCGEE,

Clerk, Privy Council.

Direct Telegraphic Communication between Australia, Canada, and Great Britain.

SIR,—

Batt's Hotel, Dover Street, London, 10th July, 1886.

Having learned that the Canadian Government has instructed you to confer with the representatives in London of the other Governments interested in the projected telegraph communication between Australia and the United Kingdom, by what may be termed the Canadian route, I beg leave to submit the accompanying documents bearing on this important question.

I desire to direct your attention more particularly to the enclosed memorandum, of date, London, 1st July. In this document I have ventured to explain the views I have formed with respect to the projected telegraphic communication, and the principles upon which a company may be organized for carrying out the undertaking. I have consulted a number of capitalists as well as experts in ocean telegraphy, and have quite satisfied myself that with a very moderate Government subsidy a substantial company can be formed to establish and work the new line of telegraph on the principles laid down in that memorandum.

The whole capital of the company, to complete an independent telegraphic connection between Great Britain, Canada, New Zealand, and the Australian Colonies, may be placed at £2,500,000. This capital may be divided into two parts—viz., £1,500,000 to bear a low rate of interest, secured for twenty-five years by Government subsidies; £1,000,000 to be share capital, apportioned between Australian, Canadian, and English capitalists. This capital will be ample for the whole undertaking. With regard to the Restoration Sinking Fund, I have consulted some of the best experts on ocean telegraphy on the general question, and I learn that opinions are rapidly changing with respect to the life of modern cables. The first cables laid may be considered to have been, to a large extent, experimental, and advantage may now be taken of the very large experience gained.

It is found that in ordinary cases the breakages are apt to take place within a comparatively few years after the cables are laid, and that once properly repaired faults are not likely to recur. The opinion is gaining ground that the life of a cable, as now made, instead of being ten or twelve years, is more likely to be double that period. As the conductors and insulating materials employed are practically indestructible, it is difficult to conceive that a cable, after lying twenty or twenty-five years at the bottom of the ocean, performing its functions satisfactorily, will not continue to be serviceable for an indefinite period. I mention these views to show that there does not appear to be any sufficient reason for burdening an enterprise at its inception by providing a large sinking fund for restoration at a very early date. Be that as it may, the soundness of the principles I have laid down in the memorandum cannot be gainsaid.

We are aiming to establish a work which will result in all future years in a great saving to each colony. It is suggested that each colony, in proportion to the saving effected, should set aside a small portion of the money so saved to keep the work which effects the economy in an efficient condition. For every £100 saved £10, or perhaps eventually £5 or less, is proposed to be funded to cover possible contingencies.

With regard to the probable earnings for revenue purposes, it will be seen, on reference to the memorandum of the 6th April, that the foreign business of the Australian Colonies for the year 1889 is estimated to be 85,000 messages, or about 850,000 words. It is not to be expected that the whole traffic will come to the new line, for the existing telegraph company will undoubtedly reduce its charges in order to retain a share of the business.

Let us assume that the business will be equally divided, and that the new company will only have half of the 850,000 words; this will give 425,000 words, and we may reckon this business at 4s. per word, as the terms made with the Canada Pacific Railway Company will admit of "through" messages being sent at that rate.

425,000 words at 4s.	£85,000
Less cost of working and land service, say	40,000

Giving a balance of	£45,000
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equal to $4\frac{1}{2}$ per cent. on £1,000,000. This estimate is for the first year the line can be in operation. On careful examination it will be seen that the estimate is an exceedingly moderate one, no allowance having been made for the great impulse which will undoubtedly be given to telegraphy and general business by the large reduction in charges.* There cannot be a doubt that the earnings will go on greatly increasing, while the working expenses will increase but little. It would not be at all a high estimate to double the net earnings in a very few years. This would give 9 per cent. on the whole share-capital, and it may be assumed as certain that the increase would continue year by year.

I have explained that a subsidy is needed for the purpose of securing £1,500,000 at a low rate of interest. If the Government subsidies be sufficient to provide a sinking fund to pay off the £1,500,000 in twenty-five years, it would be proper to carry all excess of revenue over a given dividend, say over 7 or 8 per cent., to the Restoration Sinking Fund.

It will be noted, as one of the proposed conditions, that not only will the charges on messages be reduced to less than half the present rates, but that messages sent by any Government shall be transmitted free to the full amount of its subsidy. This feature will place it in the power of each contributing Government to receive directly back each and every year its full proportion of the subsidy contributed.

I respectfully submit that the scheme above outlined is perfectly practicable. It will no doubt find warm and active hostility on the part of those pecuniarily connected with the existing telegraph company—those whose policy has been to maintain high rates in order to secure large profits. Such objections as they may offer should have little weight in view of the great Imperial and colonial advantages which the new undertaking will secure. The better policy for the companies to adopt will be to lower charges on messages and derive profits from the greatly augmented business which will certainly follow.† The terms and conditions which I have indicated would undoubtedly command the organization of a substantial and energetic company to carry out this new and important undertaking in the most satisfactory manner.

Sir Charles Tupper, G.C.M.G., C.B.,
High Commissioner for Canada.

I have, &c.,
SANDFORD FLEMING.

Telegraph between Australia, Canada, and Great Britain.—Memorandum by Sandford Fleming.

Batt's Hotel, Dover Street, London, 1st July, 1886.

1. It is proposed that a company be formed for the purpose of establishing telegraphic communication between Australasia and Great Britain by a new and independent line. This new telegraph is projected to traverse lands and seas beyond the control of any Power likely to prove hostile to the British Empire.

2. It is proposed that a chain of electric cables be laid across the Pacific Ocean, to connect the Australian group of colonies with Vancouver, the western terminus of the Canadian Pacific Railway. The cables to land at such intermediate islands as may be found suitable for mid-stations.

*Referring to the recent great reduction in charges between London and New York, the report of the directors of the Direct United States Cable Company for the six months ending the 30th June last states: "So far the reduction has resulted in more than doubling the volume of traffic, and the directors are not without hope that with a revival of trade it may be still farther increased." The report of the Anglo-American Telegraph Company also states that the traffic has increased over 110 per cent. since the rates were reduced.

† Since the date of this letter the reports of the Associated Atlantic Cable Companies for the past half-year have been published. They generally favour this new policy. The low tariff introduced has resulted in a very much larger augmentation of traffic than was anticipated as a first result. "The unexpected increase in the volume of traffic immediately upon the introduction of the sixpenny tariff has induced the directors to consider the expediency of adopting permanently a system of low rates. . . . It is obviously their interest to encourage a very large traffic at low rates."—*Report A. A. Tel. Company.*

3. Arrangements have already been made with the Canadian Pacific Railway Company for the transmission of all through telegraph business between the Pacific and Atlantic Oceans on extremely favourable terms.

4. It is proposed to acquire complete control of one of the existing Atlantic cables landing on the shores of Canada, or to lay a new cable from Canada to Great Britain.

5. The whole line may be divided into three great sections, viz. :—

(A.) *The Pacific Section.*

This section will consist mainly of electric cables, the lengths of which, after allowing for slack, will approximately be as follow :—

	Knots.
(1.) Brisbane or Sydney to North Cape, connecting at the former with the Australian telegraph system, at the latter with the telegraph system of New Zealand	1,300
(2.) North Cape to one of the Fiji islands	1,240
(3.) Fiji to Fanning Island	2,270
(4.) Fanning Island to one of the Sandwich Islands	1,260
(5.) Sandwich Island to Barclay Sound or Port San Juan, Vancouver Island	2,730
(6.) Barclay Sound, across Vancouver Island and the Strait of Georgia to Vancouver City, the terminus of the Canadian Pacific Railway ...	100
Geographical miles	8,900

(B.) *The Canadian Section.*

This section will extend along the Canadian Pacific Railway and the Inter-colonial Railway to connect with an Atlantic cable. If it be found necessary to lay a new Atlantic cable, the land line will probably terminate at Gaspé, in the Province of Quebec. Distance from Vancouver to Gaspé Statute miles 3,450

(C.) *The Atlantic Section.*

A new Atlantic cable from Gaspé *via* the Straits of Belle Isle to Ireland Geographical miles... .. 2,450

6. These three great sections connected, and the business under one management, it will be possible to reduce permanently the charges on messages to the lowest practicable rates, and thus render the line of the greatest commercial utility. It is believed that the reduction in rates contemplated, and rendered possible by the satisfactory terms agreed upon with the Canadian Pacific Railway Company, will give a great impetus to telegraphy, and promote the development of inter-colonial intercourse and commerce.

