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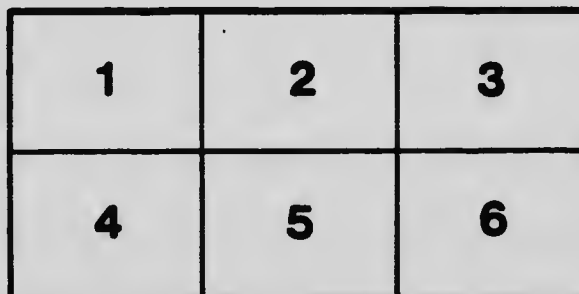
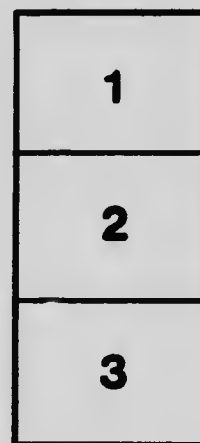
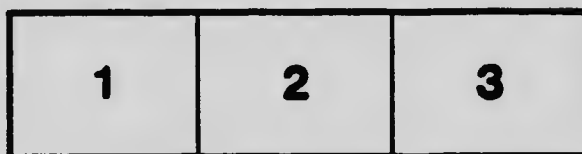
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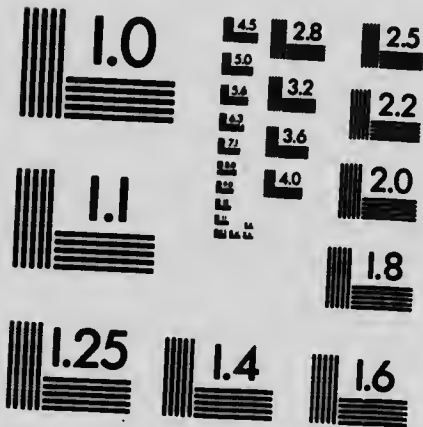
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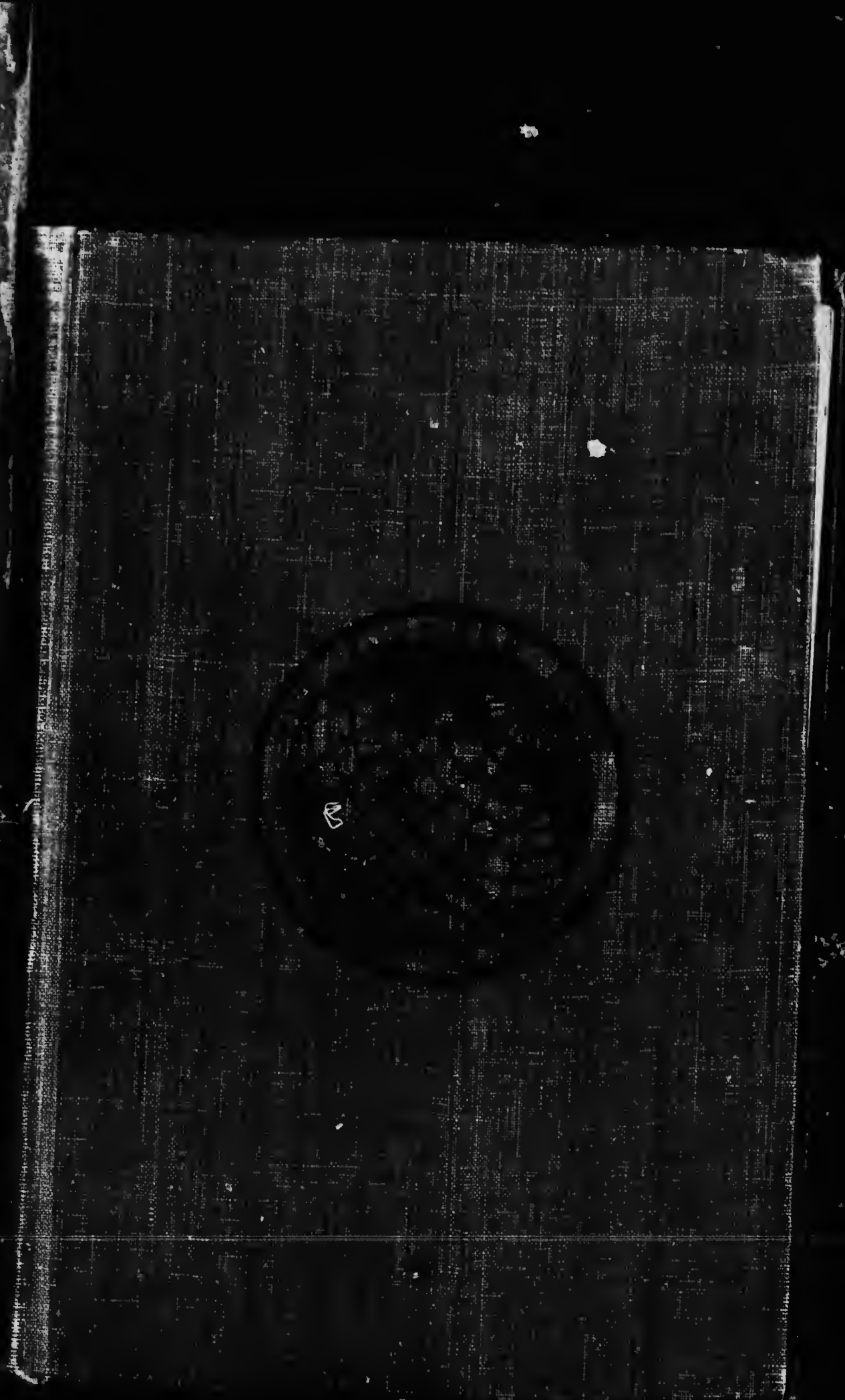
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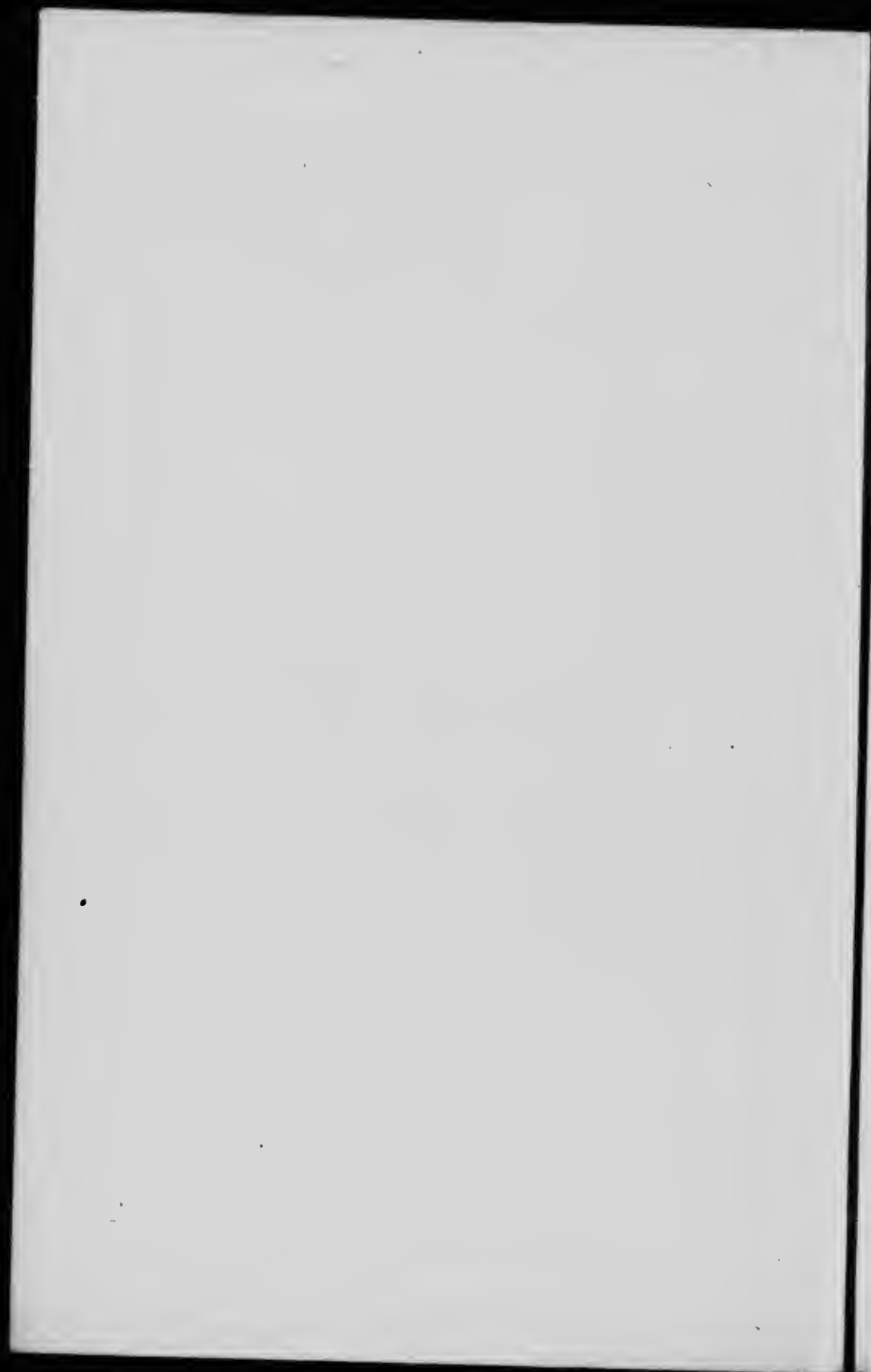
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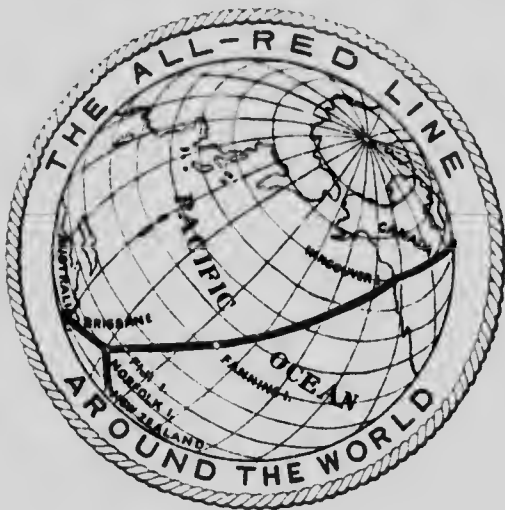


THE ALL RED LINE

The Annals and Aims

...OF...

The Pacific Cable Project



EDITED BY

GEORGE JOHNSON,

Honorary Member of The Royal Statistical Society.

OTTAWA

JAMES HOPE & SONS

1903

13610

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THE PROBLEM OF AN
EMPIRE-GIRDLING STATE-OWNED
TELEGRAPH SYSTEM

(SIR HENRY PARKS)

"The crimson thread of kinship."

(RIGHT HON. JOSEPH CHAMBERLAIN)

"Our great ideal is unity of the Empire. In the words of a Canadian poet"

"Unite the Empire—make it stand compact
Shoulder to shoulder let its members feel
The touch of British brotherhood; and act
As one great nation—strong and true as steel."

(RIGHT HON. SIR EDMUND HARTON)

"Congratulations on the completion of the Pacific Cable. I trust that the connection, and with it the community of feeling and interest between the sister Dominions may strengthen them and the whole Empire."

(RIGHT HON. R. J. SEDDON)

"New Zealand extends hearty congratulations to Canada on completion of Pacific Cable, forming strong link in chain of communication through all our great Empire, bringing dominions over the seas into closer contact."

(RIGHT HON. SIR WILFRID LAURIER)

"Canada fully reciprocates the sentiments conveyed in your message over the newly completed Pacific Cable with the sincere hope that the step may be soon followed by others still more important in the same line. . . . It should be hailed with satisfaction throughout the Empire."

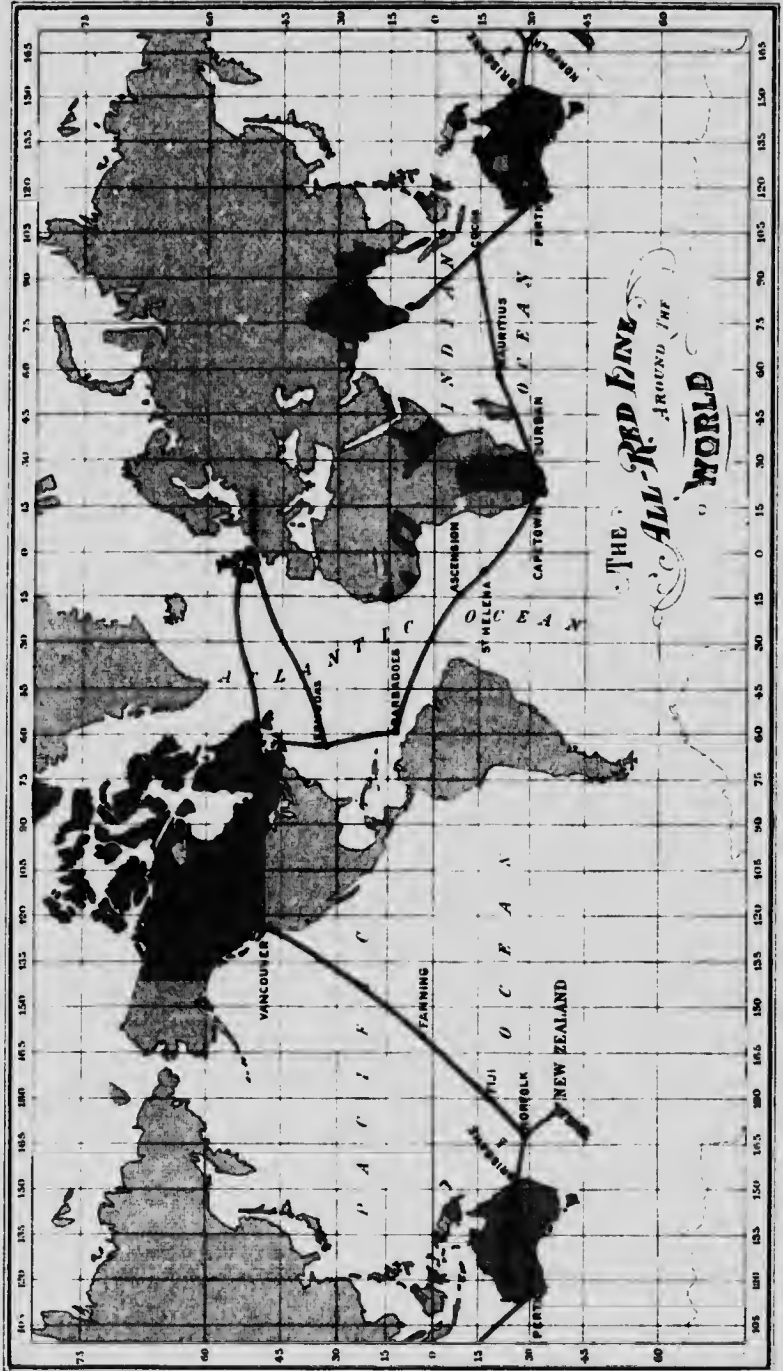
(SIR WILLIAM MULLOCK)

"Rejoice with you in completion of the Pacific Cable, an important link of Empire and trust the red line may be continually extended until it connects the mother country with all parts of the Dominions beyond the seas."

(SIR JOSEPH WARD)

"Glad to hear of Sir William Mullock's advocacy of state-owned cables within the Empire. That is what we, one and all, should strenuously fight for."





THE ALL-RED LINE
 AROUND THE
 WORLD

PREFACE

In the introduction which follows, the writer explains how he came to examine the mass of literature bearing on the annals of the Pacific Cable ; how as he read he became fascinated with the subject and especially with the great Imperial project of which the globigerina-ooze-buried Cable of the Pacific Ocean is only a part.

In these pages will be found an account, in sufficient detail, of the gradual development of the larger proposal. The most convincing reasons are submitted for the establishment of an Empire-girdling telegraph system—a system which would confer on the State the means of a high degree of practical ubiquity and bring inestimable advantages to the British people in the four quarters of the globe.

CONTENTS

	PAGE
Introductory.. <i>The Editor</i>	5-9
Bibliography " "	10-44
Chronology of Cables..... " "	45-49
CHAP. I	
The Jubilee Conference, 1887..... <i>W. D. LeSueur, LL.D</i> ...	50-76
CHAP. II	
The Nautical Survey..... <i>The Editor</i>	77-90
CHAP. III	
Mission to Australia..... <i>J. L. Payne</i>	91-120
CHAP. IV	
Mid-Ocean Islands..... <i>L. J. Burpee</i>	121-148
CHAP. V	
The Ottawa Conference, 1894..... <i>The Editor</i>	149-204
CHAP. VI	
Tenders for Cables.... <i>The Editor</i>	205-213
CHAP. VII	
The Imperial Committee, 1896.... <i>F. Hamilton</i>	214-235
CHAP. VIII	
The Jubilee Conference, 1897..... <i>The Editor</i>	236-249
CHAP. IX	
State Partnership.. <i>C. Morse, D.C.L</i>	250-294

CHAP. X

The Enemies.....*The Editor*.....295-307

CHAP. XI

A Pan Britannic System.....*F. Hamilton*.....308-314

CHAP. XII

Girdling the Globe.....*W. Wilfrid Campbell*....315-343

CHAP. XIII

Postal Cable Service.....*Wm. Smith, B.A.*.....344-376

CHAP. XIV

Cable Laying.....*Otto Klotz*.....377-414

CHAP. XV

The Coronation Conference 1902...*The Editor*.....415-427

CHAP. XVI

Wake Up.....428-438

ADDENDUM

Interview with Sir Sandford Fleming on the completion of
the Pacific Cable.....441-455

APPENDIX A

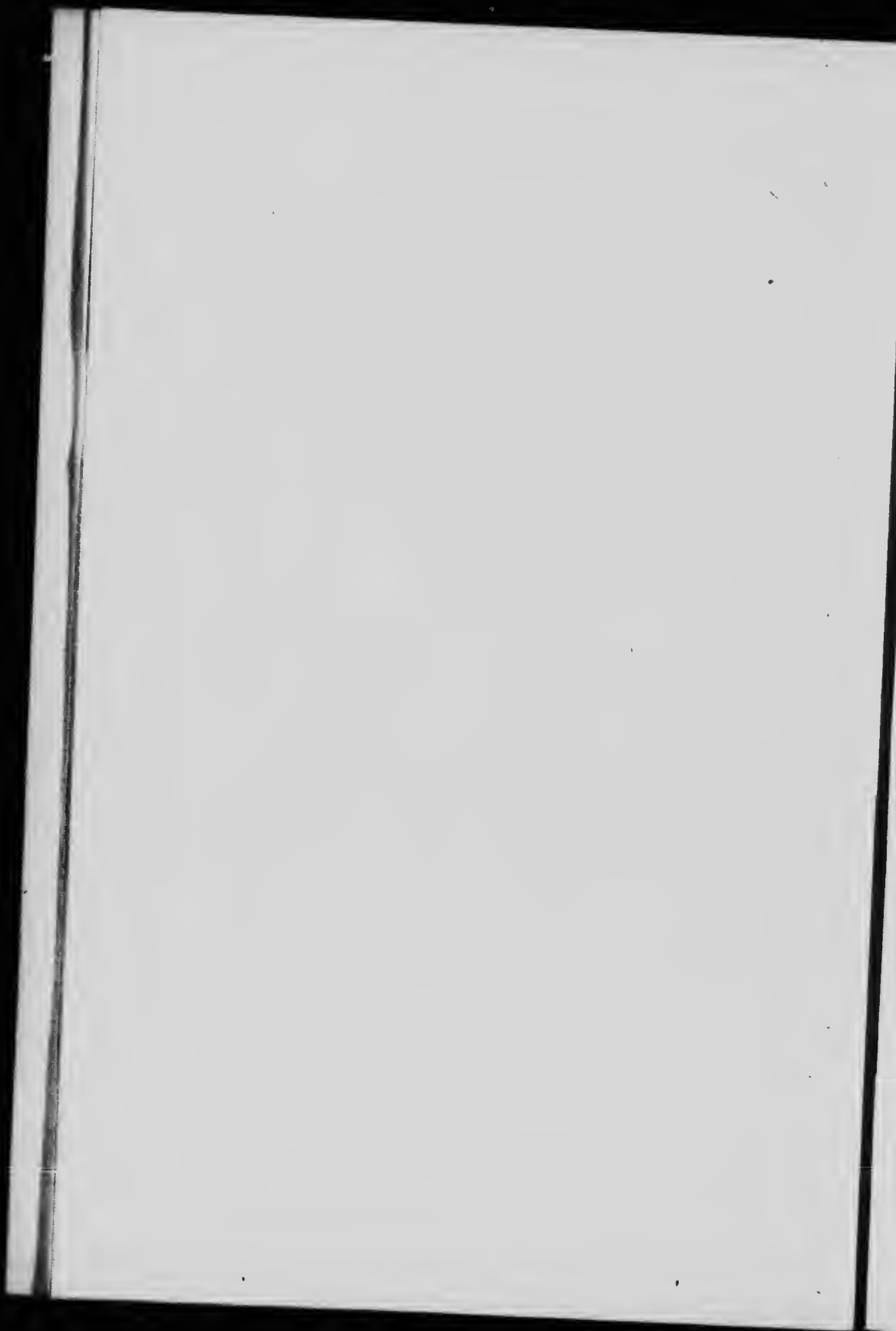
The First Telegraphic Message Around the World with fac-
simile of cable slip.....457-462

APPENDIX B

New Year's Greetings to and from the Eight Australian
Premiers463-466

APPENDIX C

An Empire-girdling, State-owned Telegraph Service--Letter
to Rt. Hon. J. Chamberlain from Sir Sandford Fleming467-481



INTRODUCTION.