7. The arrangements proposed, and the terms agreed upon, will admit of messages being sent from Australia to Great Britain on the opening of the new line at less than half—eventually it is believed, at one-third—the charges at present exacted.

8. While the new line, established as set forth, will stimulate commercial activity between the countries to be connected, its political, naval, and military value will be very great indeed. It is well known to naval and military commanders that no reliance can be placed on the permanency of communications by way of the Mediterranean and the Red Sea, and it becomes obvious that the line through Canada may, during any emergency, assume incalculable importance. The cable across the Pacific will always be removed from the theatre of European complications. It will not only be a direct means of communication between the Australian colonies and the Mother-country, but, if an emergency arises, to render every wire through Europe and Egypt useless, it will still be possible to communicate with India; indeed, every British station between South Africa and Port Hamilton may continue in telegraphic connection with London.

9. To secure advantages so great—and it is difficult to say whether in a commercial, political, naval, or military aspect the advantages would be greatest—Government aid and co-operation is necessary; but as there are twelve Governments more or less interested in the undertaking, moderate assistance from each will suffice.

10. The following Governments are interested in the new line of telegraph: (1) The Governments of Great Britain, (2) Canada, (3) Hawaii, (4) Fiji, (5) New Zealand, (6) New South Wales, (7) Queensland, (8) Victoria, (9) South Australia, (10) Western Australia, (11) Tasmania, (12) India. Of these Hawaii has offered \$20,000 a year (say £4,000) for fifteen years to be connected telegraphically with San Francisco, and it may be assumed that that subsidy will be available to the proposed company. The principal assistance, however, will require to be furnished by Great Britain and her colonies.

11. It is proposed that Government aid should be directed to two main objects—viz.: (1) To secure the establishment of the cables across the Pacific Ocean; (2) To provide for their permanent efficiency. The first main object—the establishment of the cables across the Pacific—can be effected if the Government assistance takes the form of an annual subsidy sufficient in amount to pay a low rate of interest and provide for amortization on a large portion of the capital required for this section of the undertaking. The remaining capital may be share-capital, and will have to depend for dividends on earnings.

12. The perpetual efficiency of the cables can be maintained in another way. It has been customary to make provision for this purpose out of earnings, but this course necessarily has a tendency to keep rates for the transmission of messages high. The policy recommended is to reduce traffic rates to a minimum, and, in order to do so, earnings should be charged with as little as possible beyond working expenses. It is therefore suggested that the renewal and duplication of the cables may be effected by a special provision. In the memorandum attached hereto (6th April, 1886), it is clearly shown that the establishment of this new line in the manner set forth will result

in a very large saving in the gross foreign telegraph business of all the colonies it will serve. A comparatively small percentage of the savings so effected would provide for renewing, duplicating, and maintaining the cables in perpetual efficiency. It is proposed, therefore, that a Restoration Fund be provided from this source. Taking as a basis for computation the difference between present charges and the reduced charges, probably 5 per cent. or less will eventually be found sufficient; but it is suggested that at first 10 per cent. of the savings accruing to each colony should annually be funded for the purpose set forth. If, after a period of ten or more years, it be found that less than 10 per cent. will effect the desired purpose, a smaller percentage of the savings may be carried to the Restoration Fund. The object in view is to provide sufficient, but no more than sufficient, to restore the cables whenever they may become unserviceable, and to maintain the line of communication in the highest condition of efficiency for the business to be transacted.

13. These provisions assented to, it will be possible, immediately on the cables being laid, to adopt a scale of charges for ordinary messages between the Australian Colonies and Great Britain of 4s. per word, press messages at half, or considerably lower rates. It is proposed that Government messages be transmitted free of charge to the full amount of the subsidy, and to take precedence of all other business.

Canadian and Australian Cable.—Memorandum submitted to the Canadian Government by Sandford Fleming (appended to Letter dated London, 10th July, 1886).

Ottawa, 6th April, 1886.

A FEW years back attention was directed by the undersigned to the importance and practicability of connecting Great Britain telegraphically with China, India, Japan, and the Australian Colonies, by a line passing through Canada, and by one or more cables laid in the Pacific Ocean.

The subject was reverted to last year in a letter dated the 20th October, 1885, addressed to the Premier, the Right Hon. Sir John A. Macdonald.

Since these dates the Canadian Pacific Railway Company has completed a line of telegraph from the Atlantic to the Pacific, thus establishing an important section of the original scheme, leaving to be completed only the cable across the Pacific.

The Australian Colonies are already connected telegraphically with England by way of Port Darwin, Singapore, Penang, Madras, Bombay, Aden, Alexandria, and through the Mediterranean Sea. The charges for messages are, however, very high, and there is always danger of interruption to business when political events assume a threatening attitude in Egypt or in Europe.

A cable from the Australian Colonies *via* Fiji and the Sandwich Islands to Vancouver, the western terminus of the Canadian Pacific Railway, would connect them telegraphically with England by a line which would have the great advantage to every British interest of being entirely removed from all European complications. Moreover, a very large aggregate saving in the cost of transmission would be effected.

The Australian Colonies were first connected with England in November, 1872, consequently the following year (1873) was the first year the International line was in operation. The business in 1873 consisted of 8,952 messages to and from the colonies. The last returns are for 1884, when the messages sent and received reached 48,896, showing an extraordinary development in eleven years, averaging an annual increase of 40 per cent. This increase may, however, be abnormal, and as the last three years of the period show a more moderate growth, it will be safe to take the latter as a basis on which to estimate future business.

The number and cost of messages between the Australian Colonies and Europe, for the three years referred to, was as follows:—

				Number of Messages.		Cost.
1882	...	...	...	39,175	...	£225,567
1883	...	...	...	43,334	...	251,277
1884	...	...	...	48,896	...	270,766

These results give a fair indication of the steady growth of the business under the present high tariff.

The annual increase in the number of messages is equal to 12½ per cent., and the average cost of each message sent during the three years 1882, 1883, and 1884 is £5 13s. 9d.; the charge of ordinary messages per word between Sydney and London being 10s. 10d., Government messages 8s., and Press messages 6s. 7d.

The undersigned has brought the question of a cable from Vancouver to Australia before the Board of Directors of the Canadian Pacific Railway, and has succeeded in effecting arrangements of a most satisfactory character. This company will within a few weeks have telegraphic connections with all the principal points in the United States, including all the important cities on the Pacific coast, and will be able to transmit messages on such terms as will enable the Pacific Cable Company to secure practically the entire business between the continent of America and the Australian Colonies. The cable leading from Port Darwin in the direction of India will, moreover, enable the new company to command a very large share, if not all, the business between America and Asia.

It will be practicable under these arrangements with the Canadian Pacific Railway Company to transmit messages between the Australian Colonies and England at considerably less than one-half—possibly at one-third—the present charges, and between the colonies and all the important cities in the United States and Canada at one-quarter the rates now exacted.

It is proposed, immediately on the Pacific cable being laid, to lower the charges on ordinary messages between Australia and England from 10s. 10d. to 4s. per word. This reduction will bring the cost of an average message from £5 13s. 9d. down to £2, and without doubt will give a very great impetus to telegraph business. It is not easy to estimate with any approach to accuracy what

increase would result from this cause—men of experience in such matters are of opinion that the business would probably be doubled; but even if we limit our expectations to its ascertained normal growth, and base our calculations on a steady increase of traffic of only $12\frac{1}{2}$ per cent. per annum, we shall see that the advantage of the new line to the colonies will be immense.