In a published interview in July last, the General Manager of the Pacific Cable Board stated that the section between Vancouver and Fanning Islands is the longest, and in other respects, the most important cable in the world. In view of the fact that there are, in all, more than 1,700 electric submarine cables, with an aggregate length of over 200,000 miles, it is obvious that the telegraph connecting Canada with Australia and New Zealand is an undertaking of the greatest magnitude.

The Pacific Cable is jointly owned by six British Governments, a unique partnership arrangement effected in obedience to the strong desire of the people of the wide-spread British Empire to utilize electricity for the accomplishment of Imperial consolidation. In seeking a solution to the problem, the men of light and leading, anxious to shape the destinies of the Empire, recognize very generally that the public ownership of a system of submarine electric telegraphs would be followed by political, social and commercial advantages of great value.

These considerations led the writer to examine such telegraph and cable literature as he found available, including many parliamentary returns bearing on the subject. The more he studied the papers and documents, and made researches at the sources of information, the more he became satisfied that it would serve a useful purpose to collect the scattered materials so as to present the annals of the Pacific Cable project in a concise and consecutive form.

With this object in view he invited several writers to prepare distinct portions of a connected story.

Others undertook to deal in separate chapters with the aims and possibilities of this international British work.

Canada has good reason to regard with satisfaction the efforts to use electricity to increase vital circulation between the heart of the Empire and its outer members.

Sir Edward Sassoon, a high authority, has said : " But for the tenacity of purpose shown by Canada and the sacrifices she has so willingly made, there is little doubt that the Pacific Cable scheme, with all its attendant advantages and lessons, would have come to nothing."

The same eminent public man has mentioned, in terms of warm eulogium, " the efforts that the Canadians under the guidance of Sir Sandford Fleming, that veteran pioneer of cable reform, * * * were making to establish the all-British Pacific Cable as a state-owned concern, forming, even in the fact of ownership in common, one more link between the Mother Country and her colonies."

The idea of an all-red line around the world came to a Canadian as he, in his capacity of Chief Engineer of the Canadian Pacific Railway, constructed the land telegraph lines from the Ottawa River to the Gulf of Georgia. The plan of carrying it out was evolved during years of study. In all of its stages, from preliminary to final, it encountered determined opposition from a strongly-entrenched foe, who preferred private gains to public benefits.

Canada and the Empire at large had, fortunately, in Sir Sandford Fleming, the man of means, of leisure, of attainments, specially qualifying him for a task involving travel on all the oceans and continents; correspondence with men in favour of the comprehensive scheme, or needing enlightenment to become advocates; preparation of timely statements for the purpose of overcoming inertia and indifference, and never ceasing watchfulness to counteract the combinations made to thwart the constant efforts to advance the project from a paper plan to a materialized institution.

For three and twenty years Sir Sandford has devoted himself to advocating a Pacific cable. For 15 years he has urged the project of a State-owned, State-

operated cable system, which should play an important part in welding the British Empire by the great and subtle force of electricity.

At a Conference held in Sydney, New South Wales, January, 1877, nine resolutions were passed respecting telegraphic connection between Australasia and the rest of the world. One of these resolutions authorized the Government of New Zealand to ascertain if the Government of the United States would pay a subsidy to secure the construction of a cable from New Zealand to the United States of America. The resolution appears to have been sent to the Colonial Office, and to Sir Julius Vogel, then Agent-General in London for New Zealand.

The latter, with Hon. Archibald Michie, Agent-General for the Colony of Victoria, made a long report in which they refer to four routes to England by way of Asia, and one route from New Zealand to San Francisco by way of Honolulu. The last route is referred to unfavourably, being considered almost impracticable on account of the great depth of water and other obstacles. The report is dated August, 1877. The Minutes of the Sydney Conference do not give the name of the person who proposed the resolution, nor do they attach the idea of the cable to any particular individual.

But, undoubtedly, it was then and there proposed, to be, however, condemned by the two Agents-General.

The first mention of the idea of a Pacific Cable that the Canadian Archives afford is in a letter from Sir Sandford (then Mr. Fleming, Chief Engineer of the Canadian Government Railways) to F. N. Gisborne, Superintendent of the Telegraph and Signal Service, Ottawa. It reads: "The Pacific terminus of the Canadian Pacific Railway will, in all probability, be finally determined this year (1879), and the telegraph now erected from Lake Superior and carried almost to the base of the Rocky Mountains will then be extended to tide water in British Columbia. In my last report laid before Parliament, I submitted the importance of connecting Lake Superior with Ottawa, the seat of Government, by tele-

graph. * * * * * If these connections are made, we shall have a complete overland telegraph from the Atlantic to the Pacific coast. It appears to me to follow that, as a question of Imperial importance, the British possessions to the west of the Pacific Ocean should be connected by submarine cable with the Canadian line. Great Britain will thus be brought into direct communication with all the greater colonies and dependencies without passing through foreign countries."

In his report on the progress of the Canadian Pacific Railway, dated 8th April, 1880, Sir Sandford devoted considerable space to the subject. He published correspondence showing the importance, practicability, cost and remunerative prospects of the submarine Pacific Cable. He also prepared, to accompany his remarks, a map, giving the route, which, it is interesting to learn, Sir John Macdonald, himself a supporter of the project, showed to Earl Beaconsfield, both Premiers agreeing in the great Imperial importance of the proposal.

In a statement made before the Imperial Cable Committee, November, 1896, Sir Sandford said: "It became plain to me that the national line of communication, on which Canada was then spending so much, would be incomplete without a connection with the telegraph systems of the countries beyond the Pacific Ocean, and it became equally clear that the spanning of the Pacific by an electric cable would prove of the highest importance to the whole Empire."

Since 1879, when the germ of the idea lay in the sentence or two of the letter to Mr. Gisborne, the mass of documents which has accumulated attests the devotion of Sir Sandford to the cause of Empire and its electric connection.

Steam as a motive power on land and ocean has proved an indispensable means of drawing closer the several scattered units forming the British group. But the possibilities of electricity are now recognized to be

infinitely greater than those of steam in affording a rapid interchange of thought, connected with all current events, between the units, whatever the distance separating them. The wonderful power of electricity applied to telegraphy has suggested its employment on an extended scale, to bring all the parts of the outer Empire within speaking distance of each other, and within instant touch of the Mother Country, the great centre of British power, and the source of influence and national cohesion.

The Act in the Statute Book, being Chapter 3 of the Acts of the Parliament of Canada, 1899, with its amendments thereto, registered in Chapter 5 of the Acts of 1901, is the official expression of the satisfaction of the people of Canada with the pan-Britannic cable communication idea, and with the State-owned, State-operated system by which that idea has been carried into practical operation.

The resolutions on which the Act of 1899 is based were introduced in the Commons of Canada by Hon. Mr. (now Sir William) Mulock, Postmaster General, who said: "The resolution now in your hands is practically the embodiment of the principles, and even of the details involved, in the resolution passed by the Colonial Conference of 1887, and in that passed by the Colonial Conference of Ottawa, 1894. But this," continued he, "is the first time, so far as I am aware, that the subject has been so far advanced as to appeal to a British Parliament for legislative sanction."

BIBLIOGRAPHY.

Major Carmichael-Smith, in a pamphlet published in February, 1849, wrote strongly in favour of an inter-oceanic railway and an electric telegraph line from the Atlantic to the Pacific.—1849.

Henry Youle Hind published, in 1862, "A Sketch of an Overland Route to British Columbia." Appended to this sketch is "Practical Observations on the Construction of a Continuous Line of Railway from Canada to the Pacific Ocean on British Territory," by Sandford Fleming, Esq., C.E. In connection with the railway, Mr. Fleming said it would, as an essential and independent part of its equipment, be provided with an electric telegraph; * * * * * and without doubt, great benefits would result from the possession of this instantaneous means of communication." (page 85).

"It requires no argument to prove that the railway and the electric telegraph are the most perfect means for concentration of military power that could be desired." (page 91).

In summing up, Mr. Fleming said: "A continuous line of railway, with electric telegraph, is better calculated to meet the permanent wants of the country and serve the interests of the Colonial Empire than any other means of communication between the two oceans" (page 109). * * * * * that the first effort should be made to construct an electric telegraph along the precise line of the future railway; that the telegraph should be the precursor of other means of communication." (page 110).

"The extreme importance of the telegraphic communication extending from colony to colony across the country, even during the latest stages of settlement, is too apparent to need comment" (page 113).—1862.

The Red River Settlement presented a memorial through Mr. Fleming, to the Governor-General, Lord

Monk, and subsequently to the British Government, urging the establishment of electric telegraph communication.—1863.

Sir Edward Watkin proposed to the British Government to establish a telegraphic and postal communication from Lake Superior to New Westminster.—1863.

To this proposal the Duke of Newcastle, Secretary of State for the Colonies, agreed, and saw no objection to a grant of land and a guarantee of £12,500 per annum in order to secure the benefit of telegraphic communication between the seat of Government of Canada and the coast of the Pacific, the undertaking to be completed in five years.—1863.

In 1863 the Atlantic and Pacific Transit Company proposed to the Imperial Government to build a telegraphic line across the continent, from Montreal to the Pacific Ocean, and the proposal was recommended by the Governor General, Lord Monk, in the Speech from the Throne, on the opening of the session of 1863. It was not entertained by the Canadian Legislature, because that body thought that a post road ought to be built simultaneously with the telegraph line.—1863.

Establishment of telegraphic communication between Fort Garry and Ottawa.—1871.

The charter of the Interoceanic Railway Company passed in session of 1872, conferred authority to operate a telegraph line for transmission of messages for the public.—1872.

At the request of the Premier, Hon. Alexander Mackenzie, Mr. Sandford Fleming prepared a memo., January 1st, 1864, recommending, among other things, the immediate construction of a telegraph and road along the entire distance between Ontario and Quebec and British Columbia.—1874.

Hon. Mr. Mackenzie (May 12) proposed to the House of Commons resolutions respecting the Pacific railway; the three resolutions provided "that a line of electric telegraph be constructed in advance of the said

railway and branches along their whole extent respectively as soon as practical after the location thereof shall have been determined."—1874.

The Minister of Public Works (Mr. Mackenzie) reported to the House (June 30) that "contracts have been entered into for the construction of a line of telegraphs on the route of the railway, from Lake Superior to British Columbia.—1875.

Conference in Sydney, New South Wales; nine resolutions adopted respecting cable communication with Europe. By one, the Governments of South Australia, Queensland and West Australia, were invited to open negotiations for the construction of cables connecting Australia with Singapore and New Zealand with the United States of North America. A second resolution proposed that New Zealand should enter into communication with the United States to obtain from the latter its consent to pay a subsidy to the proposed line. January, 1877.

Memorandum and report by Arch. Michie and Julius Vogel, then Agents-General in London, on cable routes. These documents refer to five routes, of which four extend from Australia westward via India, and one from New Zealand to San Francisco by way of Honolulu. Messrs. Michie and Vogel report the last route to be "almost impracticable on account of the great depth of the water which would have to be passed through." If such a line were laid, it is unlikely it ever could be repaired, as the depth of water is greater than that from which a cable has ever yet been raised. * * * At some time or other a cable will probably be constructed from the United States to Japan, but it would have to go north to avoid the depth of water of a direct or more southerly route."—August, 1877.

The Minister of Public Works (Sir Charles Tupper) reported, that "the telegraph between Fort William and Selkirk, 410 miles, is in use; has been constructed from Selkirk to Edmonton, 1,197 miles; and is in operation to

Battleford, 967 miles. In British Columbia proper, the line had been constructed from the coast to a point 55 miles north of Kamloops.—1878.

The agreement with the C. P. R. Syndicate contained provisions respecting telegraph lines.—1880.

Sandford Fleming, in a letter to F. N. Gisborne, urged the laying of a submarine cable in the Pacific, to connect with the Canadian land lines.—11th June, 1879.

Sandford Fleming, in his report on the Pacific Railway, proposed the extension of the Pacific Railway telegraph to Asia by submarine cable. He said "the telegraph completed and in operation from ocean to ocean opens up a prospect of extended usefulness, and promises advantages which do not alone concern Canada

* * * * From her geographical position Canada has unusual facilities for taking advantage of favourable conditions, and the belief is warranted that when a submarine telegraph is laid from America to Asia, its location will naturally be in connection with the Canadian overland telegraph to the Pacific coast."—1880.

For correspondence in 1880 relating to the scheme of Sandford Fleming for connecting Canada with Asia by submarine telegraph, see return to an address of the Senate of Canada, dated 19th March, 1881. Return 41, session 1882.

Analysis.

(a) Sandford Fleming to Sir Charles Tupper, proposes a submarine cable to Asia as the complement of the C. P. R. telegraphs, and asks that a concession of exclusive privilege of landing a submarine cable on the Pacific coast of Canada be granted to him.—14th May, 1880.

(b) C. Schreiber, Chief Engineer Government Railways, recommends that the privilege sought be granted.—20th May, 1880.

(c) Report of the Committee of the Privy Council recommends the granting of the concessions sought.—17th June, 1880.

(d) Memorial of Sandford Fleming to Governor-General, setting forth that for the consummation of the scheme, it will be necessary to secure a landing privilege at Yesso, in Japan, and the transfer of one of the smaller islands of the Kurile group to the British Crown, "in which case it would be practicable to connect London telegraphically with India, Australia, South Africa, and all the great colonial possessions of Great Britain without passing through foreign countries." Mr. Fleming solicits the intervention of the Governor-General with the Imperial Government to open negotiations with the Japanese Government. "The aim of the cable is to bring Great Britain, Canada, India, Australia, New Zealand, South Africa, indeed all the outer provinces and colonial possessions of Great Britain in unbroken telegraphic communication with each other, in entire independence of the lines which pass through foreign countries." The memorial has attached to it a memorandum giving a synopsis of remarks in the Report on the C. P. Ry. for 1880, also map showing the route proposed.—27th June, 1880.

(e) Memorandum to the Privy Council by Sir Hector L. Langevin, Minister of Public Works, recites the action taken by the Canadian Government and the memorial of S. Fleming, and recommends that the Governor-General transmit the memorial (d) to the Imperial authorities for their favourable consideration.—2nd July, 1880.

(f) Minute of Privy Council adopting Sir Hector's recommendation, and further recommending that Sir A. T. Galt be instructed to communicate with the Colonial Minister on the subject.—7th July, 1880.

(g) Memorial from S. Fleming to the Marquis of Lorne, urging the advisability of acquiring more detailed information respecting the waters in which the cable would rest, as well as the shores on which it would be landed, and suggesting that one of the British ships at Esquimalt might be detailed to make such examination.—4th December, 1880.

(h) Minute of Canadian Privy Council, recommending that the necessary steps be taken to submit Mr. Fleming's suggestion to the Imperial authorities.—8th December, 1880.

(i) Letters, being copies of correspondence had between Secretary for Colonies, the Foreign Office and the High Commissioner: (i—1) Earl Kimberley to the Marquis of Lorne, covering despatch; (i—2) Sir A. T. Galt to Earl Kimberley, stating that it is not considered expedient to press the request to the Japanese Government to transfer one of the Kurile Islands to Great Britain, but that it is deemed advisable to obtain a guarantee from Japan protecting the cable when landed upon one of the islands; (i—3) several letters between various officials, winding up with one from Sir A. T. Galt, High Commissioner, informing the Secretary of State, Canada, that Japan is willing to allow the cable to be landed at any suitable point in Yesso.—23rd December, 1880.

(j) Letter from the Department of Public Works, Ottawa, asking to furnish the Canadian Government with any suggestions likely to aid the Government in presenting a request for one of Her Majesty's fleet stationed at Esquimalt.—28th January, 1881.

(k) Letter from the Admiralty to the Colonial Office, transmitting a chart in which the soundings taken by H.M.S. "Challenger," and by U. S. war vessels, are shewn, and which, to some extent, covers the ground over which such cable would pass.—18th January, 1881.

(l) Letter from Sandford Fleming to Hon. Hector L. Langevin, stating that he had placed himself in communication with the manufacturers of cables, and taken other preliminary and necessary steps, and proposed to visit Japan and England, and suggesting that the approval of Parliament of the terms of arrangement with the Government be secured.—4th February, 1881.

(m) Answer of Hon. Hector L. Langevin, that whenever company is formed the Government will submit the arrangement to Parliament for approval.—10th February, 1881.

(n) Letter from Mr. Fleming to Hon. Hector L. Langevin, enclosing draft of proposed resolutions to be submitted to Parliament, respecting the concession of privileges to promote the undertaking of the establishment of an Asiatic telegraph line.—15th February, 1881.

(o) Letter from S. Fleming to Minister of Public Works; remarks upon debate in House of Commons on 1st of March. His position as originator of scheme defined, and willingness expressed to transfer any concessions he had to any company able and willing to carry forward the scheme to successful completion.—2nd March, 1881.

Minister of Public Works (Mr. Langevin) moved (1st March, 1881) the House of Commons into a Committee of the Whole, to consider the following resolution:

(1) That it would be of great advantage to Canada that telegraphic communication should be established between the Pacific Coast of the Dominion and Asia, and that certain facilities and advantages should be granted to any company willing and able to establish and maintain the same;

(2) That with this view, it is expedient to provide that if Sandford Fleming, Esquire, who has submitted a plan for the formation of a company for the said purpose, which has met the approval of the Governor in Council, and such persons, not less than five in number, as may be associated with him in the undertaking, do, before the 1st day of October next, apply for Letters Patent under the Act 40 Vict., chap. 43, incorporating them as a company for the purpose aforesaid, and show to the satisfaction of His Excellency in Council, that they have complied with the preliminary requirements of the said Act, and are able and ready to establish and maintain such telegraphic communication as aforesaid, Letters Patent may be issued incorporating them for such purpose, under the said Act and the Act 38 Vict., chap. 26, with the powers and privileges, and subject to the obligations provided by the said Acts, and with the exclusive

privilege of landing a telegraphic cable or cables on the said Pacific Coast during twenty years; but subject also to the following conditions:—

1. The telegraphic communication between the two continents shall be completed within five years from the date of the charter, and shall be thereafter regularly and efficiently maintained;
2. The rates to be charged for messages shall be moderate, and subject to approval by the Governor in Council;
3. Any further conditions which may be inserted in the Act to be passed in this behalf or in the charter granted under it.
4. Default on the part of the company to perform the said condition shall subject them to the forfeiture of their charter.

On Mr. Currier, M.P., stating that there was a Bill before the House asking incorporation of the European-American Cable Company to lay a cable from Canada to China and Japan, the debate was adjourned. Mr. Fleming writes a letter to Mr. Langevin respecting the company mentioned. Mr. Fleming says he is advised that a submarine cable to Asia is entirely beyond the scope of the proposed company's powers; and that the Atlantic was their proposed field of action. Mr. Fleming asks that "an Act may be passed by Parliament giving power to incorporate a company to establish the line of telegraph to which I have directed public attention, and I shall gladly continue to do my utmost to have the undertaking carried out."—10th March, 1881.

Resolution brought forward and passed, and a Bill introduced in Commons by Mr. Langevin, with the exclusive right of landing a cable in British Columbia omitted.—11th March, 1881.

Bill incorporating the European, American and Canadian Cable Company amended in Committee of Railways, and the company, by the amendment, empowered to establish submarine cables from Canada to Japan and Asia.—15th March, 1881.

Mr. Fleming, in a letter, reviews the above action, and sets forth reasons why he objects to the course taken by promoters of the E. A. & C. Cable Co.—17th March, 1881.

(For following statements, see Address of the Senate, 41a, 1882.)

Mr. Fleming, in a letter to Sir John A. Macdonald, epitomizes the history of the Asiatic Cable project. States the result of the action of Parliament in granting amended powers to the E. A. & C. Cable Co.

This is an important letter to the student of the evolution of the idea of a Pacific-Atlantic cable connecting the several parts of Greater Britain with Great Britain, and contains references of a personal nature, interesting and useful.—15th February, 1882.

Mr. Fleming, in a letter to Sir H. L. Langevin, criticising a statement that the E. A. C. & Asiatic Cable Company had been fully organized, that the capital had been fully subscribed, and that the cables were being made, pointed out that a year having elapsed and nothing really done, the Government of Canada should take steps to make further provision respecting the incorporation of a company to establish a marine telegraph between the Pacific Coasts of Canada and Asia, and to repeal provisions of any Act inconsistent therewith.—14th April, 1882.

Letter from F. N. Gisborne, setting forth distances cable would have to be laid, &c.—5th May, 1882.

Copies of letters appended:—

(a) Gisborne to Fleming, about distance and cost of transcontinental telegraph line and Pacific Cable.—9th June, 1879.

(b) S. Fleming to F. N. Gisborne, directing attention of latter to Asiatic Cable connection.—11th June, 1879.

(c) F. N. Gisborne to S. Fleming, discussions of feasibility of project, routes, cost, &c.—13th June, 1879.

(d) Letters respecting claim of F. N. Gisborne to be originator of idea of Pacific Cable:

(d—1) Fleming to Sir Charles Tupper, 20th June, 1881.

(d—2) Tupper to Fleming, 24th June, 1881.

(d—3) Fleming to Gisborne, 24th June, 1881.

Pamphlet, being "Memorandum in reference to a scheme for completing a great inter-colonial and inter-continental telegraph system, by establishing an electric cable across the Pacific Ocean." London, Eng. (Printed by Sir Joseph Canston & Sons.)—20th November, 1882.

Contains:

A statement by Mr. Fleming, giving short annals of the proposal, and stating the purposes to be accomplished by the projected cable.

"Importance of scheme has been from the first recognized. The recent Egyptian war has established the necessity of carrying it into execution with as little delay as practicable. For a period last summer there was a complete interruption to postal and telegraph service through Egypt, with India, China, Australia, South Africa and the East."

See pages 6 and 7 for summary of what the Pacific submarine cable would accomplish.

Contains also:

Appendix No. 1. Minute of Privy Council of Canada, of 17th June, 1880.

Also, Appendix No. 2. Minute of Privy Council of Canada, of 7th July, 1880.

Also, Appendix No. 3. Minute of Privy Council of Canada, of 8th December, 1880.

Also, Appendix No. 4. Minute of Privy Council of Canada, of 26th July, 1882.

This minute refers to memo. by S. Fleming:

(1) That in consequence of the war cloud over Egypt, the present is a most opportune time for promoting the Asiatic Cable scheme for which he obtained a

charter; (2) That such cable would be of immense value not only to commerce, but to the defence of the Empire, and (3) That as Canada is interested in the scheme, its Government should assist him.

This they do by recommending him to the Secretary of State as a gentleman of high standing and integrity.

Also, Appendix No. 5. Nautical report of the proposed route of the cable, by Commander Hull, R.N.

Also, Appendix No. 6. List of official documents relating to the scheme submitted to Parliament.

Pamphlet; "Documents in reference to the establishment of direct telegraphic connection between Australia, New Zealand, Canada and Great Britain." (London.) McCorquodale & Co., 1886.

Contains:

1. Minute of Privy Council of Canada, dated 8th June, 1886, setting forth that (a) Mr. Fleming represents that the Governments interested are, Canada, Great Britain, India, New Zealand, the several colonies on the Australian continent, Hawaii and Fiji; (b) that advances, favourably received, have already been made to some of the agents of the Australian colonies with a view of having the terminus of the proposed cable in British Columbia instead of San Francisco; (c) that 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 the Canadian Government take the initiative, and invite a conference of the agents of the colonies interested to discuss the subject, and (d) that the Privy Council recommends that advantage be taken of the Colonial and Indian Exhibition in London to obtain an expression of opinion, and that the High Commissioner be requested to call a conference to ascertain the views of the several colonial Governments as to assistance, and of the Imperial Government and India.—8th June, 1886.

2. Letter from S. Fleming to Sir Charles Tupper, High Commissioner, giving details respecting cost, probable revenue, &c., enclosing memo.—10th July, 1886.

3. Memorandum by Sandford Fleming, dividing the line into (a) Pacific section; (b) Canadian section; (c) Atlantic section—from Gaspé via the Straits of Belle Isle to Ireland.—1st July, 1886.

4. Letter from Mr. Fleming to Sir John Macdonald, 20th October, 1885: "The great object which the scheme had in view was the establishment of an unbroken chain of telegraphic communication 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."

(In this letter we find the first intimation of a change in the direction the Pacific Cable should take.)

"When the accompanying memorandum was issued dated London, Nov. 20th, 1882), it was thought that the Pacific Cable should follow a northern route by the Aleutian Isles and Japan. It was generally believed that in the great central area of the Pacific Ocean subaqueous rock ledges and coral reefs prevailed to such an extent as to render the establishment and maintenance of an electric cable practically impossible. * * * * 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."—20th October, 1885.

(Important as showing when and how the change of route for cable was brought about.) This letter is to be found on pages 22-26 of the pamphlet.

Letter from S. Fleming and others to Sir Charles Tupper, setting forth the annual subsidy necessary for the formation of a company able to deal with the subject. The subsidy proposed was £100,000, apportioned as follows:—

1. Great Britain, on behalf of 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 W. Australia.	10,000
Total	£100,000

with alternative proposal of Imperial guarantee.
 (Signed) Donald A. Smith, Randolph C. Want,
 Andrew Robertson, Matthew Grey and Sandford Fleming.—10th July, 1886.

COLONIAL CONFERENCE, LONDON, 1887.

In this Conference two resolutions were passed at the instance of the Canadian representatives. These were useful in keeping the project alive. (Printed by Senate, No. 76, session of 1888.)

S. Fleming submitted two papers:

1st. Postal and Telegraphic Communication by the Colonial Route.

2nd. Telegraphic Communication to India and Australia.

See proceedings of Colonial Conference, London, 1887, printed by order of Canadian Parliament, 1888. Contains Stanhope's (Secretary for Colonies) circular of 1886 to Governors of Colonies under responsible government; also Sir H. T. Holland's (Col. Secy.) circular transmitting report of proceedings of Colonial Conference.

Contents:

Circular of Colonial Minister.—25th November, 1886.

Circular covering report of Conference.—25th July, 1887.

Papers laid before Conference:

(a) Memo. respecting Australian mails.

- (b) Proposed Canadian mail service to Australia.
- (c) Colonial Office memo.—Cable between Canada and Australia.—March, 1887.
- (d) Letter from High Commissioner to Colonial Office (page 89).—29th July, 1886.
- (e) Order in Council, Canada, High Commissioner instructed to put himself in communication with Colonial Secretary (page 91).—8th June, 1886.
- (f) Letter from S. Fleming to High Commissioner, with enclosed memorandum, page 91, direct telegraph communication between Australia, Canada and Great Britain. S. Fleming's memo. gives proposals.—10th July, 1886.
- (g) Copy of S. Fleming's memo. submitted to the Ottawa Government.—6th April, 1886.
- (h) Copy of letter of S. Fleming to the Premier of Canada.—20th October, 1885.
- (i) Copy of Agent-Generals' letter about subsidies of 19th July, 1886.
- (j) Report of Supt. Telegraph, N. S. Wales, on reduction of rates for cablegrams.—21st April, 1886.
- (k) Letter from J. Pender to Sir H. Holland, enclosing copies of letters and memoranda transmitted to the Australian Colonies and the Cape respecting lower rates for telegraph messages (enclosures 1 and 2).
- (l) Memorandum by John Pender relative to proposed Pacific Cable.—23rd December, 1886.
- (m) Memo. by Sir Julius Vogel, P.M.G., New Zealand, on telegraph cables to Australia. In this memo. Sir Julius advocates that the Governments interested should be owners of the cables.—5th February, 1887.
- (n) Letter from Colonial Office to India Office, asking the reason for difference in telegraph rates.—20th April, 1887.
- (o) Letter in answer to "n," containing enclosure February 2nd, 1886, giving asked-for explanations.—21st April, 1887.
- (p) John Pender's reply to Heaton's letters (page 127).—18th April, 1887.

- (q) Proposal of Pacific Telegraph Co.—20th April, 1887.
 (r) Proposal of Can. Cable Co.—23rd April, 1887.
 (s) Proposal of the Eastern Extension Telegraph Co.—4th May, 1887.
 (t) Amended proposal of the Pacific Telegraph Co. 3rd May, 1887.

Correspondence subsequent to the Conference:—

- (a) Letter from High Commissioner.—14th June, 1887.
 (b) Letter from High Commissioner's Office to Agents-General.—13th June, 1887.
 (c) Letter from delegates to Secretary of State.—16th May, 1887.

This letter, signed by all the representatives, urges a survey to find out the practicability of submerging cables in the Pacific Ocean, so as to connect, telegraphically, Australia and Canada. This letter was followed by others in connection with the subject, the conclusion of the Admiralty being given in a letter:—

(d) "Their Lordships do not propose to despatch a surveying vessel for the sole purpose of obtaining soundings over the route, but that they will endeavour to arrange that soundings shall be gradually obtained during the next few years in the ordinary course of hydrographic surveys."—28th May, 1887.

(e) S. Fleming wrote a letter protesting strongly against such a view of the project being taken (page 139).—8th June, 1887.

"No one who attended the meetings of the Conference, or who has seriously considered the relations of the great self-governing colonies to the Motherland, can for a moment doubt that an electric cable from Canada to Australia is imperatively demanded, and that if practicable will be established. The question of practicability, however, is precedent to all others, and it is, therefore, of the utmost importance that the request of the dele-

gates to the Conference, made collectively and individually on behalf of their respective Governments, should be considered."

(f) Letter from Sir Alex. Campbell to the Secretary of State, Ottawa, enclosing report on Colonial Conference for submission to the Governor-General.—26th July, 1887.

Sir Alex. Campbell's testimony to the value of Mr. Fleming's services to the Conference.

(g) Sir Henry Holland to Governor-General, Canada, objects that there is no sufficient prospect of the necessary funds being available for the maintenance of a telegraphic cable across the Pacific, but if it could be established that the Colonial Governments would be prepared to provide the necessary funds, he (Sir H. H.) would be in a better position to urge the desirability of accelerating the survey.—12th July, 1887.

(h) Report of Privy Council (Can.), based upon the fact that the Pacific Cable Co. (proposed) has submitted a scheme for the establishment of a submarine electric cable connection between England and Australia via Canada, and has petitioned the Imperial and Colonial Governments interested for a subsidy (annual) of £75,000, for 25 years.—10th July, 1887.

This report recommends that the Government of Canada agree to submit to Parliament a resolution providing for the payment by Canada of £7,500 annually, provided the Australian Colonies pay, each, the same, and Great Britain pays £37,500.

(i) Letter from India Office to Colonial Office, regretting that the state of the finances does not permit India joining in an alternative line of communication.—6th July, 1887.

(j) Letter from Secretary of London Chamber of Commerce, about proposed postal communication with India and China via Canada.—20th July 1887.

Resolutions passed to be found on page 144.

(k) Report of Privy Council based upon report of Superintendent of Canadian Government Telegraph Ser-

vice (F. N. Gisborne), recommending that nothing further be done in the way of pressing the report (of 19th July, 1887) pending receipt of an answer of the Colonial Office to Mr. Fleming's communication, and of definite information as to the plans of the promoters of the Pacific Cable.—26th August, 1887.

(l) Sir H. Holland to Governor-General:

"Could not hold any hope that such a scheme would be favourably received. Colonies must provide cost and maintenance."—1st September, 1887.

(m) Fleming to the Australian Governments, placing before them various letters to Colonial Office, to the Admiralty and others, *in re* need for special survey.—26th September, 1887.

S. Fleming also in this letter asks the Australian Governments to defray the expenses that would be incurred for coaling, victualling and crew, if the Canadian Government supplied ship and officers. He sent a memo. respecting the proposed telegraph to connect India and Australia with England by the Canadian route (useful for general view of opposition to plan).

Queensland Postal Conference, held in Sydney, contains:—

(a) Resolution carried, that each province pay Eastern Extension Cable Co. subsidies in proportion to population, provided that Eastern Extension Co. understand that the colonies have right to purchase cable.—1888.

(b) Memorandum by Sir Julius Vogel, suggesting joint arrangement respecting telegraph cables among Australian colonies, 5th February, 1887.

(c) Letter from Sandford Fleming to Colonial Secretary, New Zealand, on telegraphic communication between Australasia and Great Britain via Canada.—September, 1887.

(d) Memo. by Mr. Gray, Secretary Postal and Telegraph Service, New Zealand, on New Zealand-Australian Cables.—January, 1888.

(e) Memo. by Mr. Cracknell, Sup. of Telegraphs, New South Wales, on New Zealand-Australian Cables.

New South Wales Postal and Telegraph Conference, 1892, contains:—

Correspondence between the Governments of Queensland and New South Wales, referring to Pacific Cable route.

(a) Letters from Audley Coote to Postmaster General of Queensland, stating that he had authority to make a contract with Government to lay and work submarine cable between Queensland and New Caledonia.—19th February, 1892.

(b) Postmaster General's answer, and further negotiations.

(c) Malistoa Tapu's (King of Samoa) agreement to give landing privileges. Act authorizing the Hawaiian Government to contract for construction of submarine cable; other letters relating to the Queensland-New Caledonia project.—1892.

Return of Address of House of Commons, dated 6th February, 1893, and numbered 35, Sessional Papers, 1893.

(a) Report of Privy Council, advising that Governor-General be requested to forward copies of Mr. Fleming's letter to the President of the Second Congress of Chambers of Commerce of the Empire, and of resolution of the Ottawa Board of Trade, to the Colonial Office, with an intimation that the Canadian Government would view with satisfaction the appointment of a Commission, and would bear the expenses of a delegate to that Commission, composed of delegates appointed by the Home and Colonial Governments, the mission of the Commission to be to inquire into the most feasible means of completing the telegraphic system of the Empire.—26th December, 1892.

(b) Letter to Hon. J. Costigan, from Secretary of Ottawa Board of Trade, enclosing resolution of Board

and copy of Mr. Sandford Fleming's letter to Sir John Lubbock, Chairman of Congress of Chambers of Commerce. (This letter is very useful as giving reasons why the cable should be deemed of Imperial interest.)—12th December, 1892.

New South Wales Postal and Telegraph Conference of 1893. Further correspondence about the Queensland-New Caledonia project. (It was this movement which induced Sir Sandford Fleming to go to Australia to present the superiority of the Canada-Australian plan.)

South Australia Postal and Telegraph Conference. Further correspondence between Audley Coote and Postmaster General of South Australia about the New Caledonia (French) cable route.—1893.

New Zealand Postal and Telegraph Conference contains:—

(a) Memo. by P. B. Walker, Secy. of Telegraphs, New South Wales, criticising Sir Sandford Fleming's plans.—November, 1893.

(b) Audley Coote's criticism of Sir Sandford Fleming's counter-proposals.—October, 1893.

Address of Mr. Sandford Fleming to Chamber of Commerce of Melbourne, giving reasons why a pan-Britannic cable is necessary for the Empire at large.—October, 1893.

Subject: "Alternative submarine telegraph between Australia and England." Mr. Fleming here advocates route via Necker Island. He advocates the project as a public work under Government control. "I have given this question much consideration, and year by year I have become more and more firmly convinced that if economy, low rates for telegraphy, and the highest efficiency be desired, the latter (Government control) means of estab-

lishing the cable is undoubtedly the best." * * * * *
 The proposal then is that Australia, New Zealand, Fiji and Canada should be joint owners of the Pacific Cable and that it should be established and worked as a public undertaking for the common good." (This pamphlet published by Mason, Firth & McCutcheon, Printers, Melbourne, and also memo. of Melbourne Chamber of Commerce, are without date, but the date is October, 1893.)

MISSION TO AUSTRALIA BY HON. M. BOWELL.

(Sept., 1893, Feb., 1894. No. 5a Sessional Papers, '94.)

This mission concerned trade and commerce primarily, but it resulted in a proposition for a conference with delegates from the seven Australian colonies, the subjects for discussion being:

(a) Closer trade relations between Canada and the Australian colonies, and (b) the laying of a Pacific Cable of an exclusively British character.

The Canadian Government, on a report dated 5th February, 1894, from the Minister of Trade and Commerce, adopted the recommendation of Mr. Bowell, that the Governments of New South Wales, Queensland, Victoria, South Australia, Tasmania, New Zealand and Fiji be requested to appoint and send one or more delegates to Ottawa for a Conference respecting the trade relations and a direct telegraphic cable. The committee also recommended that the British Government be requested to take part, and also the Government of Cape of Good Hope.

That was the germ of the Ottawa Conference.

The work done in Australia is described in the blue book of 1894, "Mission to Australia." Mr. Fleming returned from England in 1893, went with Mr. Bowell to Australia, advocated the Necker Island route, went from Australia to England, discussed with Sir J. Pender, and generally pushed aside, the obstacles offered.

Australian Postal and Telegraph Conference, held in Wellington, New Zealand, heartily endorsed proposal for a cable from Vancouver to Australia.—April, 1894.

Pacific Cable Scheme.—Paper read before the Royal Colonial Institute, London, by Hon. Sir Charles Tupper, entitled "Canada in relation to the Unity of the Empire."—8th May, 1894.

This led to a discussion in the *London Times* between Sir John Pender and Sir Charles Tupper—lively and interesting. Pamphlet "Pacific Cable Controversy."—April-June, 1894. Letters to the *London Times*.

Proceedings of the Colonial Conference, Ottawa, 28th June-9th July, 1894. (No. 5b Sessional Papers, 1894.)

These proceedings included discussion and resolutions connected with several important questions. The resolutions relating to the Pacific Cable were five in number. The most important feature of the Conference was the release of the advocates of the Cable from the thralldom of the survey. This was effected, principally through a speech made by Mr. Lee Smith, of New Zealand, who derided the "bogy of the survey."

Another important feature of this Conference with regard to the Pacific Cable was, the selection of Canada to take charge of the project after the Conference closed.

"The Pacific Cable" letter by Alex. Siemens.—This brushes away the survey difficulties by showing what had been done in the Pacific Ocean in the line of surveying it during seven years. Describes the improvements in apparatus, and gives as conclusion: "It may, therefore, be taken for granted that any technical obstacles which were apprehended in 1887 have now been overcome, and that the Cable can be laid as soon as the financial question has been settled." Thus was the "bogy of the survey" exorcised. Mr. Siemens' letter was quoted with good effect by Lord Jersey, in his report to the Colonial Secretary, on the proceedings of the Colonial Conference held in Ottawa.

Delegates to the Colonial Conference, 1894, presented with an address by the Imperial Federation League of Canada.—12th July, 1894.

Canadian Minister of Trade and Commerce inserted advertisements in several London (Eng.) newspapers, asking for tenders.—6th August, 1894.

Special Commission appointed by the Canadian Government to go to Honolulu to negotiate with the Hawaiian Government for an island to be neutral landing ground.—10th September, 1894.

Tenders received: 6 on 19th October, 2 on 20th October, 1 on 22nd November and 1 on 24th December, 1894.

Sandford Fleming made reports on tenders, November 20th and December 11th, 1894.

New Zealand Postal and Telegraph Conference of 1895.

Hon. A. J. Thynne, resolution *in re* Pacific Cable, urging further steps be taken to forward cable project, and giving short summary of its history (page 40).

Colonial Office sent letter to High Commissioner for Canada, stating that Hon. Joseph Chamberlain deemed it necessary that no further time should be lost, and proposed interview between himself and the Agents-General and the High Commissioner.—11th November, 1895.

Meeting in accordance with Mr. Chamberlain's request took place, and the High Commissioner and the Agents-General of Australasia, except South Australia and Western Australia, urged appointment of Commission for the purpose of considering and reporting upon the best means to be adopted to secure the prompt construction of a cable between Canada and Australasia. This was a step that gave great impetus to the project.—19th November, 1895.

Committee appointed by Mr. Chamberlain, consisting of Lord Selborne, Sir Donald A. Smith, Hon. Alfred G.

Jones, Sir Saul Samuel, Hon. Duncan Gillies and Geo. H. Murray.—12th November, 1896.

On this Committee, originally, Hon. Sir Mackenzie Bowell and Sandford Fleming acted on behalf of Canada, but a change of Government taking place, Hon. A. G. Jones was substituted. The first appointment dated 2nd June, and the first meeting was held 5th June. The examination of witnesses began 12th November.

M. Sandford Fleming was appointed to accompany the Canadian representatives as expert adviser.

The second paragraph of this Committee's (called the Imperial Committee) report reads: "The Committee desires to express their obligations to Mr. Sandford Fleming, whose long labours on the subject of a Pacific Cable have thrown much light upon the project, and materially facilitated the task of the Committee."

(a) This Committee discussed (1) practicability; (2) route, recommending that the route should be from Vancouver via Fanning or Palmyra Island, Fiji and Norfolk Island, with branches from the last-named station to Queensland and New Zealand; (3) cost; (4) revenue; (5) ownership:

"The Committee are of opinion that the Cable should be owned and worked by the Governments interested."

(6) management: "The Committee are of the opinion that the general directions should be in the hands of a manager in London, under the control of a small Board, in which the associated Governments would be represented."

(7) contract.—5th January, 1897.