The latest returns with $12\frac{1}{2}$ per cent. per annum added give 85,000 messages for 1889. Assuming that the new cable would then be laid and the Canadian route in operation throughout, the estimate for a series of years would be as follows:—

			No. of Messages based on an annual growth of $12\frac{1}{2}$ per cent.			Saving effected, being the difference between £5 13s. 9d. and £2, or £3 13s. 9d. per Message.
1889	...	...	85,000	...	...	£313,400
1890	...	...	95,000	...	...	350,275
1891	...	...	107,000	...	...	392,550
1892	...	...	119,000	...	...	438,800
1893	...	...	133,000	...	...	490,420
1894	...	...	148,000	...	...	542,050
1895	...	...	166,000	...	...	612,125
1896	...	...	186,000	...	...	685,875
1897	...	...	208,000	...	...	767,000
1898	...	...	234,000	...	...	862,000
Total	...	...	1,481,000	...	...	£5,456,497

It will thus be seen that, without taking into account any additional increase in the number of messages which the great reduction in charges would undoubtedly produce, a very great saving would be effected in the Australian business. If the estimate be well founded it would amount to £5,456,497 within the first ten years, being an average saving of over £500,000 per annum.

The new line when established will form a connection through South Australia with Port Darwin, and thence by existing telegraph lines with Asia and Africa. It is obvious, therefore, that it possesses a peculiar interest to the Imperial Government, as it will afford the means of communicating not only with the Australian Colonies independently of lines passing through the Mediterranean, but also with India and every British station between Hong Kong and South Africa.

Canada has already done much towards establishing the new line of telegraph between Great Britain, Australia, and Asia. She has, by an enormous expenditure in connection with her national railway, brought Vancouver within telegraphic reach of England, and she has thus rendered it a comparatively easy task to complete the whole connection. It has cost in all about £40,000,000 of public and private money to establish the railway and its adjunct the telegraph by which Vancouver has attained the commanding position which it occupies in respect to the Pacific cable scheme. The Pacific cable is, however, in some degree a corollary to the line across the continent, and it is reasonable to expect that the Canadian Government will readily co-operate in its establishment.

The following Governments are more or less interested in the undertaking: (1) The Governments of Great Britain, (2) Canada, (3) Hawaii, (4) Fiji, (5) New Zealand, (6) New South Wales, (7) Queensland, (8) Victoria, (9) South Australia, (10) Western Australia, (11) Tasmania, (12) India.

It will not be possible to carry out the undertaking by a private company without Government assistance. As electric cables are perishable, provision must be made for renewing or duplicating them when circumstances require it. It is also obvious that the reduced charges which are proposed will require a greatly increased business to yield a sufficient profit to meet dividends on capital. The company would, therefore, require a subsidy for a term of years or until the business increased to such a volume as to render the line self-sustaining. But, as the subsidy would be borne by so many Governments, it would fall lightly on each.

The first step to be taken is to ascertain to what extent the several Governments would be disposed to co-operate in establishing the work.

Telegraph from Canada to Australia.—Letter to the Premier of Canada by Sandford Fleming (appended to Letter dated London, 10th July, 1886).

SIR,—

Ottawa, 20th October, 1885.

I had the honour a few years back to submit to the Canadian Government a scheme for forming a great Intercolonial and Intercontinental Telegraph system, a prominent feature of which was the laying of an electric cable across the Pacific Ocean, from the western coast of British Columbia to Asia. The great object which the scheme had in view was the establishment of an unbroken chain of telegraphic communications between England and Japan, China, India, Australia, New Zealand, and South Africa, directly through Canada, thus connecting telegraphically all the great British possessions in every quarter of the globe without passing through Europe.

The accompanying memorandum, dated London, the 20th November, 1882, together with the documents submitted by the Secretary of State to the Canadian Parliament on the 20th February of the same year, will recall to your recollection the important public objects which the scheme had in view, and the efforts then made to carry it out. You are aware that through various causes these efforts proved unsuccessful; but the time which has elapsed has in no way lessened the importance of the project, or rendered it more difficult of accomplishment.

The political events which have so frequently assumed a threatening attitude in Europe, the difficulties which are never entirely absent in Egypt, point to the constant danger of interruption to existing communications by the Red Sea, and the immense importance of securing an indepen-

dent line of telegraph removed from all Eastern complications. The projected line, extending from England through Canada to the Pacific Coast, in the Province of British Columbia, and thence across the Pacific to Asia and the Australian provinces, would supply an independent line of communication so much desired, and in so doing would indirectly—but, it is held, very materially—strengthen the military and naval power of Great Britain, while it would directly promote the highest interests of every one of the great colonial possessions.

Within the present year an overland line of telegraph will be completed along the route of the Canadian Pacific Railway, thus spanning the American continent, and there are a number of electric cables in operation across the Atlantic from England to Canada. The Canadian Pacific Railway Company have expressed a desire to facilitate the despatch of through telegraphic business along their line in every possible way, and are prepared to enter into a permanent agreement which, with the competition existing on Atlantic lines, will secure exceedingly low tariff rates between England and the coast of British Columbia. There only remains to be established the submarine telegraph across the Pacific Ocean.

When the accompanying memorandum was issued it was thought that the Pacific cable should follow a northern route by the Aleutian Islands and Japan. It was generally believed that in the great central area of the Pacific Ocean subaqueous rocky ledges and coral reefs prevailed to such an extent as to render the establishment and maintenance of an electric cable practically impossible. That opinion was based on an imperfect knowledge of the physical character of the Pacific Ocean, and on the charts which at one time were strewn with islands, reefs, and shoals, many of which were inserted on doubtful authority, and have consequently been omitted from the latest publications. Since then, also, it may be supposed that submarine telegraphy is better understood. Be that as it may, the view is now entertained that it may not be absolutely necessary to follow a northern route, and that the successful establishment of an electric cable running directly from British Columbia to the Australian provinces may be quite within the range of practicability.

There are, indeed, extensive coral reefs in the central and southern Pacific; but the most authentic hydrographic information establishes that those reefs are generally in great groups, separated by wide and deep depressions free from obstructions. It is further revealed by the latest bathymetric data that those depressions or troughs present (as far as ascertained) a sea floor precisely similar to that of the Atlantic, so suitable for submarine telegraphy. Those ocean depressions, alike by their geographical position and their continuity, open up the prospect of connecting Canada and Australia by a direct cable. The course of the cable would be from Vancouver to the Fiji Islands, touching at the Sandwich Islands and Fanning Island as mid-stations. From the Fiji Islands a cable connection would be formed with the existing Australian and New Zealand telegraph systems.

Whatever route be followed by the cable across the Pacific, the object will be to bring the group of Australian Colonies into direct telegraph connection with Canada, and secure a means of communication between them and England independent of all lines passing through or in proximity to Europe. Messages will be conveyed by the new line at lower rates than are now exacted, and the immediate effect which must follow its establishment is manifest. The cost of telegraphing between Australia and England will be reduced, intercourse will be facilitated between the sister colonies and Canada, and an impulse given to commercial activity.

Apart altogether from the political advantages of the new independent telegraphic connection, the gain to the general commerce of the colonies which it would serve would justify them in co-operating with Canada in promoting the undertaking.

The undertaking may be promoted by the several Governments agreeing to give for a term of years a subsidy sufficient to induce a company to embark in it. The subsidy may be a fixed sum, contributed in equitable proportions, or it may be dependent on the business transacted by each respective colony, and on the reduction in rates which would follow immediately on the line going into operation.