(b) Special report of Canadian Commissioners to the Minister of Trade and Commerce, Ottawa. Refers the Minister to letters from Sir Donald A. Smith and Sir M. Bowell to the Premier, dated 10th July and 17th July, 1896, respecting the preliminary meetings of the Pacific Cable Committee, which were adjourned on the 8th July to 26th October. Refers the Minister to the general report, and makes a few additional observations.

"We have had the advantage of valuable assistance on these points (revenue, &c.) from Mr. Fleming, who, as expert adviser, has given us the benefit of his own investigations, extending over a number of years, and has also taken the trouble to obtain information on the subject from some of the chief houses interested in the Australian trade."—12th January, 1897.

(c) Report of Mr. Fleming to Sir R. Cartwright, Minister of Trade and Commerce, Ottawa.—30th January, 1897.

Circumstances in which Mr. Fleming retired from position of representative to that of adviser. "All doubt as to the practicability of laying an electric cable from the western coast of Canada to the Australian colonies, touching only on islands in the possession of Great Britain, set at rest by the evidence given before the Imperial Committee of 1896-97."

Statement No. 1, accompanying his report, gives a short history:

"Occupying the position of Engineer-in-Chief of the whole line of railway, from Halifax on the Atlantic to Vancouver on the Pacific, the establishment of an overland telegraph came under my official charge, and in connection with my duties, my attention was directed to the extension of the electric wire across the Pacific. It became clear to me that the national line of communication, on which Canada was then spending so much, would be incomplete without a connection with the telegraph systems of the countries beyond the Pacific Ocean, and it became equally clear that the spanning of the Pacific by an electric cable would prove of the highest importance to the whole Empire."

Mr. Fleming submitted to Sir John Macdonald, in London, in 1879, a telegraph map of the world, with the projected line across the Pacific. Sir John showed it to Lord Beaconsfield (page 19).

Public attention was, for the first time, directed to a British Pacific Cable, in Mr. Fleming's report as Engineer-in-Chief of the C. P. R., which was laid before

Parliament in 1880. In that report he pointed out to Sir Charles Tupper, then Minister of Railways, the need for such a cable: "It would bring Great Britain, Canada, India, Australia, New Zealand, South Africa, and indeed all the outer provinces and the colonial possessions of Great Britain, in unbroken telegraphic communication with each other, in entire independence of the lines which pass through foreign European countries, &c. (see pages 19 and 20).

Memo. No. 1 contains remarks upon different points on information obtained since the meeting of Colonial Conference of July, 1894, and is dated December 1st, 1894.

Tenders asked for, results—page 21.

Revenue—Geo. Johnson's letter, November 29th, 1894; J. M. Courtney's letter, December 1st, 1894; Mr. Mercer's letter, October 11th, 1894.

Appendix "A" to Statements No. 1, "Forms for advertisements and tenders."

Appendix "B" to Mr. Fleming's Statement No. 1.

Report on answers to advertisements.

Appendix "C" to Statement No. 1.

The Pacific Cable as a public undertaking owned by Government—page 34 (a) Extracts from Mr. Fleming's address to the Colonial Conference, 1894 (page 35); (b) Estimates of revenue; (c) Letter to Mr. Bowell from Mr. Fleming, July 20th, 1894, revenue, &c.

Statement No. 2, referred to in the report of Mr. Fleming to the Minister of Trade and Commerce, 30th July, 1897.

Opinions of experts—Lord Kelvin, &c.

Appendix to Statement No. 2, opinions of persons interested in the Australian trade, on probable development of telegraph business, &c.

Letter to Sir W. Laurier by Sir Sandford Fleming: Why a State undertaking?—20th May, 1897.

Letter to Sir W. Laurier by Sir Sandford Fleming on the subject of a State-owned Pacific Cable.

Subject complicated by a new proposition submitted by Eastern Extension Telegraph Co. Remarks by Sir Sandford Fleming on the proposition. Who are the Eastern Extension Co.? (page 230).—19th February, 1898.

House report (No. 94, 1898) of Committee appointed by Imperial Government in 1896, without Messrs. Smith and Jones' report.—30th January, 1897.

Documents relating to the proposed Pacific Cable (Sessional Papers No. 51, of 1899); contents: Singapore and second cable agreement.—28th October, 1893.

Colonial Office to Sir Charles Tupper: Mr. Chamberlain wants no time lost (mentioned before).—11th November, 1895.

Memorandum by Sir S. Fleming, 19th February, 1898, page 9: Imperial Unity and the Cable.

Resolution of Australian Premiers, March, 1898, passed at a conference of Premiers, at which New South Wales, Victoria, South Australia, Queensland, Tasmania, and West Australia were represented:

"Resolved, that if Great Britain and Canada will contribute each one-third of the cost, the four colonies of New South Wales, Queensland, Victoria and Tasmania will favourably consider the proposal for a Pacific Cable, and the providing of the remaining one-third of the contribution."—March, 1898.

New Zealand Accounts and Papers, 1 F 8, contains:

- (a) Cables from New Zealand's Premier to Canadian Premier, asking position of Pacific Cable project.
- (b) Sir Sandford Fleming's letter to Sir Wilfrid Laurier.—28th December, 1897.
- (c) Memo. by S. Fleming, history of efforts made.
- (d) Memo. *in re* proposed cable via the Cape of Good Hope, to Premier of New Zealand from manager of E. E. A. and China Telegraph Co.

New Zealand Public Accounts Committee (1898) contains:—

(a) Reprint from *Electrical Review* of article, *The Empire and Telegraph Cable*.

(b) Cablegram from Premier to Sir Sandford Fleming.—28th June, 1898.

Also telegrams between the several Premiers about position taken by Canada.

(c) Papers and documents of Canadian Parliament:

(1) Return No. 94 of 1898; (2) also speeches by Mr. Casey, Sir Charles Tupper, Minister of Trade and Commerce and Mr. A. McNeil, in Canadian Commons.—26th May, 1898; (3) Letter from Sir Sandford Fleming to Mr. Seddon, Premier of New Zealand; (4) *The British Empire to-day and to-morrow*, by Principal Grant, of Queen's University; (5) Memorandum, résumé of important incidents connected with Pacific Cable, by W. Gray, Secy. General Post Office, New Zealand.

Pacific Cable Conference of Premiers of New South Wales, Queensland and Victoria, held in Sydney, agreed that if Great Britain and Canada pay five-ninths, and New Zealand one-ninth, then New South Wales, Queensland and Victoria will contribute one-ninth each.—29th August, 1898.

Letter to Mr. Chamberlain from S. Fleming, on the subject of State-owned system of cables for the British Empire.—28th October, 1898.

Repetition of papers on cost, &c., also of Messrs. Smith and Jones, Report of Imperial Committee. Also, repetition of memorandum of Sir S. Fleming, containing George Johnson's letter, Courtney's and Mercer's.

Resolutions before Commons of Canada, 21st April, 1899, establishing a Board of Commissioners, chap. 3, Acts of 1899, Dom. Parl.

Hon. Jos. Chamberlain to Lord Minto, 26th April, 1899: Imp. Govt. refuse to take active part in laying or

working line, particulars given of what the Imp. Govt. is willing to do.

"To the British People," letter from Sir Sandford Fleming: "Backdown of British Government," so the *Ottawa Citizen* headed the letter; date May 5th, 1899.

This letter is on pages 88-91, Documents relating to the proposed Pacific Cable, Canadian Commons Papers, No. 51, 1899.

House of Commons debate No. 87, July 25th, 1899, page 8567: Mr. Mulock moved the House into Committee about the Cable. First time that the subject has been so far advanced as to appeal to a British Parliament for legislative sanction.

Senate debate, 2nd August, 1899: Messrs. Scott and Sir M. Bowell's remarks upon Bill creating Commissioners; Bowell's historical resumé.

Correspondence and documents *re* Pacific Cable. Sessional Papers No. 55 to 55b, 1900.

See index on 3rd and 4th pages.

Note especially letter to Hon. J. I. Tarte by Sir Sandford Fleming.

July 6th Imperial Government receded from the position announced by Mr. Chamberlain on 26th April, 1898.

Note in reference to Necker Island, pages 27-29.

New Zealand; further papers relating to Telegraph Cables:

(1) Agents-General in London to Secretary of State for Colonies, 16th June, 1899; thanking him for information that Government will consider Cable matter on the basis of utilizing the credit of the United Kingdom in providing capital.

(2) Correspondence between the Colonial Office and the Eastern Extension, Australasian and China Telegraph Company on the all-British Pacific Cable project.

(3) Marquis of Tweeddale to the Marquess of Salisbury, states grave objections of Eastern Extension Telegraph Co. to the proposal of Imperial Government to give money aid to all-British Pacific Cable project.

(4) Cablegrams and telegrams respecting the formation and composition of Pacific Cable Board.

(5) Hon. William Mulock to Agent-General New Zealand, congratulating him on cheering prospects of Pacific Cable project, and asking for copy of Bill proposed by New Zealand Government.

(6) Hon. R. W. Scott to Premier of New Zealand, calling attention to new terms of the Eastern Extension Co., and enclosing three letters written by Sir Sandford Fleming: (1st July, 1899) to Hon. J. Israel Tarte; (5th September) to Sir Wilfrid Laurier; and (15th November) to same.

Letter from Sir Sandford to the British people of Australia: Ottawa, March 30th, 1900 (page 45):

Critical state—Urges "that nothing be done or left undone to further retard the establishment of a Pacific Cable, and that in any agreement for laying a cable between Australia and the Cape, ultimate State ownership be kept in view and strictly provided for."

Brisbane Chamber of Commerce, deputation to Postmaster General of Queensland, protesting against action of Eastern Extension Cable Co.—12 Feb., 1900.

Canada and British Imperial Cables, 1900; meeting of Canadian Branch of Empire League, Ottawa, March 14th, 1900.

Resolution moved by Sir Sandford:

"That the British Empire League in Canada is of opinion that a complete system of State-owned ocean cables touching British possessions only, and extending to all Her Majesty's Colonies throughout the world, is a project of first importance. This league recommends:

(1) That Home and Colonial Governments, as a matter of policy, recognize the principle of State control of all British cables.

(2) That the Pacific Cable should be at once completed as the initial undertaking in such an Imperial system of cables.

(3) That in all arrangements for connecting by telegraph cables the possessions of Her Majesty, provision should be made for ultimate state ownership.

(4) That in permitting a private company to lay a cable to or from any British possession, landing privileges be granted only on condition of resumption.

The Pacific and Cape Australian Cables pamphlet, being reprint from the Electric Review, April 13th, 1900. Inter-departmental Committee appointed by Imperial Government, Lord Balfour of Burleigh, Chairman.—November, 1900.

Letter to Earl Hopetoun on complete system of State-owned cables and telegraphs within the British Empire, by Sir Sandford Fleming; also letter by same on same subject to Rt.-Hon. Jos. Chamberlain.—1900.

Blue book Canadian Parliament, Sessional Papers No. 59, 59a, 1901, contains:

(a) Copy of an agreement dated the 16th January, 1901, between the Government of New South Wales and the Eastern Extension, Australasia and China Telegraph Company.

(b) Resolution of Pacific Cable Committee respecting proposed concessions to the Eastern Telegraph Co.—February, 1900.

(c) Mr. Chamberlain to Lord Minto: Committee on Pacific Cable report estimate of cost of cable.—15th May, 1900.

(d) Order in Council approving of acceptance of the tender of the Telegraph and Maintenance Co.

Lord Strathcona and Alexander Lang suggested as members of the permanent Pacific Cable Board.—November 15th, 1900.

(e) Pacific Cable contract executed, 31st December, 1900. Terms in 59a, page 19.

(f) Lord Strathcona to Sir W. Laurier: Letter relating to the contract made between the Government of New South Wales and the Eastern Extension Co.; contains protest of Canadian Government against action of New South Wales. Pages 46-47, and continued for several pages.—January 26th, 1901.

Pacific Cable Board constituted: Sir Spencer Walpole, K.C.B., Chairman; G.E.Y. Gladowe, Esq., C.M.G., W. H. Mercier, Esq., representing Her Majesty's Government; Lord Strathcona and Mount Royal, G.C.M.G., and Alexander Lang., Esq., representing the Government of Canada; the Agents-General for New South Wales and Victoria, representing the Governments of New South Wales, Victoria and Queensland; the Agent-General of New Zealand, representing the Government of New Zealand.—5th February, 1901.

(h) Further discussion, ending in cablegram from New South Wales, stating that policy of that colony will be to use Pacific Cable for all Government business.—26th February, 1901.

(i) Letter from Sir Sandford Fleming, March 5th, 1901, to Hon. R. W. Scott, enclosing letters to (1) Earl Hopetoun on State-owned telegraphs for the Empire, dated Ottawa, December 3rd, 1900; (2) Hon. Joseph Chamberlain, dated October 28th, 1898, and (3) to Hon. Wm. Mulock, dated January 1st, 1901. (4) Resolution unanimously passed at annual meeting of British Empire League in Canada, February 13th, 1901.

House of Commons debate, March 5th, 1901: W. F. McLean.

Circular letter from Ottawa Board of Trade, June, 1901, on State-owned cables.

New Zealand Telegraph cables, 1901:—

(1) Audley Coote to P.M.G. New Zealand, suggesting Honolulu as a way station.

(2) Sir Sandford Fleming to Hon. W. Mulock, necessity for the line to be "all-British."

(3) Secretary Board of Trade, Ottawa, to P.M.G. New Zealand, resolutions in favour of State ownership. —10th April, 1900.

(4) Resolutions of Fourth Congress of Chambers of Commerce of the Empire, in favour of State ownership. —31st July, 1900.

(6) Copy of contract with Telegraph, Construction and Maintenance Co. for construction of Pacific Cable. —31st December, 1900.

Telegraph Lines of the Empire, pamphlet, by Sir F. Sassoon, 27th February, 1902.

Postal Telegraph Service by Sea and Land, Sir Sandford Fleming to Mr. Mulock, January 1st, 1902:

"I do myself the honour, on the first day of the new century, to address you, through the public press, on the subject of a State-owned telegraph service, girdling the globe. On the preceding day six British Governments practically inaugurated such a service by formally joining in the execution of a contract for establishing a transpacific cable from Canada to Australia and New Zealand. This joint undertaking may be regarded as the first great ocean link in a projected chain of pan-Britanic telegraphs under State control.

"Since the beginning of the year various public bodies throughout the Empire, and more particularly the General Council of the Australian Chamber of Commerce, have affirmed the unspeakable importance of a system of State-owned telegraph and cable lines connecting all the several portions of the British Dominions."

Address before Canadian Press Association, February 28th, 1902, by Sir Sandford Fleming, pointing out:

(1) That greatly reduced rates and other important advantages would result from the nationalization of telegraph service within the Dominion and between the Dominion and the United Kingdom.

(2) That while such nationalization would have for its primary object the immediate benefit of Canada, it

would incidentally constitute a great link in a chain of State-owned telegraphs to encircle the globe.

(3) That the new national avenue of commerce thus created would form the basis of a distinct advance in the development of closer relations between the several countries of British people in both hemispheres.

The Coronation Conference paper laid before the Imperial Parliament by the Secretary of State, October, 1902, embracing memorandum on the Pacific Cable and the Telegraph Service of the Empire, submitted to members of the Conference by Sir Sandford Fleming, dealing with the difficulty raised by the action of New South Wales.—June, 1902.

New Zealand, Telegraph Cables (1902) contains:—

(1) Discussion of Pacific Cable Board as to manager, place of headquarters, division of Australian business, telegraphs between Great Britain and Canada, correspondence respecting landing places.

(2) Circular letter from Ottawa Board of Trade to various bodies representing trade throughout the Empire, with papers by Sir Sandford Fleming on: Post Office Reforms in the Victorian Era, 1901; State-owned Cables for the Empire, 1898; Letter to Earl of Hopton, 1901; Letter to Hon. W. Mulock, 1901; Letter to Lt.-Col. Denison, 1900, and Pan-Britannic Cable Service Resolution British Empire League in Canada.—1902.

PAMPHLETS AND MAGAZINES.

"Links of Union," by J. Castell Hopkins, F.R.C.I. Address, Toronto Imperial Federation League, 1890.

Imperial Telegraph System, by J. Henniker Heaton, M.P., "Contemporary Review."—1892.

"Pacific Cable Controversy," (pamphlet), London Times, April and June, 1894.

"Le Câble de l'Océan Pacifique," in *Journal Télégraphique*, Berne.—25th November, 1894.

"Our Telegraphic Isolation," by Percy A. Hurd.—"Contemporary Review," June, 1896.

"Side Lights on Cable Routes," in "Electrical Review," September, 1898.

"The Pacific Cable Project," by Roland Belfort, in *The City Argus*, June, 1899.

"Cheap Imperial Telegraphs," by J. Henniker Heaton, M.P., in *Commercial Intelligence*, June 22nd, 1899.

"Imperial Telegraphic Communication," by Sir E. Sassoon, Bart., M.P., Society of Arts, May 28th, 1900.

The Pacific Cable and its Vicissitudes in "United Australia," July, 1900.

Post Office Reform in the Victorian Era; and the development of an Imperial Cable Service, by Sir Sandford Fleming. From the proceedings of the Royal Society of Canada, 1900.

"Our Imperial Communications," by J. Henniker Heaton, M.P., "Imperial and Colonial Magazine," Feb., 1901.

"Postal Cable Development," by Sir Sandford Fleming, in "Empire Review," July and August, 1901.

"Telegraph Lines of the Empire (pamphlet); address of Sir Edward Sassoon, Bart., M.P., at Fishmongers' Hall, February, 1902.

Commercial Conversations with Sir E. Sassoon, Bart., M.P., in *Commerce*, April 11th, 1900.

"The Pacific Cable." Letter by Sir Charles Tupper, Bart. London (Eng.) *Times*, Dec. 30th, 1902.

Resolution and discussion of Council of the British Empire League (London, Eng). *British Empire Review*, January, 1903. The resolution, moved by Sir Horace Tozer, and seconded by Admiral Sir E. Freemantle, on December 11th, 1902, reads:—

"This Council hereby expresses its great satisfaction at the completion of an all-British Pacific cable, laid by the Telegraph Construction and Maintenance Company, in the initiation of which Sir Sandford Fleming, K.C.M.G., a representative of the British Empire League in Canada on the Central Council, took a prominent part, and which has been continuously advocated by the Bri-

tish Empire League, both in Canada and this country, as an important bond of Imperial union. And the Council tenders its congratulations to the Imperial Government and to the members of the past and present Governments of the self-governing Colonies and States which have been partners in the project. It is also noted with much interest that through the enterprise of the Eastern and Eastern Extension Telegraph Companies, a new cable system, which has the advantage of connecting Great Britain with South Africa, as well as with Australia, having only one landing-place not on British soil, has been completed during the current year."

"The meaning of the Pacific Cable," by Sir Sandford Fleming. Queen's Quarterly, Kingston, Ont., January, 1903.

CHRONOLOGY OF SUBMARINE TELEGRAPHY.

Compiled from Submarine Telegraphs, by Charles Bright, F.R.S.E., England (1898); Encyclopædia Britannica; American Cyclopædia; Johnson's Cyclopædia; &c., &c.

1795—Submarine telegraphy suggested by Salva, a Spaniard, before the Barcelona Academy of Sciences.

1797—Salva proposed submarine communication between Barcelona and the Island of Majorca.

1803—Aldini, nephew of Galvani, performed experiments in the transmission of electricity under the sea, near Calais, France.

1812—Schilling ignited gunpowder by electricity transmitted through a subaqueous conducting wire under the Neva River, near St. Petersburg.

1813—John Robert Sharpe, of England, transmitted electric signals through 7 miles of insulated subaqueous wire.

1838—Colonel Paisley, R.E., demonstrated, by actual experiment under water, practical telegraphy, at Chatterton.

1839—Dr. O'Shaughnessy, Director of the East India Company's telegraph system, transmitted telegraphic signals through insulated wire under the River Hughli, in India.

1840—Prof. Charles Wheatstone, of England, suggested the practicability of connecting Dover, England, and Calais, France, by a submarine telegraph.

1842—Prof. Samuel Morse, of the United States of North America, transmitted electric currents and signals between Castle Garden and Governor's Island, New York Harbour.

1845—Ezra Cornell operated 12 miles of copper wire in the Hudson River, insulating the wires in cotton and enclosing them in a lead pipe.

1846—Charles West was granted permission to establish telegraphic communication between Dover and Calais, English Channel.

1850—Submarine telegraph lines laid across the English Channel, and worked for a time, ceasing from insulation being imperfect.

1851—English and French capitalists laid across the English Channel a cable containing four copper wires insulated with gutta percha, and surrounded by tarred hemp, and protected by ten galvanized iron wires wound spirally about it.

1851—F. N. Gisborne laid the first submarine cable on the North American continent across the Strait of Northumberland, between New Brunswick and Prince Edward Island. It was ten miles long, and was in use many years.

1853—Six submarine telegraph cables laid connecting England with Ireland, Scotland, and the continent of Europe—longest one about 100 nautical miles.

1854—Five additional cables laid in European waters.

1856—F. N. Gisborne projected and laid a cable between Newfoundland and Cape Breton (85 miles). Another cable was laid this year from Spezia, Italy, to Corsica, at a depth of 600 feet.

1856—F. N. Gisborne proposed to lay a submarine cable across the Atlantic Ocean.

1857—Charles Bright, J. W. Brett and others, of England, and Cyrus Field, of the United States, made the first attempt to lay a submarine cable across the Atlantic Ocean, the length of cable estimated being 2,500 miles. The work was abandoned after 255 miles had been laid westward from Ireland, the cable breaking.

1858—A second attempt by the same persons was made. The British naval vessel, "Agamemnon," and the United States naval vessel, the "Niagara," each car-

rying one half of the cable, proceeded to mid ocean, spliced ends, and going in opposite directions, reached Newfoundland and Ireland the same day. This cable carried 730 messages and then ceased working. It cost \$1,256,250.

1859—Submarine cable to connect England with British India, through the Red and Arabian Seas, was laid, but soon proved a failure.

1860—British Board of Trade appointed a committee to study the subject of submarine telegraphy, and reported in favour of further efforts.

1861—A submarine telegraphic cable was laid from Malta and Alexandria, Egypt, with intermediate landing places, and proved a permanent success.

1862—A submarine cable laid across the Mediterranean Sea from France to Algeria was a failure.

1864—Government of India constructed a cable line to connect India and England. The submarine line in the Arabian Sea and the Persian Gulf had a total length of 1,450 miles, with three intermediate landing places. It was a success, and for the first time England and India were telegraphically connected.

1865—Another (unsuccessful) attempt made to girdle the Atlantic between Ireland and Canada.

1866—Another effort to bridge the Atlantic by a cable resulted in complete success. The "Great Eastern" steamship paid out the cable from Ireland to Newfoundland in 14 days. Electric communication was resumed and has continued. The "Great Eastern," after landing the Newfoundland end, returned to the spot where the cable of 1865 was lost, and after 18 days' effort, secured the end, from a depth of 11,000 feet, spliced it, steamed to Newfoundland, and landed the cable—thus completing the second successful line of communication. The length between Trinity Bay, Newfoundland, and Valentia, Ireland, is 2,134 miles. The rate of speed in transmission over these cables, at first 8 words, has increased to 15 words.

1868—A second Anglo-Mediterranean line from Malta to Alexandria laid, and proved successful.

1869—First French Atlantic cable laid from Brest to this continent proved a success. Tasmania connected with the Australian continent by cable.

1871—Cables laid by the Great Northern Telegraph Company along the eastern coast of Asia, connecting Hong Kong, Shanghai and Nagasaki with the terminus of an overland telegraph line from St. Petersburg, through Russia and Siberia, to Vladivostok.

1872—Telegraph connection completed between South Australia and Singapore.

1873—Cable laid between Brazil and the British West Indies, connecting with the North American continent by cable to New York.

1874—The duplex system applied to submarine telegraph lines, nearly doubling their capacity.

1875—New Atlantic cable between Ireland and this continent laid. Cable laid between Australia and New Zealand.

1876—West Coast of Africa cable laid; also west coast of South America.

1876—21st August, New Zealand-Sydney cable opened.

1878—Port Natal and the Cape of Good Hope cable joined, and lines extended along east coast of Africa.

1879—New French cable laid, connecting France and this continent. Duplicate cable laid from Penang to Port Darwin.

1881—American Telegraph Cable Co. laid a new transatlantic cable.

1882—American Telegraph and Cable Co. laid a second transatlantic line. Lines also laid along west coast of South America.

1884—Mackay-Bennett Commercial Cable Co. laid two transatlantic cables.

1885—West coast of Africa further supplied with cables.

- 1886—Italy connected with various adjacent islands by cable.
- 1887—French West Indies connected with French Guiana and Venezuela.
- 1890—Halifax, N. S., and Bermuda connected by cable; 1st July first message sent; passes through water 17,000 feet deep. New Zealand-Sydney cable duplicate opened 7th May, 1890.
- 1891—French Government contracted for cable lines from Marseilles to Oran and Tunis.
- 1892—Cable laid across South Atlantic, from west coast of Africa to Pernambuco, Brazil.
- 1893—Australia and the French colony of New Caledonia connected by cable—800 miles.
- 1894—Two north transatlantic cables laid.
- 1896—Cable laid from New York to Cape Haitien, Haiti. Also, a southern line to the British Windward Islands and South America, with a depth in places of 18,000 feet.
- 1898—Halifax-Bermuda line extended to Jamaica. First message on 17th January.
- 1901—Cable laid from England to Australia, via the Cape of Good Hope, Mauritius, Rodrigues Island, Cocos, and Freemantle. Total length, 15,000 miles.—20th Nov., 1901.
- 1902—Cable laid from Vancouver Island, Canada, to Fanning Island, Sept. 18-Oct. 6., 3,653½ miles; from Fanning Island to Fiji, 2,181 miles; from Fiji to Norfolk Island, 10th April, 1902, 1,019 miles; from Norfolk Island to New Zealand, 11th April, 1902, 513 miles; from New Zealand to Australia, 906 miles; total, 8,272 miles. First cable across the Pacific Ocean.
- 1903—Cable laid from California to Hawaiian Islands, January 1st.

CHAPTER I.

THE JUBILEE CONFERENCE, LONDON, 1887.

It is now well on for a quarter of a century since Sir Sandford Fleming first drew the attention of the Canadian Government to the great importance of the establishment of telegraphic communication between Canada, Australasia and Asia by means of a trans-Pacific Cable.

The information which he had gathered on the subject, and submitted to the Government, was laid before Parliament in the years 1880, 1881 and 1882; but though considerable interest was awakened at that time in the project, nothing practical was accomplished. There were obstacles and difficulties in the way which were destined to block the scheme for many years to come. Difficulties or no difficulties, however, Sir Sandford was determined not to let the matter rest. Under date the 20th October, 1885, he wrote to Sir John A. Macdonald, Prime Minister of Canada, reminding him of the representations previously made, and stating the case again with characteristic earnestness and vigor, taking occasion at the same time to amend some of his previous suggestions in the light of later knowledge. It had at first been supposed that the cable would have to follow the line of the Aleutian Islands, and so make its way down to Japan; "but that opinion," Mr. Fleming informs the Prime Minister, "was based on an imperfect knowledge of the physical character of the Pacific Ocean, and on charts which were strewed with islands, reefs and shoals, many of which were inserted on doubtful authority, and have been omitted from later publications." Messages, he pointed out, would be conveyed by the new line at much lower rates than were then charged, and a great impulse would thus be given to commercial activity. He pressed at the same time the political aspect of the matter on the Prime Minister, and asked that he would urge it on the attention of the British Government and the several Colonial Governments interested.

A favourable opportunity presented itself in the following year (1886) for opening communication with the different Colonial Governments on the subject. In that year the Indian and Colonial Exhibition was held in London, and all the colonies had their representatives in the metropolis of the Empire. There had been some talk in Australia of laying a cable to San Francisco. The Colonial Office did not quite like that scheme, and it addressed a circular to the Agents-General of the colonies, asking them to consider "whether such a cable, if constructed, might not more advantageously have its terminus in British Columbia." The Canadian Government took up the matter a couple of months later, and on the 8th of June, 1886, passed an Order-in-Council recommending that "advantage be taken of the Indian and Colonial 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 meeting 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 next important document which the official publications show is a letter from Mr. Fleming to Sir Chas. Tupper, the High Commissioner, dated London, 10th July, 1886. Mr. Fleming had gone to England to follow the matter up, and in his letter, referring to the instructions which Sir Charles had received to consult with the Agents-General, he lays before him a number of documents, and particularly a memorandum which he had himself drawn up, explaining the views he had formed "with respect to the projected telegraphic communi-

cations and the principles on which a company may be organized for carrying out the undertaking." This scheme was unfolded by Mr. Fleming in the Conference held in the following year, of which we shall shortly have occasion to speak, and it is not necessary, therefore, to describe it in detail at this point in our narrative. A meeting of the Agents-General was held, but they one and all professed themselves unable to say anything definite in the absence of instructions from their respective Governments. As to the British Government, it gave Sir Charles no encouragement to believe that it could give any active support to the project. The view of that Government at the time was, that if the colonies would handle the whole business themselves, there would be no harm in it, and it might even be a good thing, but that it was not itself called upon to render any assistance. In dissolving Parliament in the month of August, the Queen was made to say that she had "authorized communications to be entered into with the principal Colonial Governments with a view to the further discussion of matters of common interest," and in the month of November following, the Colonial Secretary sent a circular to "the Governors of Colonies under responsible government," informing them that it proposed to hold a conference in the early part of next year (1887) "for the discussion of those questions which appear more particularly to demand attention at the present time," and adding that "the promotion of commercial and social relations by the development of our postal and telegraphic communications could be considered with much advantage by the proposed conference." Acting upon this circular, the different Colonial Governments appointed delegates to the proposed Conference, which opened in London on the 4th April, 1887. Canada was represented at it by Sir Alexander Campbell, K.C.M.G., Lieutenant-Governor of Ontario, and Mr. Sandford Fleming, C.M.G. The other colonies represented were Newfoundland, New South Wales, Tasmania, Cape of Good Hope, South Australia, New Zealand, Victoria, Queens-

land, Western Australia and Natal. Invitations to attend the opening meeting were extended to a number of gentlemen who were, in one way or another, connected with, or interested in, one or other of twenty-three different Crown Colonies, and also to over fifty noblemen and other gentlemen prominent in British politics. The meeting was presided over by Sir Henry Thurstan Holland, Bart., Secretary of State for the Colonies, afterwards raised to the peerage as Lord Knutsford. His opening address, we must say, was perfunctory in an eminent degree. Touching upon the question of telegraphic communication, he said that the proposal to connect Australia with Canada by cable had been "from time to time mentioned in connection with the Canadian Pacific Railway," but that the scheme was "opposed by the companies which own the existing telegraph lines communicating with Australia." "A very strong case," he said, "would have to be made out to justify Her Majesty's Government in proposing to Parliament to provide a subsidy for maintaining a cable in competition with a telegraphic system which, at any rate, supplies the actual needs of the Imperial Government."

The Conference, little illuminated by its President's remarks, adjourned for fifteen days, meeting again on the 19th April. The first question discussed was that of postal communication, and the Canadian delegates seized the opportunity to emphasize the importance of the service which Canada had rendered to the Empire in the construction of the Canadian Pacific Railway, and dwelt on the new and, as yet, almost wholly undeveloped possibilities it opened up of communication with the far East. "If we resort," said Mr. Fleming, "to the agencies of steam and electricity, the people of Australasia and the people of Canada may, for all practical purposes, become neighbours. And why, it may be asked, should they not be neighbours, as far as it is possible for art and science to make them? Are they not one in language, in laws, and in loyalty? Have they not substantially the same mission in the outer Empire, and would they not,

as good neighbours supporting each other, and with their energies directed to a common cause, be of great advantage to each other? Would they not, so united by friendly ties, add strength to the power to which they owe a common and willing allegiance?"

The question of telegraphic communication was not entered upon at this meeting, but it was taken up the next day, when the President called upon Mr. Fleming to "state his views upon the proposed cable between Canada and Australia." This was the opportunity that gentleman had long desired; and he proceeded at once, out of the fulness of his information, to deal with the whole subject in a lucid and comprehensive manner, first, from the point of view of a citizen of the Empire deeply concerned in all that makes for its weal, and, secondly, from that of the business man grappling with a business proposition. "It is only necessary," he said, "to look at a telegraph map of the world to see how dependent on foreign powers Great Britain is at this moment for the security of its telegraphic communication with Asia, Australia and Africa. In fact, it may be said that the telegraphic communication between the Home Government and every important division of the Empire, except Canada, is dependent on the friendship (shall I say, protection?) of Turkey. Is not Turkey continually exposed to imminent danger from within? Is she not in danger of falling a prey to covetous neighbours, whose friendship to England may be doubted?" Continuing, he said: "I venture the remark that the patriotism and enterprise of Canada has opened up the way by which the British Empire may be made entirely independent of any foreign power with reference to its telegraphic communications." "Messages," he went on to state, "had already passed between London and Vancouver, and replies been returned within a few minutes. Were a cable laid across the Pacific, from one British island to another, not only would there be a communication with Australasia, but, by the cables of the Eastern Telegraph Company, India and Africa would equally be in touch with the centre of

the Empire, without dependence on any line passing through a foreign country."

Mr. Fleming then alluded to the opposition which was being made to the Pacific Cable project by the management of the Eastern Telegraph system. The President had laid before the Conference certain letters and statements from Mr. Pender, Chairman of the different companies composing that system, tending to show in the first place, that the scheme was, on physical grounds, impracticable; secondly, that if capable of realization, it would be a financial failure; thirdly, that the Eastern Telegraph Company was prepared to make as low a rate as was promised by the promoters of the Pacific Cable, for a smaller subsidy than was asked by the latter, and, fourthly, that it would be a great injustice to the company which had been the pioneer in the matter of establishing telegraphic connection with the far East, if the British Government or the Australasian Governments were to subsidize a rival line. "Instead," Mr. Pender had gone on to say, "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." These very one-sided views had made, singular as it may seem, a very deep impression upon many of the British officials, and Mr. Fleming had to contend against no small amount of silent but none the less tenacious opposition on their part. Mr. Patey, an assistant secretary in the General Post Office, who had specially to do with the telegraphs of Great Britain, was attending the Conference in an advisory capacity. Having been asked at this meeting what exactly was known of the depth of the Pacific Ocean, he said that he thought the depth went down in one or two places to 11,000 or 12,000 fathoms. Whether Mr. Patey had

figured this out in miles before he spoke it is impossible to say. The depth he mentioned, however, was the absurd one of about thirteen miles.

Dealing with these objections, Mr. Fleming maintained that the practical difficulties of laying a Pacific cable had been greatly exaggerated. The soundings made on the route to be traversed showed that the greatest depth was from 3,000 to 3,100 fathoms, and that this was only slightly greater than the depth to which the cables of the Brazilian Telegraph Company had been sunk. Moreover, that these cables, precisely because they had been sunk in such deep water, were less subject to accident and cost much less for repairs than marine cables in general. Another important consideration was, that the deeper a cable was laid, the more difficult it would be for an enemy to injure it. He admitted that the Eastern Telegraph Company should be treated with consideration; but he did not recognize its right to a monopoly of the telegraph business with the East. "This is not the first time," he said, "that a company or an individual has been called upon to relinquish a monopoly found to be inimical to the public welfare. Is it for a moment to be thought of," he asked, "that Canada and Australia are never to hold direct telegraphic intercourse because a commercial company stands in the way? Are commercial relations between two of the most important divisions of the British family forever to remain dormant in order that the profits of a company may be maintained? Are the vital interests of the British Empire to be neglected? Is the permanent policy of England to be thwarted? Is the peace of the world to be endangered at the bidding of a joint stock company? It was time, he thought, for the British people scattered round the world to set about putting their house in order. To promote such a movement was one of the main purposes of the Conference. As to the contention of Mr. Pender, that there would be little or no advantage to the telegraphing public in the laying of the Pacific Cable, he considered it a very extraordinary one. The

existing rates for messages between London and the different Australian colonies averaged nine shillings and sixpence sterling a word, and the utmost reduction Mr. Pender hinted at as possible was to four shillings a word. By the Pacific Cable, on the other hand, there was no reason why the rate should not be two shillings a word or under, between the same terminal points. The Canadian Pacific Railway had offered a transcontinental rate for cable messages of two-pence half-penny a word, and the Atlantic cable rate was only six pence a word. Thus, the rate from London as far as Vancouver would be only eight pence half-penny a word, and it was probable that a rate of one shilling a word would suffice for the cable. He certainly thought that such rates as these would be esteemed no slight boon by the telegraphic public."

Mr. Raikes, the British Postmaster-General, who was present at the meeting, was very much impressed by Mr. Fleming's earnest treatment of the subject. "I think," he said, "that the extremely able paper which Mr. Sandford Fleming has just read to us is a most valuable contribution to this question; and I only hope that by some means or other, it may become more widely known than it would be if it were confined to members of this Conference." He went further and said, that he trusted the Conference would not break up without expressing some very decided opinion in favour of the general policy indicated by Mr. Sandford Fleming. This from Her Majesty's Postmaster-General was certainly an encouraging utterance. His whole speech, however, was most sympathetic. It may be well to quote one or two passages. "It occurred to me," said Mr. Raikes, "while listening to the eloquent words of Mr. Sandford Fleming, that we have here, in a peaceful way, an opportunity afforded to us of utilizing the western world and the western route as a means of escaping from many of the difficulties and embarrassments which cluster around the eastern world and the eastern route. It would seem as if Providence had specially indicated some such course of communication between Australia and England

when, after the separation of the United States from the British Crown, we were still left in possession of those vast territories which Canadian enterprise has more recently developed in an astonishing manner, and which may well become a highway between the Mother Country and her more distant possessions. * * * * I cannot help saying, with regard to certain points which Mr. Fleming has combatted in Mr. Pender's expressed views upon this question, that it would be, I think, absolutely impossible for the English people, or for Her Majesty's Government, to recognize any monopoly, such as seems to be claimed, by any company, however deserving their enterprise may have been. (Hear, hear.) And to suppose that an enterprise, directed in the first instance to establishing communication between the Mother Country and the colonies, should be allowed, when it has grown up, to throttle all possible rivals and to preclude the extension of the communication, seems to me to be a position which would never be accepted, either by the colonies or by the British Parliament. * * When we are told by Mr. Fleming that it may be possible to transmit messages at the rate of about two shillings, via Canada and the Pacific, we see at once the perfect revolution in the communication between the Australian colonies and the Mother Country which would thus be brought about. * * * * I quite agree with what Mr. Fleming has said as to the greater remoteness from possible attack and seizure by foreign powers. If the delegates can give us any practical notion of how the Post Office here can make itself useful in developing and carrying out a scheme of this description, I think they can count upon the most cordial assistance of the Department in every respect."

There was one thing Mr. Raikes could not promise, and that was the active concurrence of the British Government in carrying out the enterprise. "It would," he said, "be a matter of extreme difficulty, I think without precedent, for the English Government itself to become interested in such a scheme, in such a way as to consti-

tute itself a competitor with existing commercial enterprise, carried on by citizens of the British Empire." What to the British Postmaster-General in 1887 seemed almost a theoretical impossibility, was destined to become, a few years later, not only a possibility, but an embodied reality. But the time was not yet.

Sir John Downer, Prime Minister of South Australia, was the next speaker. He somewhat objected to the application of the term "monopoly" to the Eastern Telegraph Company. That company, he remarked, was simply a business company which had been first to occupy a certain field, but it had not received any Government assistance, nor was it in its power to shut out competition; it simply objected to the granting of State aid to a rival enterprise. Sir John Downer also referred to the large outlay which the colony of South Australia had incurred for land lines connecting with the Eastern Extension Company's cables. Its revenue from lines which were costly to maintain would possibly be reduced if the Pacific Cable was brought into operation. He agreed, however, with Mr. Fleming, that "in great national questions, we must quite sink any individual interest, and look upon the matter from an altogether higher standpoint."

Sir Samuel Griffith, Prime Minister of Queensland, said that he had never been able to see that the existing company required so very much consideration. If the Empire at large insisted upon the establishment of a second line of cable, the interests of that company must give way. The Eastern Telegraph Company was a good company, and had done good work, "but," said Sir Samuel Griffith, "we are now considering the matter from a national and imperial point of view; and all we can do now is to consider whether it would be desirable to have such a duplicate line of cable between all the British possessions, as would be secured if Mr. Sandford Fleming's proposition were carried out. For my own part, I have no hesitation in declaring my warmest sympathy in the movement. If it be necessary to do some-

thing also for the assistance of the Eastern Telegraph Company, be it so. I think it has first to be considered whether this proposal is so important as to justify united action on the part of the Empire."

The President then laid before the Conference a proposal, signed by Messrs. Murray, Finch-Hatton and Randolph C. Want, on behalf of the Pacific Telegraph Company, Limited, "to lay and maintain a cable from Vancouver Island to Australia, touching at the Sandwich Islands,* Fanning Island, Samoa, Fiji and New Zealand." According to the proposition made by these gentlemen, the rates from Great Britain to Australia were to be reduced by at least one-half; and they asked for a combined Imperial and Colonial subsidy of £100,000 per annum for twenty-five years, each Government to have, during that period, the free use of the company's cable for Government messages to the full amount of its proportion of the subsidy, at the current rates.

This document having been laid upon the table, Mr. Hofmeyer, representative of Cape Colony, spoke. "We must look," he said, "to some extent upon telegraphic communication as making for the safety of the Empire in time of war, no matter whether the cable would pay as a commercial undertaking, or would not pay as such. If we do that, we must not only look to the proposed Pacific Cable for communication with Australia, but for the supply of an alternative or duplicate scheme of telegraphic communication throughout the Empire. When I say this, I look particularly to my part of the Empire, South Africa. It is pretty generally agreed that, if war should break out, the Suez Canal would be blocked. Lord Charles Beresford had said that in future, not Constantinople, but Table Bay, would be the most critical point for the Empire. Few would challenge that statement; and if we accept it as correct, we have to examine

*This was eleven years before the annexation of the Sandwich Islands by the United States.

what communication Table Bay has with the rest of the world." Mr. Hofmeyer went on to show that Table Bay was dependent for its telegraphic communication upon the Eastern Company's line, which comes down by the eastern coast of Africa—a cable laid in shallow water, and touching at many points of foreign territory. "England might be at war with any European nation whose territory is touched by this cable, in which case communication with the most important port of the Empire would cease at once." He, therefore, thought that there should be both a Pacific Cable and another from Gibraltar to Table Bay, running down the west coast of Africa, and touching at one or two of the British colonies on the continent, and also at the islands of Ascension and St. Helena.