It is quite obvious that the gross foreign telegraph business of any one colony, reckoned at the difference between the present high rates and the reduced charges, would produce a considerable aggregate sum. That sum might be taken to represent the year's savings accruing to the colony from the establishment of the new line of telegraph, and it would obviously well repay that colony to share the amount so saved with the Telegraph Company. Suppose the accrued saving so reckoned in any one year to be £50,000, a moiety to the company as a subsidy would be £25,000, while the colony itself would gain a direct pecuniary benefit from the undertaking to a like extent. The illustration as presented will explain the principle on which a subsidy may be based.

Among the British possessions in the southern hemisphere directly interested in the work are Fiji, Tasmania, New Zealand, Western Australia, Queensland, New South Wales, South Australia, and Victoria. I venture to think that their co-operation with Canada in the manner set forth would, without difficulty and with no great delay, secure to them and to the whole British colonial system all the political and commercial advantages to result from the projected line of communication.

As the contemplated work is of special importance to the Mother-country and all her colonies, I trust I may be allowed to entertain the hope that you will be pleased to bring the subject under the notice of the respective Governments.

The Right Hon. Sir John A. Macdonald.

I have, &c.,

SANDFORD FLEMING.

Telegraph between Australasia, Canada, and Great Britain.

SIR,—

London, 19th July, 1886.

The undersigned, who were present at the meeting of the Agents-General on the 12th instant, having been requested by you to ascertain the amount of subsidy which would be necessary

to enable a company to connect England telegraphically with Australia through Canada and the Pacific Ocean, have the honour to state :—

We have considered the whole question, and are of opinion that a substantial company can be formed to establish an efficient telegraph connection on the route proposed for a total annual subsidy of £100,000 for twenty-five years.

The subsidy may be apportioned as follows, *i.e.* :—

1. Great Britain, on behalf of the United Kingdom, India, and the Crown Colonies	...	...	...	...	£50,000
2. Canada	...	...	...	...	10,000
3. Queensland	...	...	...	...	10,000
4. New South Wales...	...	...	...	...	10,000
5. Victoria	...	...	...	...	10,000
6. New Zealand, Tasmania, and Western Australia	...	...	...	...	10,000
					£100,000

Or should the Imperial Government, by an arrangement with the Colonial Governments, itself guarantee the whole amount, the total subsidy may be considerably reduced, as the Imperial guarantee would enable the company to find capital at a lower rate of interest. With such guarantee a total subsidy of £90,000 for twenty-five years would suffice, and thus reduce the annual contributions.

The subsidy mentioned is calculated to pay interest on borrowed capital and provide a sinking fund for its repayment in twenty-five years.

As the company would transmit all the messages of the various contributing Governments free, and the rates chargeable to the public for "through" messages would not be more than one-half the present regular tariff charges, Great Britain and the colonies would save a much greater sum than the amount of subsidies above proposed.

If the several Governments agree to pay over to the company a percentage of the gross savings which could thus be effected by each country, the company could still further reduce the charges to the public.

We have, &c.,

DONALD A. SMITH,
RANDOLPH C. WANT,
ANDREW ROBERTSON,
MATTHEW GRAY,
SANDFORD FLEMING.

The Hon. Sir Charles Tupper, G.C.M.G., C.B.,
High Commissioner for Canada, London.

Enclosure 2.

Sir CHARLES TUPPER to the AGENT-GENERAL for NEW ZEALAND.

SIR,—

9, Victoria Chambers, S.W., 31st July, 1886.

With reference to my letter of the 28th instant on the subject of the proposed telegraphic communication between Canada and Australasia, I think I had better give you some particulars respecting the status of the gentlemen who prepared the letter addressed to me on the 19th July containing a proposal for submission to the Imperial and Colonial Governments. They are as follows: Sir Donald A. Smith, K.C.M.G., Director of the Canadian Pacific Railway Company, and Hudson's Bay Company; Mr. Randolph C. Want, Solicitor in London for the New South Wales Government; Mr. Andrew Robertson, Chairman of the Board of Harbour Commissioners, Montreal; Mr. Matthew Gray, Manager of the India Rubber Gutta Percha and Telegraph Works Company; Mr. Sandford Fleming, C.M.G., C.E., Director of the Canadian Pacific Railway Company and late Engineer of the Intercolonial Railway and Canadian Pacific Railway.

I beg to inform you also that copies of the memorandum have been sent to the Secretary of State for the Colonies for the consideration of Her Majesty's Government, the Government of India and the Crown Colonies. Copies have also been forwarded to the Canadian Government. This is in addition to the copies which have been sent to each of our colleagues to be brought under the notice of their respective Governments.

It is right I should add that the proposal is brought forward, not as a definite scheme, but as a draft for discussion, and I venture to hope that when the replies are received from the various Governments, it may be possible to so consolidate the suggestions that have been made as to secure the hearty co-operation of the various colonies concerned and of the Mother-country and India.

I have, &c.,

CHARLES TUPPER.

P.S.—I also enclose you a copy of this week's *Canadian Gazette*, containing, on page 387, an account of an interview which a representative of that journal has had with Mr. Sandford Fleming on the subject of the proposed cable.

Messrs. ROWAN and COOTE to the Hon. the POSTMASTER-GENERAL.

SIR,—

29, Queen Street, Melbourne, 20th December, 1886.

Proposed Pacific Cable.—Reverting to previous correspondence on the same subject, we have now the honour to forward for your consideration a further memorandum on the matter.

We beg at the same time to repeat our assurance that the scheme is being vigorously proceeded with, and we regret that unavoidable delays have prevented our friends in London from placing us in a position just yet to lay the formal proposals before you. These delays, we are informed, were

principally owing to the fact of the temporary absence from London of several of the influential gentlemen who had signed the articles of association of the company, so that we have every reason to trust that they will not be of long duration.

We have, &c.,

F. C. ROWAN,

AUDLEY COOTE (per F. C. R.).

P.S.—This morning's Press telegrams would indicate a postponement on the part of the Imperial Government of the question of subsidising the Pacific cable. We, nevertheless, think it advisable to send on the memorandum as written, feeling convinced that the assent of the Imperial Government is only delayed, and that Mr. Pender's published statements should not be allowed to pass without comment.—F. C. R. and A. C. (per F. C. R.), 20th December, 1886.

The Hon. the Postmaster-General, New Zealand.

HOSTILE CRITICISM OF THE PROPOSED PACIFIC CABLE.

MEMORANDUM submitted for the consideration of the Hon. the POSTMASTER-GENERAL of NEW ZEALAND.

THE criticisms alluded to spring mainly, if not wholly, from one source—namely, from Mr. John Pender, who represents existing interests. It is hardly to be wondered at that the company holding the present monopoly of conducting and charging for cable communication between Australia, Great Britain, Europe, and America should be very much disturbed at the idea of a rival company springing up who can offer low rates as an inducement to the commercial public, while in return for the support asked for from Great Britain and her colonies they offer the advantages of a route of great political importance, as being more secure from foreign interruption in case of war than any existing one, because it would be controlled practically from end to end by the sea and land forces of the Empire. It is not then to be wondered at that the able and astute chairman of the existing company should have, on more than one occasion, attempted to traverse the pretensions and aspirations of the promoters of the Pacific Cable Company now forming by setting forth unfavourable views concerning the cost and prospects of any such Pacific cable, which views he desires to see accepted as correct by the Imperial and Colonial Governments as well as by the public at large.

In a Queensland parliamentary paper giving correspondence with the Eastern and Eastern Extension Telegraph Companies respecting the reduction of rates on public messages we find a statement dated the 27th January, 1886, which was submitted by Mr. Pender to the Agent-General for Queensland in London, and by this latter forwarded to his Government, which statement contains what purports to be Mr. Pender's estimate of the cost and working of a cable from Brisbane to San Francisco, touching at New Caledonia, Fiji, and Honolulu.

Again, in a report published in the "Electrician" of the 29th October, 1886, of the last ordinary general meeting of the Eastern Extension, Australasia, and China Telegraph Company, we find Mr. Pender saying that he considers the laying of a cable in opposition to his own one outside the bounds of possibility, on the score of cost, and he quotes a series of figures which are so led up to, and so set forth as, apparently, to justify his statement. He says that he makes his statement "advisedly," and that he wishes it to go before the public by the Press taking full notice of it. Now, the figures contained in his statement submitted to the Queensland Government, as well as those contained in that laid before his shareholders, are decidedly adverse to the prospects of a Pacific cable, and they might, if allowed to pass unchallenged, be accepted as correct by the commercial and general public, and possibly by Governments. It is for this reason that we consider it advisable to lay before you, on behalf of the gentlemen who have signed the articles of association of the Pacific Cable Company lately registered in London, a few comments on Mr. Pender's estimates which will, we think, prove that some of his figures are under and others over estimated, but always adversely to his rivals, while he altogether omits to touch on the very important international and political considerations which combine with the prospects of a reduced tariff to render such alternative and quite distinct cable as is proposed a boon to be greatly desired.

In his estimate submitted last January to the Queensland Government he takes the traffic for the year ending September, 1885, as amounting to 556,660 words, and assuming a 7s. 6d. tariff he admits a probable increase of 20 per cent.; but takes two-thirds of the increased traffic to be 400,000 words, whereas it should be almost 450,000.

Again, from the 7s. 6d. he deducts 2s. as the cost of transmission from San Francisco to England, whereas we are certain of being able to transmit messages from Vancouver to England for 8½d. or 9d.

In the estimate of receipts for the first year then we should have—instead of 400,000 words, at 5s. 6d., giving £110,000—450,000 words, at 5s. 9d., giving £151,785; small subsidies, as allowed by Mr. Pender, £20,000; and we get £171,785, instead of £130,000; or a difference of over £40,000 in our favour.

Mr. Pender omits altogether, apparently, to calculate on any further increase; but it would be unfair to shut one's eyes to the progressive nature of the cable business even under the high tariff rates which have hitherto ruled. This increase which, for the first ten years of telegraphic communication between England and Australia—*i.e.*, to the end of 1883, amounted to over 13 per cent. per annum, continued at the same or even a better rate to the end of 1884, while the tariff was still at 10s. 8d. from Melbourne. Consequently there is every right to assume that were the tariff reduced to even 7s. 6d. the progressive increase would amount to at least probably 15 per cent. per annum.

The foregoing should suffice to show that Mr. Pender's method of getting up his figures is at least open to criticism.

Take, again his estimate of expenses in the same statement submitted to the Queensland Government. We have excellent authority for saying that he largely over estimates the expenses

of cable-steamer and repairs, which would be nearer £12,000 than £25,000 per annum—say £15,000; and as far as amortisation of cables is concerned it certainly would not be necessary to start setting aside so large a sum annually as £53,000. If, say, one-third of the company's receipts, after deducting working expenses, were set aside for cable duplication, the experience gained as to the life and duration of well-made cables shows that such provision would be ample. What those receipts would be depends naturally very materially on the tariff.

We have seen that with a 7s. 6d. tariff Mr. Pender admits an immediate increase of 20 per cent. in the traffic, and he goes on to say that, with a 5s. rate, traffic would probably increase 50 per cent. We contend that with a reduction to 5s. the traffic might be expected to more than double, especially when we bear in mind the present heavy cost of cabling to America, and the fact that all American communication with Japan, China, and India would then come *via* Australia, thus largely utilizing the South Australian trans-continental line. As before, transmission from Vancouver to England would not absorb more than 9d., and taking, as Mr. Pender allows, two-thirds of the traffic for the cheaper route we get, at a moderate computation—instead of his estimate of 500,000 words at 3s., giving £75,000—742,000 words at 4s. 3d., giving £157,675; small subsidies as before, £20,000, which gives us £177,675, or over £80,000 more than his estimate, while, as before, he quite ignores the progressive annual increase. It does not follow that the tariff would be 5s.; a lower one is, in fact, proposed, which would, doubtless, result in a larger number of messages, while the expenses would not increase in anything like the same ratio.

Our object, so far, has been to show that Mr. Pender's attempt to deter the Queensland Government from supporting the proposed Pacific cable is not justified by reliable calculations. We now come to his speech on the same subject to his shareholders on the 27th October last. He compares what he calls the subsidy for the Pacific scheme with a proposed guarantee to existing companies, whereby he makes it appear that if the Pacific scheme were adopted the cost of the colonies, apart from any subsidy that might be obtained from Canada, would be for each colony from two to two and a half times as much as it would cost them to obtain the same tariff from the existing company; or, in other words, about £130,000 for them collectively. He states this boldly, but he is careful not to show how he arrives at the result. On the other hand it is beyond question that the amount asked for by the Pacific Company as a subsidy would not exceed £100,000 annually altogether, and Canada has virtually expressed her willingness to contribute her share of this, while the members of the Imperial Government consider the cable of such international and political importance that they have openly expressed their sympathy with the project; they have authorized a survey of a portion of the route, and they only await an expression of the colonies' desire to contribute before taking upon themselves a considerable share of the subsidy asked for. This being so, it is probable that the Australian Colonies and New Zealand would not in all have to contribute, collectively, more than £50,000 annually for twenty-five years, while they would be able to send free messages through to the extent of their contributions. This would bring the cost to each colony far below Mr. Pender's estimate of subsidy required, and even below his guarantee proposal estimate.

He says, further, that if these colonies would give him £100,000 a year, he would give them a 2s. 6d. tariff instead of a 4s. one. He would thus wish his shareholders and the public to believe that £100,000 paid to him would bring them better results than if what the Pacific cable asks were conceded to it. He omits, however, to point out that, whereas he would require perpetually £100,000 per annum, which would have to be entirely contributed by the Australasian Colonies, the Pacific Cable Company, as will be seen shortly when their formal proposals are laid before you, ask for no such sacrifice from the colonies. While the present or any similar route is adhered to Great Britain and Canada have no inducement and no desire to contribute; if the Pacific cable be laid to Vancouver they have both, and this means that the contribution of the Australasian Colonies would not exceed, probably, £50,000 in the aggregate, instead of the £130,000 with which Mr. Pender tries to frighten them. Again, Mr. Pender does not, naturally, mention, what is nevertheless true, that only a moderate subsidy would be asked from each colony towards the Pacific cable, and that not for ever, but only for a term of years, during which term of years each colony would be entitled to send cable messages without payment up to the full amount of its subsidy. He, on the other hand, offers no such advantage to the colonies, nor can he do so, for, considering the number of claimants who have to share in the present charges for transmission to England, this could only mean that the £100,000 must be perpetually devoted to making up the loss on sending messages Home at the suggested 2s. 6d. rate.

Until quite lately, when a small reduction was made in the through scale, the charge of 10s. 8d. per word was segregated, as follows: South Australia received, 1s. 5d., Eastern Extension Company received 4s., Java Government received 1s. 7d., Java Government (land line) received 2½d., Indian Government received 4¾d., European owners received 3s. ¾d.: total, 10s. 8d.

Again, even if the existing company were specially assisted to send cheap messages, the risk of interruptions from accident or in case of war would be the same as now, and it is this fact that detracts from the value of any proposal to pay increased subsidies even for reduced rates by the present route. It is this fact that makes Great Britain favourable to the project and willing to contribute, while that and other reasons prompt Canada to support the scheme by offers of money as well as by her influence. No proposal that Mr. Pender can make can offer advantages equal to those resulting from healthy competition or from the establishment of a line of communication entirely distinct from any existing one, and which is moreover less exposed to hostile interruption in case of war than the existing ones. There are the advantages besides that of a low tariff that will be offered by the Pacific Company; and we venture to hope that they will appeal to you as forcibly as they do to ourselves and to our co-workers, who have laboured patiently and are still striving diligently to prove, that the project is not only desirable, but feasible and commercially sound.