The President then stated that he had just received a letter from the Eastern Extension, Australasia and China Telegraph Company, which he thought it well to read. In this letter Mr. Pender developed a scheme for the reduction of telegraph charges to the east. He was prepared to fix the charges at whatever amount might be desired, provisionally suggesting four shillings a word, provided the colonies would guarantee any loss which might result from such reduction. After some observations from Sir William Fitzherbert, Speaker of the Legislative Council of New Zealand, hinting that an assumption by the British Government of all the cable lines connecting British territories might be the best and ultimate solution of all difficulties, Mr. Deakin, Chief Secretary of the Colony of Victoria, said that the proposition of the Eastern Telegraph Company deserved consideration. The great thing was for the colonies to act together for their benefit as integral parts of the Empire. "There can be no doubt," he added, "that the splendid enterprise which the Canadian Government has displayed deserves fullest recognition at the hands of the Governments of the other colonies, and of the Imperial Government itself." He also significantly observed, that whether the Pacific Company succeeded or not in

entering upon actual operations, it had already conferred a considerable benefit upon the Australasian colonies by bringing the Eastern Extension Telegraph Company to a much more liberal frame of mind.

Sir Patrick Jennings, delegate of New South Wales, (formerly Premier) expressed full sympathy with the views put forward by Mr. Fleming. "If," he said, "it could be brought about, nothing could possibly form a stronger tie to bind the Empire together than by bringing the colonies into a telegraphic communication with the Mother Country, which would be practically independent, and safe from all risks of interference in time of war."

Mr. Service, late Premier of Victoria, held that the Empire should be thoroughly consolidated. That was not the case at present. There was a constant consciousness that we are obliged to seek for peace because we were not ready to defend ourselves against unjust aggression. There was a strong feeling in the colonies that the Government of the Empire had a tendency to fall back whenever a bold front was offered by a foreign nation. The question of telegraphic communication ought to be considered from that point of view, as a question, in the first place, of defence, rather than one of commercial advantage. As regards the Eastern Extension Company, they had started their enterprise purely with a view of private interests; and though Mr. Pender's memorandum referred to their always having "followed the British flag and trade," they had done so because that was the direction in which it paid the company best to extend their lines. He did not recognize that the company had any legal, or even moral, claim: but, as a matter of expediency, he thought they should be treated in a fair and liberal spirit, so that pioneer enterprise, such as theirs was, might not be discouraged.

Sir F. Dillon Bell, Agent-General of New Zealand, raised the question why, if the Pacific Cable was a necessity, and the colonies had to contribute to it, and if, with the assistance proposed it would be commercially suc-

cessful, the colonies, aided by the Mother Country, should not raise all the money required themselves, and control the enterprise, instead of leaving it in the hands of a private company? The sense of the meeting was plainly that without the assistance of the Imperial Government, the scheme could not be carried out, and a desire was manifested for definite information, as to whether such assistance could or could not be looked for. The President asked whether there was any resolution to submit on the subject, but after some further general discussion, the Conference adjourned without formulating any definite expression of opinion.

It met again just a week later. On this occasion Mr. Pender attended, by request of Sir Henry Holland, and the meeting having been called to order, Sir Henry, as President of the Conference, asked that gentleman whether he had any statement to make by way of supplement to what was contained in the papers he had submitted. Mr. Pender said he had no further observations to make. He had not yet received a copy of Mr. Fleming's proposition, and, therefore, could not discuss it. If, however, the question in which the Conference was interested was one of cheap telegrams, he was prepared to show how cheaper telegrams could be had through his system than in any other way. If political or strategical conditions were uppermost, he was prepared to show that his companies answered strategical requirements to a very large extent. "I hold," he said, "that we, being the pioneers of telegraphy, are entitled to full consideration. If other competing companies are to come against us, let them come unsubsidized as we are, and I have no fear of meeting such competition. But, putting the whole question of competition aside, I think I shall be able, by the papers that are before you, to show that the system which I have in hand is the one which will best suit the country all round." A copy of Mr. Sandford Fleming's paper having been handed to Mr. Pender, some discussion ensued as to whether Mr. Fleming might at the same time forward a copy of it to

his Government at Ottawa. The President seemed very unwilling that this should be done, and Mr. Fleming waived the point. Although Mr. Pender was present, the President, who seemed to have his interest much at heart, undertook to give the Conference the substance of his views. "Speaking broadly," he said, "I gather that Mr. Pender's view and that of the company he represents is, that they can materially diminish the rates by their own lines between this country and the Australian colonies; but that there is no proposition on their part to lay a cable between Vancouver and Australia. That is not their scheme. Their scheme is to meet the proposition of the Pacific Company to lay a cable between Vancouver and Australia, by saying that they can benefit Australia to the same extent, if not more, by a reduction of their rates along their own lines. That is, broadly speaking, your own view, Mr. Pender, is it not?" Mr. Pender agreed that it was, and added that he could give a scheme for half the amount that would be required to subsidize another company.

A discussion ensued, confined chiefly to the Australasian members and Mr. Pender, in which the latter gentleman went into details respecting the proposition he had previously made to reduce the rates on telegrams, provided the colonies interested would agree to make good any deficit then arising. It might reasonably be anticipated, all seemed to agree, that with a material reduction in rates, traffic would greatly increase, and that the amount of the deficiency to be made up would be proportionately reduced, and might, in course of time, reach the vanishing point. Warming up with his subject, Mr. Pender said, in reply to a question by Mr. Hofmeyer, "I do not know what the Government requires in the way of strategical lines; but I say that you could not spend money more foolishly than in putting down a competing cable, when, by applying half of what you would require to give such a cable, to the system now existing, you could get a lower rate than they could give you for double the expenditure." Evidently Mr. Pender

not only did not know, but had very little desire to know, what the Government might require in the way of strategical lines, and yet, upon this, more than upon anything else, the whole question hinged. "If," he added, "the Government are going to begin to lay cables on their own account, they must deal with companies who have now laid cables." Not long after this, it may be observed, the English Government established a parcel post, which began to carry parcels on a very large scale; but it did not, on that account, "deal with" the express companies in the way either of taking them over or making them compensation.

Mr. Finch-Hatton, as representing the Pacific Cable Company, was then invited to speak. He had listened, he said, to the preceding discussion, and throughout it all the main question had not been approached. No duplication or triplication of existing communications could in any way meet the case. Military authorities were all agreed that in the future our way to the East must be by the Canadian Pacific Railway. It was a question for the Conference to decide whether, in the interests of the Empire, its facilities for telegraphic communication can be safely allowed to remain in the position in which they are at the present time. Supposing Mr. Pender's plan for a reduction in the cost of telegrams were to be carried into effect, would that forever block the construction of the line across the Pacific Ocean? That line must come in the future, by simple force of the advance of civilization, and the colonies would have to consider their position in relation to it.

Some discussion followed as to the capitalization of the proposed company, and the need for so large a subsidy as it was asking, £100,000 for twenty-five years. Mr. Finch-Hatton admitted, that if the Imperial and Colonial Governments chose to assume the whole enterprise themselves, they could do so to greater advantage than any private company, as they could borrow money at a much lower rate; but he did not think that, in view

of company ownership, either capitalization or subsidy was excessive.

Mr. Finch-Hatton having withdrawn, Mr. Fleming begged leave to make a few remarks. He wished briefly to discuss the question "whether there were no means of securing, even more fully than through the means of a private company, all the benefits which the new line would confer." Upon this point he spoke as follows:

"The one other way is, for the interested Governments themselves to undertake the work, and I think it can be clearly shown that the desired results can, in this manner, be more satisfactorily and cheaply obtained. In this opinion I am greatly sustained by a memorandum submitted by the representatives of New Zealand, and yesterday placed in the hands of members of the Conference. The memorandum to which I refer has been prepared by the Postmaster General of New Zealand, and bears date 5th February, 1887. In much which it contains I cordially concur.

"I think I am correct in stating, that some 13 years ago all the telegraphs in India were handed over to the Government, and have since then been managed by a department under the central authority. I believe it is found that the system works well, and that the public are better served than they were before by private companies, for the reason that the public interests only are looked to under the new management, while private companies very naturally regard their own interests as paramount.

"It seems to me most desirable that all cables communicating with Australasia, and all telegraphs within the Australasian colonies themselves, should be under one management. How this may be accomplished is a problem, which, I venture to suggest, is well worthy the attention of the Australasian Governments. At the same time, I submit that it cannot be regarded with indifference by the Imperial Government or by Canada. I do not know what are the functions of the Australasian

Federal Council, but possibly these functions could be extended so as to embrace the general control of telegraphs.

"It would not be at all necessary for the Australasian colonies to control the cables all the way to England. It would be quite sufficient that they should control the cables proposed to be laid to Vancouver, on one side, and, on the other side, that portion of the existing system which extends from Australasia as far as India, embracing the lines of what is known as the Eastern Extension Company. It would be convenient to stop at India, as India separates the lines of the two companies—the Eastern Extension and the Eastern Telegraph Company. The Colonial Governments could not, of course, expropriate that which is private property, but possibly some arrangements, mutually fair, both to the public and to vested cable interests, could be reached, by which the desired result would be obtained. It is obvious that a comprehensive scheme, such as that suggested, could not be carried out without much consideration and negotiation, especially with regard to the manner in which the capital required should be raised, and the proportions in which it should be borne by each separate Government. But I am unable to see that the general scheme is at all impracticable. It would only be carrying out, in a wider field, the system adopted with so much success in India and in England with respect to the telegraph service. In endeavouring to effect such a joint arrangement, there are certain leading principles which might be considered.

1. It would be necessary for each of the colonies to agree to hand over to the central authority their respective telegraph systems, retaining a pecuniary interest in revenue in proportion to the value of the works handed over.

2. The establishment of the new cable across the Pacific would require new capital, which might be raised possibly on joint guarantee of the colonies and the Imperial Government, as in the case of the Intercolonial

Railway of Canada. By such means the money could be obtained at the very lowest rate of interest, and for several reasons it would not be necessary, in the first instance, to lay more than a single Pacific cable. The scheme embraces the control of the Eastern Extension lines, and hence the line from Vancouver to Australia would really give a triplicate service from Australia to England. Moreover, deep-water laid cables are not liable to the same interruptions as shallow-water cables. In proof of which, I may mention that the telegraph from Lisbon across the Atlantic to South America, for the first ten years of its entire existence, depended with great success on only a single line of cable throughout its entire distance. These cables were quite recently duplicated to meet the demands of business.

The capital required to lay a single cable to Vancouver, from the Australasian system, reckoned at the low rate of interest at which money could be obtained, would, I estimate, involve a charge of less than £50,000 a year.

3. New capital would likewise be required to purchase the lines of the Eastern Extension Company, whenever that company would be willing to sell at a fair value. This capital would also be obtained at a low rate of interest, and thus the whole connection between India, Australasia, Canada and Great Britain could be most economically established, and it would become practicable to reduce charges on messages to the lowest possible tariff rates.

"As the cables of the Eastern Extension Company would be acquired largely in Imperial interests, so as to give an alternate line independently of the Suez route to India, China and Africa, it is reasonable to assume that the Imperial Government would render every assistance in securing them. I have said that it would not be necessary for the proposed Central Telegraph Department to control cables or wires east of Vancouver. I do not think there would be any risk of the management being debarred at any time from the advantages of cheap telegraphy from Vancouver to England. I feel quite

warranted in saying that the Canadian Pacific Railway Company would be willing to enter into an agreement, for a long term of years, to transmit Australasian messages at the low rates which I mentioned to the Conference on a previous occasion.

"I have not cumbered these remarks with calculations. I have purposely avoided them and referred only to principles. If the principles be sound, as I believe they are, and the scheme commends itself to the judgment of the Conference, an important step will be gained."

At the conclusion of Mr. Fleming's remarks, the Conference adjourned.

At the next and final meeting, which was held on the 6th of May, the first speaker was Sir Alexander Campbell. He was anxious that the proceedings of the Conference should not be brought to an end before some definite expression of opinion on the part of the delegates had been placed on record. The situation was critical. There was evidently no great desire on the part of the British authorities for any special outcome of the deliberations of the delegates. The *status quo* was evidently quite good enough for them, and they were not disposed to give themselves much uneasiness about the strategic necessities of the Empire. The Australian delegates, on the other hand, having the prospect of a material reduction in the rates by the Eastern Telegraph system, naturally did not regard the Pacific Cable as absolutely essential to their well-being; while, so far as strategic considerations were concerned, they might well hold themselves justified in not attaching more importance to them than the British Government itself was disposed to do. Canada's position was different. As regards telegraphic communication with the East, her situation was the worst of all. Though many thousands of miles nearer to Australia than Great Britain, she had no telegraphic communication with Australia except through Great Britain, and then at rates almost absolutely prohibitive. There were other considerations at work, however, in the minds of the Canadian Government, and par-

ticularly of their delegates at the Conference. The same spirit, the same confidence in the future, which had prompted the construction of the Canadian Pacific Railway with its accompanying telegraph, prompted to the completion of the great world-encircling telegraphic circuit by the laying of a Pacific cable. Sir Alexander Campbell's speech had so important an influence on the action of the Conference that we give it entire:

"I take it for granted that nothing can be more important to the Empire than the completion of an inter-colonial communication all through Her Majesty's dominions, and is not exposed in any way, except, perhaps, at one point, as I understand Mr. Pender's view. The line goes for the most part across the wide oceans which are peculiarly under Her Majesty's safeguard, which had always been so in history, and which, most likely, always will be so, and where the communications by this route do not go under the wide oceans, they go over Her Majesty's possessions, that is to say, over Canada.

"We consider that by taking advantage of the telegraph line from the Atlantic Ocean at Halifax to the Pacific Ocean at Vancouver's Island, which we Canadians have established without any help from Her Majesty's Government, or any reference to them, the Governments of the various colonies of the Empire will be lending the most valuable assistance to that which we all have in view, and which the members of Her Majesty's Government have repeatedly expressed their desire to see brought about, as it is undoubtedly the desire alike of Her Majesty's subjects residing all over the world—that is to say, a closer connection of the various component parts of the Empire—we think we have afforded the best means of doing by opening the line of railway telegraph across the continent of America. We have placed it in the power of Her Majesty's Government in Great Britain to draw closer those bonds by the most important of all ties, the ties of speedy communication, the ties of interest, and the ties which spring

from the opportunities of making communications from one end of Her Majesty's dominions to the other by telegraph lines almost entirely within the control of Her Majesty's subjects. These we think are the most important means which could be resorted to for drawing closer those bonds between the different parts of the Empire which we value so much.

"Although we may not be able to do anything at present, it would be worth very much, with the view of establishing these lines of communication hereafter, if the Conference were to express their views upon this subject.

"I have promised, sir, not to occupy much time, and I do not desire to do so. I take it for granted that everybody admits the importance of this line of communication to the Empire. (Hear, hear.) The using for the benefit of the Empire of what Canadians have done remains to be accomplished. As far as Canada is concerned, I think everybody must admit that we in Canada have done our share, and more than our share (hear, hear); that we have given the facilities of carrying out such a scheme, and that the work may be done hereafter if we all agree that it ought to be done.

"I have drawn up a memorandum which, I think, might be taken as expressive of the views of the Conference. I should be very sorry to be thought to be committing the Conference to anything, or, indeed, suggesting any idea which the members might not agree to without hesitation, but I think they will heartily agree with the views expressed in this memorandum.

"The first resolution which I propose is this:—

That the connection recently formed through Canada, from the Atlantic to the Pacific, by railway telegraph, opens a new and alternative line of Imperial communication over the high seas and through British possessions which promises to be of great value alike in naval, military, commercial and political aspects." (Hear, hear.)

"I think these are truisms which we can all agree in, and I think it would be useful hereafter to have such an

expression of agreement. I would ask those gentlemen who are interested in, I do not mean pecuniarily, but who take an interest in the line already existing, Mr. Pender's line, to bear in mind that I refer in this memorandum to this new line as an "alternative line." We have no desire, nor is it suggested, to take action in any way against Mr. Pender's line, or to substitute this line for it, but we think that a new line might well be adopted for the safety of the Empire and the benefit of our fellow-subjects.

"The second resolution is this:—

That the connection of Canada with Australasia by direct submarine telegraph across the Pacific is a project of high importance to the Empire, and every doubt as to its practicability should, without delay, be set at rest by a thorough and exhaustive survey." (Hear, hear.)

"This is put in because of the difficulty that was raised as to the possibility of having a line of communication across the Pacific. We had an opportunity, as my friend, Mr. Fleming, said, of consulting surveys made by the officers of the "Challenger," and previously by the officers of the "Tuscarora," and notwithstanding what he said (and Mr. Fleming is exceedingly competent to give an opinion upon this subject), the view expressed by him as to the depth of the ocean needs to be confirmed by an exhaustive survey.

"Canada proposed, two or three years ago, to assist in a survey there. The difficulty which the Admiralty urged was, that they had no vessel to spare, and, therefore, they could not do it. Canada had several vessels of her own, and she found a suitable one, the "Alert," an excellent ship for the purpose, which she had been using in connection with observations which she had been making for a couple of years as to the time Hudson's Bay was open every year for navigation. She offered the "Alert" for the purposes of the survey, and in that way she seemed to have answered completely the difficulty raised by the Admiralty. Canada wrote over

to the Admiralty telling them that she had a suitable vessel; and then they would not do it at all. Then we, and when I say we, I mean Mr. Fleming and a friend of his, offered to pay half the expense. Still the Admiralty would not do it, and there the matter stopped.

"But certainly, if there is any doubt about the depth of the ocean, the doubt should be removed. I think the Conference might all readily express, in the way I have put it here, or in any other way they prefer, their opinion of the value of such a communication as the Pacific line would give, and the necessity of finding out if there is any difficulty in creating such a line.

"Those are the views with which I have brought this subject again before the Conference. Mr. Fleming, who is very familiar with these topics, has also some remarks which he would desire to make. If the Conference should be of opinion that those remarks should be shortened, I am quite sure Mr. Fleming will shorten them, because our only desire is to obtain from the Conference an expression of their views, which we value very highly, and which we think might be very useful hereafter." (Hear, hear.)

Following Sir Alexander Campbell, Mr. Fleming took occasion to resume the proceedings of the Conference, and to dwell on the approval which the members generally had expressed of the Pacific Cable project, and particularly on the very sympathetic remarks of Mr. Raikes, Postmaster-General. He expressed his desire that equitable and liberal consideration should be given all the interests which might be affected by the carrying out of the Pacific Cable scheme. He gave it at the same time as his opinion that all telegraph lines constructed, or to be constructed, east and south of India, and south and west of Canada, should eventually be brought under Government control. He believed that a sum of £4,000,000 "would be amply sufficient to cover the whole cost of establishing the Pacific line and buying out the Eastern Extension Company's property on fair and reasonable terms." Continuing, he said:

" A scheme of this kind, by which all the telegraphs may be consolidated and brought within the management of one department under Government control, could, of course, only be carried out by the co-operation of all the Governments concerned ; but I venture to submit that the subject is one which claims earnest consideration. The scheme outlined, if carried into effect, would bring Canada within electric touch of Australasia and New Zealand ; it would establish an alternative line from India and Australasia to England removed as far as possible from the theatre of every European complication and struggle that may arise ; it would bring down charges on the transmission of messages to such moderate rates as would greatly facilitate intercourse and enormously develop business between Australasia, Canada and the Mother Country ; it would meet the case of South Australia, and enable that colony to participate in the general advantages to be conferred on all the colonies ; and it would remove all reasonable objections on the part of the Eastern Extension Company. In the event of that company being disinclined to reduce its present high charges and enter into competition with the new line, it would have the option to hand over all its property and receive for it its fair and full value."

The President having put Sir Alexander Campbell's resolutions to the meeting, Sir Arthur Blyth, Agent-General of South Australia, said that his colony had no objection to cables of any kind, but did object to the granting of a subsidy to a new cable, none having been granted to those already in existence. At the same time, he thanked the Canadian delegates for having brought the matter forward, as it had drawn from the Eastern Extension Company some offers which might possibly be made even more liberal, and which all tended to advance the general interests of Australia.