We may, perhaps, in conclusion, be permitted to say a word as to the risk of the cable becoming useless and valueless. The methods of cable manufacture have so greatly improved in the last few years that such risk may almost be left out of consideration. We would not go so far as to say that a break-down of the cable would be impossible, but with care in drawing up the specification, and with strict and competent supervision, the risk is reduced to a minimum. Take, for instance, the existing cable to New Zealand from New South Wales, and it must be remembered that cable manufacturing has made great strides since that one was made. As to special dangers to be apprehended from the nature of the bottom, from the depth of the sea, from coral or from the teredo, those surveys already made tend to show a very even floor to the ocean on the line proposed. If a cable be really well made at first it is safer in deep than in shallow water, while the brass sheathing now applied to protect marine cables is a complete safeguard against injuries from the teredo or from coral.

It will be thus seen that any objection to subsidizing the Pacific cable, on the score of risks of the nature indicated, may fairly be set aside as being extremely remote and infinitesimal.

No. 3.

Mr. JONES to the Hon. the PREMIER, Wellington.

Pacific Telegraph Company, Limited, 34, Clements Lane, Lombard Street,
London, E.C., 8th December, 1886.

SIR,—

I am instructed to notify to you that a company under the above title was registered in London on the 23rd November, 1886, and that its first meeting was held yesterday. The capital of the company is two millions sterling.

It has been formed for the purpose of establishing an entirely new line of telegraphic communication between England and Australasia, a line under exclusively British control. Favourable terms having been secured by the company for the transmission of their messages between England and Vancouver Island, all that will remain to complete the chain of communication will be the laying of a submarine cable from the latter point to New Zealand and Australia, touching at Hawaii and Fiji. The soundings already taken by the United States surveying ship "Tuscarora" along the projected line afford the certainty that the Pacific Ocean bed will be found extremely favourable for laying the proposed cable.

The following advantages are confidently claimed for this scheme:—

(1.) That from an Imperial and strategic point of view it is impossible to over-estimate its importance; it will, in fact, supply the one essential link which is now wanting to complete the chain of Imperial security. It will place our Pacific fleet in direct relations with the Home Government on the one hand and with Australasia on the other, while affording, in case of war, the only trustworthy communication between England, Australasia, India, and the East. The land lines used by the company, being exclusively on British territory, will be completely protected in time of war, and following as they do a main line of railway will be at all times under constant supervision, and not liable to interruption.

(2.) The continent of America will be placed for the first time in direct electric communication with Australasia and the Islands of the Pacific, and a great development of the Pacific trade must follow as a natural consequence.

(3.) The company will be enabled to reduce materially the existing tariffs between England and Australasia.

The signatories to the articles of association, whose names I annex, are gentlemen of influence in England, or occupying prominent positions in the Dominion of Canada, and Australasia; and representing, as they do, the varied interests of our Home and colonial possessions, they accurately reflect the amount of support which the company may expect to receive from their respective Governments.

It is the desire of this company to enter into negotiations with the Government which you represent, and with the other Governments interested, with the view of obtaining from them assistance in carrying out this important Imperial project, and I shall hope to learn from you that your Government will look with favour on the scheme, and will afford it their countenance and support.

I have, &c.,

OWEN JONES,

Secretary (*pro tem.*) Pacific Telegraph Company, Limited.

Enclosure.

LIST of SIGNATORIES to the Articles of Association of the Pacific Telegraph Company, Limited.

The Earl of Milltown, Representative Peer of Ireland, in the Parliament of Great Britain.

Sir Donald A. Smith, Director, Hudson's Bay Company, Montreal.

Sir James P. Corry, Bart., M.P., Member for Armagh, in the Parliament of Great Britain.

Sir Daniel Cooper, Bart., London.

The Viscount Folkestone, M.P., Member for Middlesex, in the Parliament of Great Britain,

Comptroller of H.M.'s household.

Hugh G. Reid, Esq., J.P., Warley Hall, near Birmingham.

Sir Alfred Slade, Bart., Receiver-General of H.M.'s Inland Revenue.

Sandford Fleming, Esq., C.M.G., Director, Canada Pacific Railway and Hudson's Bay Company, Ottawa.

J. Henniker Heaton, Esq., M.P., Member of Parliament of Great Britain for Canterbury.

E. M. Young, Esq., Banker, London, General Manager of the Australian Mortgage, Land, and Investment Company.
 Edward Palliser, Esq., late Captain 7th Hussars.
 Randolph C. Want, Esq., Solicitor, London.
 Sir W. J. Clarke, Bart., Queen Street, Melbourne.
 The Hon. P. Perkins, London, late Minister for Public Works, Queensland.
 Sir Samuel Wilson, Bart., M.P., Member for Portsmouth, in the Parliament of Great Britain.
 The Hon. Murray E. G. Finch Hatton, M.P., Member for Lincolnshire, in the Parliament of Great Britain.
 George Coote, Esq., F.S.I., Smcetham Hall, Sudbury.

No. 4.

MEMORANDUM relative to proposed PACIFIC CABLE by the CHAIRMAN of the Eastern, and Eastern Extension Australasia and China Telegraph Companies.

Winchester House, 50, Old Broad Street, London, E.C., 23rd December, 1886.

My attention has been drawn to a proposal for the establishment of submarine telegraphic communication between the Australasian Colonies and Canada *via* the Pacific.

As a scheme having this object in view has been for many years contemplated, and has received the careful consideration of the telegraph companies of which I am chairman, I may perhaps be permitted to state the grounds on which it has been regarded as one not calculated in the long run to attain the objects for which it is advocated, *viz.* :—

A substantial and permanent lowering of the tariff; and

Secondly, the providing of a reliable alternative route, especially in time of war.

It is not disputed that to provide a single line of cables only between Australasia and Vancouver would require a capital of £2,000,000, but to put the line on the same footing of security as the existing telegraphic service, which is duplicated and in some places triplicated, a capital of over £4,000,000 would be required.

On the other side will be seen two estimates, one based on the figures said to be given by the promoters of the Pacific cables, and the other on the experience of the several submarine telegraph companies with which I have been for many years connected, and which, I have no hesitation in stating, are figures that can be confidently relied upon.

Assuming for a moment the accuracy of the first, or promoters', estimate, it will be seen that in consideration of a subsidy of £100,000 the tariff is to be fixed at 4s. a word. But the companies which I have the honour to represent have offered the same tariff in consideration of a subsidy of £75,000 a year, and on the guarantee principle suggested by the companies a 4s. rate might be established on still more favourable conditions to the colonies.

Let me now examine the promoters' estimate, with a view to ascertaining how far the figures set forth in it are likely to be realized. Judging by the light of the experience gathered during many years of submarine telegraph management, I cannot estimate the expenses of working a single line of cables connecting Australia and Vancouver Island at less than £135,000 a year, or £85,000 a year in excess of the promoters' estimate. Again, the estimate of receipts seems to be greatly exaggerated. Assuming that a Pacific cable would take half the existing traffic with 100 per cent. increase, in consequence of the reduced tariff, the result would be a net revenue of £175,000 a year, or only just sufficient to meet debenture interest and working expenses.

From the above statement I think I am entitled to say that the establishment of telegraphic communication by the Pacific would merely operate to saddle the colonies for twenty-five years with an annual payment of £100,000, at the same time augmenting the total capital invested in providing telegraphic communication between the colonies and Great Britain by the large sum of £2,000,000 in the case of a single line, or £4,000,000 if it were duplicated.

It is urged, however, that, admitting in time of peace the present means of communication are adequate, in time of war the existence of an alternative route would be a great advantage. The reply I would make to this is that it would be impossible for the British Government, however anxious to do so, to provide the necessary means of protection in the case of cables laid across the Pacific, far away from the routes followed by merchant ships, and at immense distances from coaling stations. Moreover, the Pacific line would necessarily consist of long stretches across enormous and practically unsurveyed depths, terminating on coral reefs, and would, consequently, be exposed to constant interruptions, which would render its maintenance most costly and difficult.