The President remarked that the resolutions said nothing about a subsidy, and seemed to have been framed so as to avoid that point. He added that, fortunately, it was also left in the dark at whose expense the survey

spoken of was to be made, "*otherwise, of course, I could not put them to the Conference.*" Why he could not have put them to the Conference, if there had been a suggestion as to who should pay for the survey, the right honourable gentleman did not explain. A resolution of the Conference would certainly not have bound the British Government. Mr. Service, of Victoria, seems to have been rather impressed by the President's remark, for he at once observed that England had the ships, and had the men, and had the money too, and that he thought she could help the colonies out in that matter. He added that the form in which Mr. Fleming had now put the subject seemed to have brought it clearly within the range of the practicable, and that, if his figures were correct, "a movement in the direction of laying a cable across the Pacific would be not only most important and valuable (that we all recognize), but comparatively easy." Mr. Fleming's figures had persuaded him that "for the colonies to bind themselves for 25 years to pay even their proportion of the subsidy of £100,000 asked by the Pacific Cable Company would be exceedingly foolish, in view of the fact that by becoming themselves owners of all these lines, both eastern and western, the probability was that they would not pay more than they are paying now to the Eastern Extension line; and certainly they would pay nothing at all, or a very small amount for the Pacific line in comparison with what the new company proposed."

Mr. Service concluded with the following striking words: "I feel that this is a very important work indeed, and the more you think of it, the more it grows on you. As Mr. Fleming has shown, it would affect us materially, but I think he left out of consideration the fact that there is a sentiment involved in this kind of thing. Canada seems to be at the outer rim of the circle, as it were, amongst the British dependencies. In this case she would become almost the head centre. (Hear, hear.) I use the term in a very pleasant sense. I desire to express myself individually as a strong supporter of

the proposal, that the Government should take the matter up and work it on their own behalf."

Sir William Fitzherbert, of New Zealand, Sir Samuel Griffith, of Queensland, and Sir Patrick Jennings, of New South Wales, followed, expressing cordial concurrence in the views of the last speaker, and of Mr. Sandford Fleming. Sir Samuel Griffith hoped that the delegates would join in impressing on Her Majesty's Government the importance either of undertaking the necessary survey or of assisting the colonies in the matter. Finally, as the sense of the Conference as a whole was evidently in favour of Sir Alexander Campbell's resolutions, the President said: "I shall enter it in this way on the minutes: that the assent of the delegates was given to the proposals put forward by Sir Alexander Campbell."

And so ended the Colonial Conference of 1887. The result achieved was not very striking, and yet it was evidently more than the President had altogether a liking for. That any result at all was obtained was due mainly to the earnest advocacy of Mr. Fleming and the skilful generalship of Sir Alexander Campbell.

CHAPTER II. THE NAUTICAL SURVEY.

As far back as 1885, Mr. Fleming's mind had turned away from the Kurile Islands and the northern route he at first advocated, and had become interested in the crossing of the Pacific in a southerly direction, as his letter to Sir John Macdonald in October, 1885, sufficiently proves.

Possibly he was dissatisfied with the route by the Kurile Islands because it did not meet his views on the absolute necessity of the proposed girdle of submarine cables being on British soil. It will be remembered that in his first proposal was included the purchase of one of these Japanese islands. It is more than likely that when it was understood that Japan was unwilling to part with the sovereignty she exercised over any island of this group, and made it a *sine quâ non* that she should have control of any cable landed on her shores, Mr. Fleming looked in other directions for a solution of the problem which so pertinaciously haunted him.

In one of his addresses before the Colonial Conference of 1887, he said: "Two years ago I personally looked with attention into the whole matter, and I put on record the conclusion at which I arrived," referring to the statement respecting the new route between Canada and Australia, which he described to Sir John Macdonald in the letter just mentioned.

When he looked into the question of the feasibility of the project, there was very little to guide him. He must have found himself frequently in "a blind alley" as he searched for information about the nature of the basin of the Pacific Ocean.

Since the time when Magellan, in the first quarter of the sixteenth century, looking upon its waters and contrasting their peacefulness with the stormy waves of the Atlantic he had just left behind him, named it the Pacific; since Drake, in the last quarter of the same cen-

tury, crossed it—the first Englishman to sail over it—there had been very little added to the world's knowledge of the great ocean. England, chosen home of maritime enterprise, sought out the east by the way of the Atlantic and Indian Oceans. By the same world-path the maritime nations of Europe sought Australasia, occasionally intruding upon the domains of the Pacific Ocean, from the island-continent under the Southern Cross. It was not needed then. Its time, like Canada's time, like the British Empire's time, is the twentieth century, and it had been kept in the background, overshadowed by its busy rival, on one side of which was populous Europe, and on the other, growing America; while the Suez Canal afforded a shorter route to India, China and Japan for Europe's ships, and even for the merchant fleet of the Atlantic-washed shores of North America.

When, therefore, Mr. Fleming, with the intuition of genius, said to himself, "Why not a cable from British Columbia to one of the Sandwich Islands, then to Fiji, and thence to New Zealand and Australia," he more than likely asked himself if he was perfectly sane. He had heard of the great depths of the Pacific, where no movement disturbs the perfect calm, and where no light of sun penetrates. He had, in all probability, seen on board the "Challenger," as she lay at the head of Cunard's wharf in Halifax, in 1877, the thermometer that was sent down to the bottom of the ocean, and subjected, on account of the great depth, to such pressure that the glass bulb, though specially protected, burst inward, appearing when drawn to the surface like sand that had been ground by powerful machinery into impalpable fineness. Then, too, there was the coral formation, the general belief respecting which was, that as the surf rolled high upon the shores of the coral-built islands of Polynesia, any cable that man's ingenuity could fashion would be cut as quickly as a sharp razor cuts a man's beard, even if it could be laid in the immense depths of the Pacific. There was every reason to lead him to believe that the

Pacific was to remain bridgeless by science. Still the question recurred again and again, and the longer he thought about it the more reasonable and practical the solution appeared.

It must have been with a feeling of relief that he read the memorandum prepared by Sir Julius Vogel, Postmaster-General of New Zealand, and presented by Sir William Fitzherbert to the Colonial Conference of 1887, the day before he read his own memorandum, in which he had embodied his ripest thought on the question of the practicability of the Pacific Cable, owned and operated by the interested Governments. Sir Julius was one of those sons of Israel whose sagacity in business and energy in prosecution of aims have been so often applied to the solution of the higher problems of State with advantage to the British nation, and it was with no common joy, we may well believe, that Mr. Fleming welcomed this unexpected champion of the two ideas, State-owned, Pacific-crossing, submarine cables, as confirmatory of his own ideas.

A little had been done, but it was a very little. Some years before (1877) the United States' ship "Tuscarora,"* had made some soundings between the Sandwich Islands and Australia, and the mainland of California. The British ship "Challenger," in the mid seventies, on that marvellous cruise of hers the results of which have been published in forty large volumes, had collected materials; and a map had been prepared and published, giving soundings made by her between 1873 and 1876.

I have no doubt that Mr. Fleming studied the great tomes of the "Challenger's" work as they were published, and that, moreover, he looked closely into hundreds of ships' logs to discover, if he could, clues to the nature of the bottom of the Pacific, upon which he proposed to rest the long cable—the depths of water over it, and all the other etceteras that would be wanted to answer the natural inquiries of business men, and to head

*See proceedings of the Colonial Conference 1887, page 127.

off the objections that would be made by interested cable companies. Anyone who reads the "Proceedings of the Colonial Conference of 1887" will be impressed with the knowledge exhibited by Mr. Fleming in dealing with the opponents of the Canadian-Australian cable project.

The need for a survey had been felt by Mr. Fleming about the time he began to examine the subject in the light of the new idea that had taken possession of his mind, namely, before or about 1885. For Sir Alexander Campbell, at the Conference of 1887, said: "Canada proposed, two or three years ago, to assist in a survey there (the Pacific Ocean). The difficulty which the Admiralty urged was, that they had no vessel to spare and, therefore, they could not do it. Canada had several vessels of her own, and found a suitable one." Urged on by Mr. Fleming, the Canadian Government offered the "Alert"—remembered in Canada in connection with two expeditions to Hudson Bay to determine the winter navigability of the Canadian Mediterranean Sea—as a suitable vessel. "But they would have none of it," said Sir Alexander.

So anxious was Mr. Fleming to have his idea thoroughly tested, and so firm was he in his conviction that it could be carried into practical execution; so satisfied that just as skill and indomitable will-power had found a way for the Canadian Pacific Railway through the triple barrier of mountain ranges, so the same powers, applied to the Pacific Ocean, would result in overcoming the difficulties in the way: so desirous was he that the first link in the wedding ring to bind the Empire in loving bond should be secured, or a reason given, based on well-ascertained facts, why the union could not take place, that he offered, with a friend, like-minded with himself, to bear half the expense of the survey. Sir Alexander Campbell, in the course of his remarks before the Conference of 1887, said: "Then," (after the Admiralty refused Canada's offer of a ship) "then we, and when I say we, I mean Mr. Fleming and a friend of his, offered to pay half the expense." "Then," quaintly added Sir

Alexander, "then the Admiralty would have none of it."*

Canada's motto, expressed in deeds more than by any formal phrase, "Find a way or make it," was exemplified in the determined action of her sons all through this curious, inexplicable episode of the surveys.

It was, as Mr. Fleming had foreseen, upon the question of the absence of knowledge from want of a survey that the Conference of 1887 hesitated. In the expressive slang of the day "it was up against them" to prove that there was a way. Mr. Patey, vouched for by the Postmaster-General of the United Kingdom as "a great expert in telegraphic matters, no greater," said the most formidable objection to the Fanning Island-Vancouver cable was the difficulty of picking up cables in great depths for repairs. He mentioned depths of 11,000 and 12,000 fathoms—over 13 miles—as obtained by the "Challenger's" soundings. Mr. Patey further stated his belief that cables were especially subject to constant injury from the cutting power of the coral formations everywhere found in the Pacific.

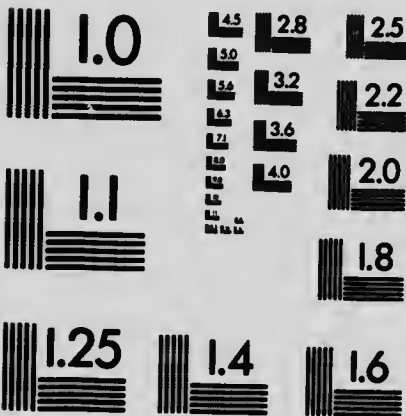
It was soon plain to the experienced Sir Alexander that unless something was done, the Conference would dissolve without any action being taken to advance the cause of the Cable and of the Empire bound up with it. He was determined that at any rate the blame should be strapped on the right shoulders. He moved two resolutions, one affirming that "the connection recently formed through Canada from the Atlantic to the Pacific by electric telegraph opened a new and alternative line of Imperial communication over the high seas and through British possessions which promises to be of great value

*Characteristically, Mr. Fleming, in the statement he prepared for the Ottawa Conference of 1894, dropped the sentence in the quotation from Sir Alexander Campbell's speech, which contains reference to his generous offer, an offer which, if accepted would have entailed (according to a letter from the Admiralty to the Colonial Office, 4th April, 1888) an expenditure by the two friends of Canada, Mr. Fleming and the unknown, of \$90,000.



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alike in naval, military, commercial and political aspects. These, he said, were mere truisms in which all could agree. Even Mr. Pender, the energetic champion of the festoon of cables along the shores of Asian waters, could make no objection to this statement of facts. The very first loaded train that passed over the Canadian Pacific Railway was a train of naval stores. British troops had utilized it, and in both cases the fact of the importance of a telegraph line had impressed itself very strongly upon the authorities. The weakest-minded opponent of the transpacific cable scheme would have sense enough to see that it was useless to combat such a proposition as that laid down by Sir Alexander.

His second resolution was one affirming the high importance to the Empire of a direct submarine connection between Australia and Canada, and that every doubt as to its practicability should without delay be set at rest by a thorough survey. Mr. Fleming, whose authority as an expert had by this time become so well established that Mr. Service, ex-Premier of Victoria, only expressed the general sentiment of the Conference when he said: "It is impossible to contribute a new idea after any subject of this sort has passed through his thoughts," followed Sir Alexander, and frankly concurred in his statements. He admitted the meagreness of the known facts regarding the Pacific, and the necessity for an immediate and proper nautical survey.

The opponents of the scheme had based their opposition upon the absence of needed information. Here were the supporters of the scheme admitting the necessity of fuller information. True, the lack was not Canada's fault. If she had had her way the information would have been on the table of the Conference.

In future efforts, if these resolutions carried, the advocates of the cable would have a stronger claim to be heard by the Admiralty. It would be not Canada alone, but Canada and Australia, Newfoundland and New Zealand, Natal and the Cape of Good Hope, whose representatives had spoken. With this added strength

no doubt Mr. Fleming saw victory on the side of the colonies in their struggle with the mysterious inertia of the Admiralty. Some one has said that any great reformer will find less practical discouragement in the opposition of bad people than in the inertia of good people. If the inertia is in proportion to the goodness of the good people, the people of the Admiralty must have been possessed of all the graces and virtues of the highest Christian ideal. For undoubtedly they possessed in the highest form the quality of inertia.

But the Conference of 1887, by passing, as they did, unanimously the two resolutions proposed by the representatives of Canada, believed they had called into existence what the old Greeks called a *pou sto*, a place to secure the necessary leverage for future successful operations. The survey was now to be demanded by all the interested colonies.

It will be seen, however, that the hard work was not all over, by any means; the Rockies had been overcome, but the Selkirk range was still to be subdued, and, if indications convey accurate conclusions, the Gold range also stood in the way.

If one may judge from results, there must have come to the Admiralty a sudden accession of goodness; for the inertia increased, instead of diminishing.

As soon as the Conference closed its doors, Mr. Fleming addressed himself to the Colonial Office. Twenty-one members of the Conference, including, indeed, all the delegates, but one who had left London, signed a letter to Her Majesty's Government, asking them to cause the survey of the Pacific Ocean to be made. The delegates from Canada, Victoria, New South Wales, Queensland, Western Australia, New Zealand, Tasmania, Newfoundland, Natal and the Cape Colony cheerfully signed the document, and it was forwarded to the Colonial Office, whence and by whom it was, of course, transferred to the Admiralty. After a delay of twelve days, an answer was received by the Colonial Office from that very good and much inertia-afflicted

body, to the effect that if Mr. Fleming had not already left London, he would find the Hydrographer to the Admiralty on any day he wished to name. But that, unless the Secretary of State for the Colonies had reason to believe that a submarine cable would be laid in the near future, their Lordships (of the Admiralty) would not despatch a surveying vessel for the sole purpose of obtaining soundings over the route. They did, however, intimate that they would endeavour to arrange for gradual soundings in the course of the next few years, in connection with the ordinary hydrographic surveys.

"Masterly inactivity" was still the prevailing force with the Do-Nothings on the Board.

The information reached Mr. Fleming on the eighteenth day after the joint request had been sent; for, fortunately, he had not become so disgusted with the delay as to leave London for Canada. He could beat the procrastinators at their own game. He met the Hydrographer, an old captain of the Royal Navy, and learned that there was no intention to do anything in the year 1887; that in 1888 a surveying party would be despatched to Australia for other purposes, and that quite incidentally the party might pick up stray bits of information about the character of the Pacific Ocean, and that this course would be followed from year to year. provided always, the vessel was not taken off and put to other work.

Mr. Fleming's protest as set forth in a report communicated to the Canadian Government, when he learned all this, was strong, but not by any means stronger than the circumstances suggested. It could have been very much stronger without wounding the feelings of anyone in Canada. But he had to consider the men he was dealing with, as well as those in Canada and Australia whom he represented. Whether an unanticipated outburst would have succeeded or would have given the officials an excuse for further delays, cannot be even guessed. One thing is certain, the course pursued did not rouse the Admiralty to action. They were like Baal.

They did not hear. Either they were talking or hunting or on a journey or, peradventure, they slept and must be awakened.

The correspondence was continued throughout the year 1887, but nothing practical was accomplished.

In the month of March, 1888, the Governor of Victoria, Australia, cabled the Colonial Secretary that the Postal Conference at Sydney, made up of representatives from all the Australian colonies, had passed a resolution that the Admiralty be moved to make an early survey. The Conference added: "Cost to be defrayed by the treasuries of the United Kingdom, Canada and Australasia."

This course would serve to answer a slur that had been revived, though almost killed by the offer of Canadians to supply a ship and pay half the expense. This was a somewhat better proposal. The Admiralty would only have to pay one-third of the cost. It would do more. It would show whether the inactivity was really due to a belief that the interested colonies were evading all pecuniary burden. Time and again in the history of the relations between the colonies and the heart of the Empire, it had been averred that the colonies professed loyalty, but took care to put the expense on the Imperial exchequer, and here again, years after this taunt had received a well-merited rebuke from Hon. Joseph Howe, it was presenting itself as a good and sufficient reason why the Admiralty should do nothing.

The answer of the Admiralty to the Postal Conference was, in effect: "We cannot come to any conclusion till we receive an approximate estimate of the probable cost of such a survey."

This was a step in advance, but it was a very short one.

There was ample opportunity to bring forward delaying tactics, even after an approximation to the cost had been secured.

But apparently some good soul felt that the step in advance was too long an one. So, in about seven weeks

from the sending of the Victorian Governor's cable, the authorities sent word that "Her Majesty's Government concur in the opinion expressed in the letter from the Admiralty, that the question of accelerating the survey must remain open until there is a prospect that the funds for the construction of the cable will be found."

Here we have a good specimen of "how not to do it." First, the attacking party, "We want a survey." Then, the defending party, "We have not a vessel to spare." The attacking party, "We have a vessel." The defending party, "Well, what about the cost." The attacking party, "We have a couple of public-spirited men who will put up one-half the cost." Net result of first effort—silence on the part of the Admiralty.

Two years pass. The attacking party renews the attack, supported by the representatives of all the self-governing colonies. The same weary round—"no vessel. What about the cost of the survey? Have you got the cash on hand to make the cable?" The attacking party offers to pay two-thirds of the cost. "Hold," says the party of inertia, "I have just had an important thought; there must be an approximate estimate of the cost of the survey." "Hold," say their coadjutors in the Imperial Government, "we also have had a valuable thought—we can do nothing to show that the scheme is or is not impracticable until we know that funds are on hand for the construction of the cable."

With such solemn fooling, three years pass away. Then a vessel is sent to do some special work, and incidentally to provide a placebo or two for those insistent Canadians and Australians, who have a curious motto—"Find a way or make it."

The vessel does something. It is expected to do a good deal in the slow and methodic way for which the Admiralty is noted. A few years later someone of those prying individuals who are always asking inconvenient questions asks "Where is the *Egeria*?" It is learned that she had been withdrawn for some years, and nobody had been the wiser. No one knows why. The secrets

of the Pacific may remain secrets till the scroll of time is rolled up and the heavens melt with fervent heat, for all the Admiralty cares.

Thus precious time is wasted. And now the Father *of Colonial Conferences finds that still, after all these efforts, no progress has been made. The interested colonies are not disposed to yield to the parties determined upon delaying the survey. They see that capital will not "step up and pay down" till something is known of the character of the Pacific, and, on the other hand, they see that the Admiralty will not move in the matter of a survey till capital says she has the cash actually in hand.

The morning of the Colonial Conference, held in Ottawa in 1894, has come, and among the subjects to be discussed is this long-drawn-out question of the survey. Thus far the policy of delay has succeeded. It is seven years since the twenty-one delegates to the first Colonial Conference signed that letter asking for immediate survey. It is nine years since Mr. Fleming and the unknown offered to expedite matters by bearing one-half the cost; and all the Ottawa Conference can do is to pass a resolution similar to the one passed in 1888, by the Australian Postal Convention:—

"That the Imperial Government be respectfully requested to undertake, at the earliest possible moment, and to prosecute with all possible speed, a thorough survey of the proposed cable route between Canada and Australia; the expense to be borne in equal proportion

*In an Order-in-Council dated 8th June, 1886, these words occur:

"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 (Canadian) 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 suggestion, recommends that advantage be taken of the Colonial and Indian Exhibition now being held in London, and that the High Commissioner be requested to invite the Conference."

by Great Britain, Canada and the Australasian colonies."

That is our old familiar friend. It has been before the public for years. With the lapse of years it has not changed in the least.

However, Mr. Lee Smith, at the Ottawa Conference, suggested that offers be solicited for the completion of the cable according to the various routes proposed by Mr. Fleming. He said: "You would find it surveyed; you would find offers to make the different routes within three months."

There was still another step taken at the Ottawa Conference that was intended to remove the difficulty which followed after the closing of the Conference of 1887. One colony was entrusted with the work of seeing that the resolutions of the Conference were carried into effect. Canada was constituted the special representative of all the colonies and their particular agent in the matter of the cable.

This was followed up by a motion made by Mr. A. J. Thynne, M.E.C., of Queensland.

As this motion became the means of saving the situation, by providing a way out of the difficulty of the survey, it is given here in full: "Resolved, that the Canadian Government be requested, after the rising of this Conference, to make all necessary inquiries, and generally to take such steps as may be expedient, in order to ascertain the cost of the proposed Pacific Cable, and promote the establishment of the undertaking in accordance with the views expressed in this Conference."

What happened after the closing of the Conference was, that within a month the following advertisement was inserted in the newspapers:—

THE PACIFIC CABLE.