Instead of a Pacific cable benefiting the colonies, I believe that the laying of such a line would only benefit its promoters, and would be inimical to the interests of the telegraphing public, as it would inevitably lead to a war of tariffs, which would eventually impoverish both the Pacific and the existing cables, and result in a starved and inefficient service, the only remedy for which would be higher tariffs or much larger contributions from the colonies.

If the principal object which the colonies have in view is to obtain a cheaper tariff it would, I submit, be more profitable to apply the amount asked for by the promoters of the Pacific scheme, or whatever other sum the colonies may be prepared to expend, towards enabling the Eastern Extension Company and its allied companies to make a substantial reduction in the present cable charges.

JOHN PENDER,

Chairman of the Eastern, and Eastern Extension Australasia and China Telegraph Companies.

PACIFIC CABLE SCHEME.

As said to be put forward by promoters :—
 Length, about 8,300 nautical miles.
 Capital, say, £2,000,000—
 £1,000,000 in £10 shares.
 £1,000,000 in 4-per-cent. debentures.
 Tariff, 4s. per word.

EXPENSES.	£
Cost of working, estimated at ...	50,000
Interest on debenture capital at 4 per cent.	40,000
	<u>£90,000</u>

RECEIPTS.	£
Traffic, estimated at ...	150,000
Subsidy ...	100,000
	<u>£250,000</u>

Leaving a balance of £160,000, or 16 per cent. interest on the share capital.

Estimated cost by Eastern Extension Company, based on actual experience of cable-working :—
 Length, about 8,300 nautical miles.
 Capital, say, £2,000,000.
 Tariff, 4s. per word (3s. for Pacific cables and 1s. for Atlantic cables and land-lines).

EXPENSES.	£	£
Cost of working stations and London expenses	20,000	
Two steamers and maintenance of cables	40,000	
Amortization to renew cables in twenty years	75,000	
		<u>135,000</u>
Interest on debenture capital at 4 per cent.	40,000	
		<u>£175,000</u>

RECEIPTS.	£
Half existing traffic with 100 per cent. increase, say, 500,000 words at 3s. per word	75,000
Subsidy required to cover expenses ...	100,000
	<u>£175,000</u>

Leaving nothing whatever for interest on the share capital, which at 5 per cent. would require an additional subsidy of £50,000.

NOTE.—The 6d. per word calculated for Atlantic cables would probably be increased to 1s. or 1s. 6d., in which case balance for Pacific cables would be 2s. 6d. or 2s. respectively, which would reduce the estimated receipts from £75,000 to £62,500 and £50,000 respectively.

If the Australasian Colonies granted the subsidy of £100,000 asked for by the promoters of the Pacific cable, the amount required from each colony on basis of population, as compared with the Eastern Extension Company's guarantee proposal—assuming that traffic increased 100 per cent. by reduction of tariff—would be as follows :—

Colony.	Subsidy for Pacific Scheme.	Proposed Guarantee to existing Companies for 4s. Tariff.
	£	£
Victoria ...	29,734	16,353
New South Wales ...	28,497	15,672
New Zealand ...	17,454	9,599
South Australia ...	9,674	5,321
Queensland ...	9,585	5,274
Tasmania ...	4,037	2,221
Western Australia ...	1,019	560
	<u>100,000</u>	<u>55,000</u>

No. 5.

The Hon. Sir J. VOGEL to the CHAIRMAN, Eastern Extension Company.

SIR,—

Wellington, 14th February, 1887.

I have the honour to acknowledge the receipt of your telegram of the 25th January, and of your memorandum and letter dated the 23rd December last.

I do not answer your telegram by the cable, as I have nothing of immediate interest to say to it in reply.

3.—F. 3.

3. Your telegram and letters divide themselves into three main features—(1) An assertion of the benefits your company has rendered; (2) the excellent intentions your company has to render still further services; and (3) your opinions unfavourable to a company proposing to construct a Pacific cable.

4. I do not undervalue the services your company has hitherto rendered, and, although the business of the company has been conducted on commercial principles, with a view to profit, I am far from thinking that up to a certain extent it has not claims on the colonies to which it has rendered services. At the same time I am strongly of opinion that the business should not continue in the hands of one company, that a monopoly is undesirable, and that the Governments should either take into their own hands the whole charge of cabling or encourage competition. This answers the two first points.

5. As regards the third, the company proposing to lay the Pacific cable have not submitted sufficiently definite propositions to enable this Government or any of the other Governments to pronounce in its favour, or to indicate as yet an intention of supporting it. But, with regard to the attack you make on it, I may point out to you that the questions you principally raise affect the company itself, not the Governments. I gather from what you say that you do not think the company will be a success. If the Governments enter into any arrangement with it I suppose they will assume that it is as able to take care of itself and of its shareholders as other companies have been. As regards the mode in which the Governments may be affected, you exaggerate the amounts asked of them, and you do not, I think, realize that the company's offer is that, up to the extent of its subsidy, each Government shall enjoy free cabling. I am at a loss to understand how you arrive at the conclusion that the users of the cable will be injuriously affected by competition. To me it appears quite the contrary. On the Atlantic side all the benefits have sprung from competition, and the public have suffered greatly by every successful effort to suppress it. In the present case I take it that the offers you have made, and which you consider so liberal, are consequent upon the threatened opposition. The history of the last seventeen years has proved to the Australasian public how little reduction of rates they are likely to obtain in the absence of competition.

I have, &c.,

The Chairman, Eastern Extension Company.

JULIUS VOGEL.

No. 6.

MEMORANDUM on the proposed Pacific Cable from Vancouver Island to Australia.

The Pacific Telegraph Company (Limited), 34, Clement's Lane,
London, E.C., 4th March, 1887.

SIR,—

My attention has been drawn to a memorandum, dated the 23rd December, 1886, addressed by Mr. Pender, the Chairman of the Eastern Extension Company, to your Government on the subject of Imperial communications.

In the first part of the memorandum referred to, which treats of existing cable communication, propositions so extraordinary are laid down that it is difficult to believe that their author was serious when he wrote them. In the second part, which relates to the proposed Pacific cable between Vancouver Island and Australia, statements most inaccurate and misleading are set forth, which cannot be allowed to pass unchallenged.

The object of the memorandum is to prove the superiority of the existing lines to Australia and the East over the Pacific route, but apparently Mr. Pender has nothing to advance except arguments of which the worthlessness will at once be recognized by experts.

In the first place, he claims as an advantage for his lines that they are laid in shallow water, while the Pacific cable would have to be laid at a great depth. The whole weight of available evidence, including Mr. Pender's own statements in past years, goes to prove that the deeper a cable is laid the more secure it is, both from submarine disturbances and from the destructive attacks of insects.

In a statement laid before the Cable Conference of New South Wales, 3rd October, 1876, with regard to the probable duration of the proposed duplication to Australia, Mr. Pender said, "Taking into consideration the warm shallow seas in which the greater part of this cable is to be laid, teeming as they do with animal life, which has hitherto proved very destructive to the cables already submerged, it would not be fair, in the present instance, to estimate it at too long duration." This is perfectly correct, experience having shown that the existing Australian lines are laid in seas the most destructive to cables in the world, abounding in coral reefs and insects, the waters between Singapore and Batavia being infested with a species of boring insect unknown at a depth of over 300 fathoms.

The Pacific Cable from Vancouver Island to Australia would be laid at a depth which would effectually protect it from submarine disturbances. The bottom the whole way is most favourable for prolonging the life of a cable, being clay and ooze, with the exception of the approaches to the island, which could be easily protected.

Mr. Pender's next claim for his company's lines is that "they have the immense advantage of being under British control, and worked by British operators throughout their entire length," and that, "while they are incomparably the most secure in time of peace, they would be the more surely and easily protected in time of war, inasmuch as it is one of the sea routes most frequented by the mercantile marine." That the existing lines are under British control in time of peace is perfectly true, but that they would be so in time of war I entirely deny. Can Mr. Pender really imagine that, if war broke out, his "British operators" would continue to "control" his lines? A very considerable portion of his whole system of cables to the East consists of a series of foreign toll-bars, from each and all of which his employes would be summarily ejected at the first outbreak

of any hostilities in Europe in which England was directly or indirectly involved. The latter part of his argument, relating to the mercantile marine, is a self-evident fallacy, proving, indeed, the very reverse of what Mr. Pender wishes to prove. Wherever the mercantile marine of any nation is found there will the enemy's cruisers be gathered together, and it is, of course, from an enemy's cruisers that danger to cable communication is to be apprehended. In the event of war the Mediterranean would be at once converted into a cruising ground for the ships of all nations, in which cable communications could not by any means be preserved for a week. Besides this, the land lines across Egypt offer the most vulnerable point of attack possible. A chain is no stronger than its weakest part, and, even if by any possible means the rest of the existing system could be rendered secure, the transit through Egypt alone would constitute a vital defect which no power could remedy.

Another grave defect in the present means of communication so far as Australia is concerned, is the two thousand miles of land line between Port Darwin and Adelaide, passing through country for the most part an uninhabited desert. The northern portion of this line is exposed to the full fury of the monsoon, and it is here, as stated by Mr. Cracknell, that interruptions most frequently occur. Also large tracts of the country through which the line passes are subject to floods, which render repairs temporarily impossible.

The proposed line from Vancouver Island would establish communication between Great Britain and Australasia which would be actually instead of only nominally under British control, passing through British territory, with the exception of the Sandwich Islands, throughout its entire length. The great advantages of this route over any other in time of war are sufficiently obvious. The points of call are few and far between, and could easily be defended. The cable would be laid through seas where it would be of no advantage for an enemy's cruisers to be stationed, the line being, as Mr. Pender himself points out, "far away from the route followed by merchant ships." Added to this must be considered the great depth of the ocean, which would render any attempts to cut the cable exceedingly difficult and costly.

The assertion that the line is "practically unsurveyed" is quite incorrect. The whole line, from San Francisco to Sydney *via* Hawaii, has been surveyed by the "Tuscaroora," the bottom being reported as clay and ooze all the way, with the exception, as above stated, of the approaches to the islands. This is further corroborated by the soundings of the "Challenger" to the north of Hawaii.

The Chairman of the Eastern Extension Company next proceeds to attack the proposed Pacific cable from a commercial point of view. He says, "I believe that the laying of such a line would only benefit the promoters, and would be inimical to the interests of the telegraphing public, as it would inevitably lead to a war of tariffs, which would eventually impoverish both the Pacific and the existing cables, and result in a starved and inefficient service." Here is a commercial theory which has, at all events, the merit of being entirely new. It is probably the first time that a man of any commercial standing has ventured seriously to assert that a "war of tariffs," in other words, competition, is inimical to the interests of the public, and likely to lead to an inefficient service. On the question of the benefit likely to accrue to promoters no one will deny Mr. Pender's right to form a judgment, but any comparison upon this point between existing lines and the proposed Pacific cable is strongly deprecated. The laying of the Eastern extension, a distance of 2,150 miles, was handed over to the Telegraph Construction Company (of which Mr. Pender was at one time a director), and carried out at a cost of £600,000, being at the rate of nearly £300 per mile, while it is notorious that the cost of such construction ought not to exceed £200 per mile at the very outside. That there is profit in a transaction such as the above is evident, and we must all concur with the Chairman of the Eastern Extension Company in regretting that it has not found its way, in the shape of dividends, into the pockets of the shareholders.

In attempting to deal with the question of tariffs Mr. Pender shows undisguised alarm lest the proposed Pacific cable should "impoverish the existing lines." His alarm is so far justifiable, in that the Pacific Telegraph Company has been formed for the express purpose of very largely reducing the tariffs to Australia. That the new company will be in an infinitely better position to do so than ever the Eastern Extension Company can hope to be will readily be seen from the following considerations. Before the Eastern Extension Company can reach India, where their lines to Australia begin, they have to pay 4s. per word for messages. The Pacific Telegraph Company, on the other hand, can get their messages transmitted from England to Vancouver Island, a distance of 5,700 miles, at an outside cost of 8½d. per word. The number of toll-bars at which Mr. Pender has to pay toll before reaching India make it impossible, as he has himself repeatedly and recently stated, that he can reduce his tariff. It is obvious, therefore, that he can never hope to work upon anything like such favourable terms as a line operating from Vancouver Island.

In attempting to block the construction of a Pacific cable Mr. Pender has entered upon a hopeless task. If anything were wanting to show that he is himself conscious of the desperate nature of his case it would be the proposition contained in his memorandum to the Colonial Governments. The "telegraphing public" will be delighted to hear that "The Eastern Extension Company has, subject to the assent and co-operation of the other interested administrations, offered to make the rate any figure acceptable to the colonies down to the limit of their outpayments (at present 2s. 4d. per word), provided that the average receipts for the last three years are guaranteed to them by the colonies. The acceptance of this offer"—Mr. Pender adds, with a touch of humour, of which he is apparently quite unconscious—"would reduce the company's risk to a minimum." What the other "interested administrations" may have to say in the matter I do not pretend to know, but that the colonies will value this concession at its true worth there is not a shadow of doubt. There are probably few companies who would not be glad to enter into similar arrangements.

With regard to the cost of construction and working, and probable receipts, of the proposed Pacific cable, Mr. Pender's estimates are such as no evidence can be found to justify. For instance, his estimate of the cost of two repairing steamers is £40,000 per annum. Colonel Glover's estimate (as stated in his evidence before a Committee of the House of Assembly, New South Wales, 10th May, 1878) is £10,000 per annum for each steamer. It is certainly not from "past experience" that Mr. Pender is enabled to estimate the necessary sum for amortization to renew cables at £75,000 per annum.

The directors of the Pacific Telegraph Company have perfect confidence in the success of their undertaking from a commercial point of view, the calculations upon which their estimates are based having been most carefully made by the best possible authorities. In estimating receipts no allowance whatever has been made for the vast increase of traffic which cannot fail to be the consequence of bringing Canada, the United States, South America, and the Pacific Islands into direct communication with Australia.

But, indeed, no arguments which can be advanced in favour of the existing systems of cables have any bearing whatever upon the question of constructing a line across the Pacific. From a commercial point of view it is absolutely essential that the various parts of the Empire should be connected by lines as far as possible free from interruption both in peace and war. Further, it is most desirable that the existing tariffs should be greatly reduced. Both these objects, it is submitted, can be better effected by a Pacific cable than by any other means, with the additional advantage, which no other route could offer, of connecting Canada with Australia, and so completing the girdle of the world's telegraphic communications. From a strategic point of view the advantages are, if possible, stronger. Military authorities are now unanimously of opinion that, in the event of a European war, the Suez Canal could not possibly be relied on as a means of transport to the East. The military road to India and the East, therefore, must undoubtedly be *via* the Canadian Pacific Railway to Esquimaux, and thence by steamer across the Pacific. The importance of establishing telegraphic communication in this ocean cannot be overrated, as a cable from Vancouver Island to Australia would supply an alternative means of communication with India and the East in the event of the lines through the Mediterranean and Egypt being severed, as they infallibly must be in time of war. These are considerations which have apparently escaped the notice of Mr. Pender, though they are not likely to be overlooked by any one who has a just appreciation of the bearing of Imperial communications upon the science of Imperial defence.

A cable from Vancouver Island to Australia would not only be of great commercial advantage to the nation, but it would also be a move of paramount importance in Imperial strategy. It is, in fact, a development which must inevitably take place, in obedience to the laws of expanding civilization. No one can deny that the scheme is one of vital importance to the whole British Empire, and its accomplishment is not likely to be materially retarded by Mr. Pender's appeal *ad misericordiam* for the continuance of a monopoly in the advantages of which not even his own shareholders have been allowed to participate fully.

I have, &c.,

HAROLD FINCH HATTON, Secretary.

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