The Government of Canada invites cable manufacturing contractors and others to state the terms upon which they will be prepared to lay and maintain, in efficient condition, a submarine electric cable across the Pacific, from Canada to the Australasian Colonies.

General conditions under which the offers are to be made may be ascertained on application at the Department of Trade and Commerce in Ottawa, or at the office of the High Commissioner for Canada in London.

Offers addressed to the undersigned will be received by him until November 1st, 1894.

MACKENZIE BOWELL,
Minister of Trade and Commerce.

Ottawa, August 6th, 1894.

It was Mr. Fleming chiefly upon whom rested the work of preparing the plans and specifications that were needed to bring the work practically before the makers of cables. It speaks volumes for his energy and skill that he was able to have everything ready within so short a time. Mr. Bowell, in the course of some remarks before the Ottawa Conference, said: "In all matters affecting the cable, I shall avail myself of the knowledge of Mr. Fleming in connection with it, and I should carry out practically what my friend (Sir H. Wrixon) wants done, and that is, that Mr. Fleming, who has given a life-long study to this question, will have all the practical details of this work."

The results have shown that Mr. Bowell's trust was well placed.

The unselfish, unbegrudged, unpaid-for labours of Mr. Fleming merit some special recognition.

We have become so used to depend upon Sir Sandford Fleming that it does not occur to one man in a hundred that all the vast labour of carrying on the project during three and twenty years has been practically a present of skill, of time and of money from him to Canada and the Empire at large.

But this by the way. Within a month the details were ready. The advertisement was published, and the Minister of Trade and Commerce was waiting for replies.

The happy suggestion of calling for tenders, which had at once, on the first occasion of it being made, the warm approval of Mr. Fleming, proved the way out of the difficulty.

All the knowledge gained by Mr. Fleming during all these years, knowledge of the ways of opponents, of cable laying, of routes to be followed, of plans that were practicable, of difficulties of all kinds besides his technical skill as an engineer, was now available for the presentation of the scheme in the most attractive form for the consideration of business firms.

By the first of November the tenders were in the hands of the Minister of Trade and Commerce, and by him transferred to Mr. Fleming, to whom was entrusted the labour of reporting on them.

The result was that practical men of business were willing to make the necessary soundings, provide, lay and maintain, for a specified time, a cable between Canada and Australia, for a sum less than Mr. Fleming had estimated, without the three years' maintenance, by £98,000; and less than the estimate furnished by the General Post Office (London) authorities by £1,244,000, without any allowance for maintenance.

The nightmare of the survey, which had visited the dreamers during nine long years, had been driven away. Mr. Lee Smith was right. Three months were sufficient to banish from everybody's thoughts the bugbear of the survey, and thus to prove that in this one respect, the Colonial Conference of 1894 had given full warrant for the issue of the call to assemble made by Sir John Thompson's Administration.

CHAPTER III.

THE MISSION TO AUSTRALIA.

The mission to Australia, which was undertaken by Hon. Mackenzie Bowell, in September, 1893, formed an exceedingly important link in the chain of events which led up to the actual laying of the Pacific Cable. Primarily, it had for object the promotion of trade. In July of that year a contract had been entered into by Mr. James Huddart for the establishment of steamship communication between Canada and Australia, and the pioneer steamer on the route left Sydney during that month. Mr. Bowell was Minister of Trade and Commerce at the time, and in view of the subvention of £25,000 per annum for the service, guaranteed by the Canadian Government, for a term of ten years, it naturally occurred to him that special efforts would require to be made in order to stimulate business for the new line. When, however, the subject of the proposed visit came to be discussed in Council, it was agreed that the opportunity should be seized upon to confer with the various Australian Governments in relation to the proposed Pacific Cable. Six years had elapsed since the cable project had been brought before the Colonial Conference in London, and in the interregnum practically no progress had been made in the matter. On one hand, the minds of public men in the countries concerned had not got beyond the consideration of the boldness and magnitude of the proposition, while, on the other, the influence of Mr. John Pender, the magnate of the Eastern Extension monopoly, had been sufficient to prevent any positive action which would be likely to disturb this state of inertia.

Mr. Sandford Fleming, alone, had nursed the scheme during this period, and kept it alive, and it was to his alert mind that the mission to Australia presented itself as a suitable opportunity for useful propagandism. He found in Mr. Bowell a sympathetic listener. Thus, it

came about that, when an Order in Council was passed with respect to the mission assigned to the Minister of Trade and Commerce, it read as follows:—

“The Honourable Sir John Thompson, Prime Minister, recommends that the Minister of Trade and Commerce be requested to proceed to Australia as soon as possible to confer with the several Governments there, with a view to promote the extension of trade between Australasia and Canada, and also to confer with those Governments on the subject of a telegraph connecting Canada with Australia. The Committee, on the same recommendation, advise that Your Excellency be pleased to communicate by telegraph with the Governors of the several colonies of Australasia, announcing the mission of the Minister of Trade and Commerce, in order that facilities may be furnished by the respective Governments for forwarding the business with which the Minister is charged.”

In view of his antecedents, Mr. Sandford Fleming might well have been included in the Order in Council, but it was a matter of no particular importance. He speedily resolved to proceed to Australia on his own initiative, and at his own cost. It did not transpire that lack of status as a delegate from the Canadian Government militated against his influence, nor in any degree weakened the force of the arguments which he was able to present. He was everywhere received with cordiality, and listened to with thoughtful attention.

Within a few days after his arrival at Sydney, Mr. Bowell sent to the Premiers of the Australasian Colonies an elaborate memorandum, which had been prepared for him by Mr. Sandford Fleming. This document contained the most complete and definite information on the subject of the Pacific Cable which had yet been given out to the world, and was the result of careful research and work during the interval between 1887 and 1893. It is of sufficient importance to be given in full:—

" Sydney, New South Wales, 11th Oct., 1893.

" The printed proceedings of the Postal and Telegraph Conference, held in Brisbane, in March last, reached Canada a few weeks back. The resolution passed by the Conference, expressing the opinion that the time has arrived when a cable should be established to Vancouver, was welcomed with peculiar satisfaction by those who for years have looked forward to the prospect of having the two countries connected telegraphically. The debate, however, by members of the Conference, together with letters attached to the proceedings, gave rise to misgivings, which were in no way lessened when a copy of the agreement between the French Government and the New Caledonia Cable Company was subsequently received from Europe.

" As one who has taken an active interest in the proposal to connect Australia and New Zealand with Canada by a Pacific cable, I have been impelled by a sense of duty to visit these countries at this juncture to inquire into all the circumstances, and if the facts appeared to require it, to submit a respectful representation on the subject, and to appeal, with all the earnestness I can command, against a contemplated step which, if carried out, would, in my humble judgment, greatly lessen the commercial utility of the Pacific Cable, and render it comparatively valueless as a national undertaking.

Before leaving Canada I gathered from the Proceedings of the Postal Conference, and the papers appended thereto, and I learn from other public documents since my arrival in Sydney, in substance, as follows:—

(1) It is designed that the cable from Queensland to New Caledonia shall form the first link of the Trans-Pacific Cable, and that it is the intention of the company to proceed section by section as further subsidies are obtained.

(2) An opinion is expressed in some quarters that it is impossible to lay a cable through the Pacific Ocean from any part of Australia or New Zealand to Canada

without landing at some places, such as New Caledonia, Samoa and Hawaii, where British influence is not supreme.

(3) From the fact that the lines of the Eastern and Eastern Extension cable system touch foreign soil at several points, it has been urged that the Pacific Cable landing at New Caledonia would be in no worse position than the present line of telegraph between Australia and England.

In considering these points, I would first direct attention to the character of the agreement between the French Government and the Société Française des Télégraphes Sous-Marins, dated 3rd February, 1893, subsequently ratified by the Parliament of France.

The provisions of this agreement make it plain that the telegraph from Queensland to New Caledonia will be under the absolute control of the French Government, and hence no parallel can be instituted between the new line across the Pacific, as contemplated by its promoters, and the Eastern and Eastern Extension system. The lines of that system certainly pass over portions of foreign soil, but it cannot be held that any foreign power controls the administration and management of the company's affairs. Moreover, if, owing to unavoidable geographical reasons, the wires of the Eastern and Eastern Extension Telegraph Company necessarily touch territory that is not British, the more is it to be desired that Australia should be connected with the mother country by a line of communication which nowhere would pass over the soil of another nation, or in any sense be subject to the dictates of a foreign power.

The Pacific cable, as originally projected and advocated for many years, has been designed to connect the two greatest divisions of the British Colonial Empire—Australia and Canada—by a route substantially British throughout. Unless such a route be physically impossible, it would, in my judgment, be unwise in the last degree to place the first section of this undertaking absolutely under the control of a foreign power.

I venture to think it can be indisputably established that there is more than one route from Australia and New Zealand to Canada eligible for a British cable; that there is no necessity whatever for landing at New Caledonia, Samoa or Hawaii, or, indeed, at any island occupied by natives who are not already wholly under British protection. I beg leave to describe several of such routes or combinations of routes:—

Route No. 1.

Commencing at Vancouver Island, the cable would extend to Fanning Island, thence to the nearest island of the Fiji Group. From Fiji it may run direct to New Zealand, and thence to the Australian continent; or it may run first to Norfolk Island, and from that point bifurcate to the northern part of New Zealand, and to a convenient point near the boundary between New South Wales and Queensland.

Route No. 2.

From Vancouver Island the cable would be laid to a small unoccupied island indicated on the charts as Necker Island, favourably situated about 240 miles westward from the Hawaiian Group. From Necker Island the cable would extend to Fiji, and thence, as in route No. 1, to New Zealand and Australia.

Route No. 3.

As in route No. 2, the cable would extend from Vancouver Island to Necker Island, thence to Onoatua or some one of the eastern islands of the Gilbert Group. From this station in the Gilbert Group two branches would extend, one to Queensland, and the other to New Zealand. The Queensland branch would touch at San Christoval Island in the Solomon Group, and terminate at Bowen, connecting at that point with the land lines, easterly to Brisbane and Sydney, westerly to the Gulf of Carpentaria, where a connection may be formed with the Port Darwin-Adelaide Transcontinental telegraph, leading to Victoria, Tasmania, South and West Australia.

The New Zealand branch of this route would find a mid-station on Viti Levu, the southern island of the Fiji Group.

Route No. 4.

As in routes Nos. 2 and 3, the cable would be laid from the northern terminal point to Necker Island. From Necker to Apamana—a central island of the Gilbert Group—and at San Christoval, of the Solomon Group. At Bowen, this route may, as in the case of route No. 3, connect with Melbourne, Adelaide, Tasmania, by the South Australian overland line. Route No. 4 is probably the shortest possible line that can be drawn on the surface of the globe between any part of Canada and any part of continental Australia. It has the disadvantage of excluding from its telegraph service the Fiji Islands and New Zealand. To connect the latter colony a special cable from Queensland or New South Wales would be required. The Fiji Islands, however, would remain without a telegraph by this route.

The distance by each route is ascertained to be as follows (details are appended) :—

Route No. 1.—Including both branches from Norfolk Island to New Zealand and Australia, 7,145 knots.

Route No. 2.—Including branches to New Zealand and Australia, 7,175 knots.

Route No. 3.—Including both branches to Queensland and New Zealand from the Gilbert Group, 8,264 knots.

Route No. 4.—Vancouver to Bowen, 6,244 knots.

Route No. 4a.—Vancouver to Bowen, with a special cable from the mainland to New Zealand, 7,310 knots.

COST OF THE NEW CABLE.

In estimating the cost of a cable, there are various circumstances which require to be considered. One of the most important is the allowance for slack. It is customary to add an allowance to the ascertained superficial distance of 20 per cent., in order that the cable

may be safely laid at all depths and under all conditions likely to arise. This practice has been followed in estimating the cost of establishing a cable by each route. In the case of route No. 1, a special allowance is made on account of the unusually long section between Vancouver and Fanning Island. In each case the estimate is intended to cover the cost of cables of the best type manufactured:—

Route No. 1,	estimated cost,	completed.	.. £	1,978,000
“ 2	“	“	..	1,585,000
“ 3	“	“	..	1,825,000
“ 4	“	“	..	1,380,000
“ 4a	“	“	..	1,610,000

Having pointed out that there is a choice of routes for an essentially British cable across the Pacific, and presented estimates of cost, which I believe to be fairly reliable, I ask permission to add a few remarks bearing on the means which may be taken to carry out the undertaking.

There are two ways by which the object may be accomplished. First, through the agency of a company liberally subsidized. Second, as a public work under Government control. I have given this question much consideration, and year by year I have become more firmly convinced that if economy, low rates for telegraphy, and the highest efficiency be desired, the latter means of establishing the cable is undoubtedly the best. Promoters of companies generally desire to make large sums of money. The policy of companies is to obtain from the public as large profits as possible, while that of Governments is to accommodate and benefit the public in every possible manner by reducing the rates to the lowest practicable point, and by giving the most efficient service. The principle of ownership of telegraphs by Government is not new. It has long been adopted in the United Kingdom, in India, in these colonies, and elsewhere, and in every case I am aware of, where the principle has been tried, the public has derived the greatest advantage.

Various efforts have been made during the past ten years to have the Pacific Cable established by a subsidized company, but no company has offered to carry out the undertaking for a less subsidy than £75,000 a year, continued for a period of twenty-five years. It can be indisputably shown that under the plan of Government ownership, a much less annual payment, for a very much shorter period, will suffice. Moreover, when established, the cable will be public property, controlled by Government for the public benefit.

The proposal is, then, that Australia, New Zealand, Fiji and Canada should be joint owners of the Pacific cable, and that it should be established and worked as a public undertaking for the common good. There is one difficulty to be met at the outset. Certain of the Australian Governments are under obligations to pay an annual subsidy of £32,400 to the Eastern Extension Company until May, 1899, and, in consequence, they may not consider themselves in a position to co-operate on equal terms with the other Governments concerned in establishing a new line. This difficulty is not, however, insuperable, and, in my judgment, it can most readily be overcome by providing out of capital an annuity to meet the subsidy as it annually becomes due. By this arrangement the liability of New South Wales, Victoria, South Australia and Western Australia to the Eastern Extension Telegraph Company would be practically removed, and these colonies would be free to enter with Queensland, New Zealand, Fiji and Canada into a joint agreement. As will hereafter be seen, the annuity so provided to extinguish the subsidy of £32,400 a year, would be met by profits accruing from the new cable. Meanwhile, all liability incurred in the raising of capital would be borne in equitable proportions by all the co-operating Governments.

To illustrate the proposal set forth, let us assume that the cable itself, say on route No. 2, requires an expenditure of.....	£1,600,000
To this capital add the sum needed to purchase an annuity to meet the annual subsidy of £32,400, from May, 1894, to May, 1899—5 years	145,000
Total	£1,745,000

This total capital, raised on the joint guarantee of the Australian Colonies, New Zealand and Canada, could be placed at the low rate of 3 per cent., making a total charge of £52,350 per annum.

This interest charge is less than the lowest subsidy asked by a company, and I shall establish, by the strongest possible evidence, that unlike a subsidy for a fixed period of twenty-five years, long before the expiry of that period the whole interest will be met by surplus revenue.

Cost of Working.—I have obtained estimates, from the best authorities, of the cost of working the Pacific Cable under Government. These estimates range from £45,000 to £60,000 per annum, and include the salaries of superintendents, electricians and operators, two steamers for current repairs, and all necessary expense at terminal and mid-ocean stations. As it is desirable to have adequate allowance for every service, it is expedient to base our calculations on the highest estimate (£60,000) as the cost of working the cable. £60,000 will, accordingly, be a first charge on the revenue, and it will remain a constant charge whatever the volume of business, whether five million words per annum or half a million only.

Renewal Fund.—Next to working expenses, there should be a charge on revenue for renewals. It is proposed, therefore, to place to a cumulative reserve the sum of £32,000 a year, equal to 2 per cent. on the entire cost of the cable. This provision is considered ample until

the earning qualities of the cable come to be thoroughly established.

Revenue.—In many cases it is difficult, owing to the lack of information, to form estimates of the probable revenue of a projected undertaking. In this instance, however, the best data are available for our guidance. We have the published statistics of telegraph business by the existing line between Australia and Europe for a number of years, and it is fair to assume that on the establishment of the Pacific Cable, rates and all other things being equal, the business will be equally divided between the two lines.

I am unable to ascertain the business for the past year, but I gather from the published returns that the number of words transmitted in the year ending May 1st, 1892, was 1,275,191. If we divide this into equal parts, we have 637,595 words as a basis for estimating the revenue of the Pacific Cable.

In examining the returns for previous years, some striking peculiarities are apparent. During the eight years, from 1882 to 1890, the telegraph business between the Australian Colonies and Great Britain increased on an average 54,411 words each year, equal to 14 per cent. per annum. This may be viewed as the normal increase under a high tariff, inasmuch as throughout these years the charges on ordinary messages were never less than 9s. 4d. per word. On May 1st, 1891, the rate was reduced from 9s. 4d. to 4s. per word, and within the twelve following months the business increased by 448,913 words—an increase of 54 per cent. on the business of the previous year, and 831 per cent. over the normal annual increase during the preceding eight years. The further expansion of business will, no doubt, for the present be disturbed and retarded by an increase in the charges on messages on the 1st of January last; but there remains the experience of the year 1891-92 to establish the remarkable effect of a low tariff in stimulating telegraphy. In that single year the increase in the number of words

transmitted under a 4s. rate was greater than the growth of the business during the whole of the preceding eight years under a 9s. 4d. rate.

One of the direct benefits to the public from the Government ownership of the Pacific Cable will be the reduction in charges for transmitting messages. I have already mentioned that with a full and efficient staff, such as the estimate for working expenses provides for, it will cost no more to do a large business than a small. There will, therefore, be no reason for preventing the freest expansion of telegraphy by the new line by lowering the charges. In my humble opinion, the rates across the Pacific should be lowered to 2s. per word immediately on the cable being laid, in order that the public may have the advantage of cheaper communication at the earliest moment.

The proposed rate of 2s. per word for transmitting messages across the Pacific would reduce charges between Australia and England to 3s. 3d. in place of 4s. 9d. as at present. Moreover, messages from Australia received at Vancouver would be forwarded to all parts of Canada and the United States for an average charge not exceeding 2s. 9d. per word, in place of 6s.—the present charge.

I wish to avoid extravagant statements and too sanguine estimates. I would, in submitting my ideas, particularly desire to keep strictly within reasonable probabilities. If we base estimates on the existing volume of business merely, we must anticipate that there will be no great advance over the business of 1891-92 for a few years, if the charges on messages are again raised, as they already have been to some extent. In the calculations which follow, I shall, therefore, assume the business to be at a standstill for three years; that is to say, I shall assume that the business in 1894 will not be greater in volume than it was in 1891-92, and that thenceforth the normal increase of not more than 14 per cent. per annum shall apply. The number of words transmitted in 1891-92 was 1,275,191. It is assumed that the Pacific

Cable would, if in operation in 1894, obtain one-half of this business.*

Year	No of words per annum	Earnings of cable at 2s. per word
1894	637,595	£ 63,759
1895	726,858	72,686
1896	816,122	81,612
1897	905,386	90,539
1898	994,649	99,465
1899	1,084,913	108,391
1900	1,173,176	117,318
1901	1,262,439	126,244
1902	1,351,703	135,170
1903	1,440,967	144,097
1904	1,530,230	153,023

It is scarcely likely that the Pacific Cable will be established before the year 1896. The above estimate shows that in the year following (1897) the revenue from the cable would be £90,539, a sum equal to the whole working expenses, together with £30,539 for the renewal fund.

In the five following years, the revenue, in addition to paying working expenses, and providing for gradually reducing the interest charges, would finally, in 1903, within about seven years after the completion of the un-

*At the date of going to press (May 1894) it has been ascertained that the traffic for 1893 between Europe and Australia consisted of 1,306,716 words, showing that Mr. Fleming's estimate is considerably within actual results. If merely the normal increase of 14 per cent. under a high tariff be added to existing business the number of words for 1894 in the table of estimated earnings which follows should be 744,828 in place of 637,599 and the earnings for the same year £74,483 in place of £63,759. Thus establishing that the estimates of revenue presented in this memorandum are in no way exaggerated.

(It may be noted that this estimate is confirmed by the logic of facts in a phenomenal manner. In another part of this volume is a table giving the actual number of words transmitted each year from 1894 to 1901 inclusive. The business done from year to year varies from the estimate of Mr. Fleming, but the number of words transmitted in the eight years since his visit to Australia make up a total of 15,926,618 while the estimate gives an aggregate of 15,202,271 words.—*Editor, Jan., 1903*).

dertaking, be sufficient to meet every current charge, and the contributing Governments would practically be relieved from further liability. Not only would all fixed charges be then met, but in succeeding years, the productive capacity of the undertaking would yield an annually increasing surplus, to be dealt with as the co-operating Governments may determine.

If instead of a 2s. rate we reckon the same business for each year at an additional 6d. per word, which would still be comparatively low, we have as follows:—*

Year	Earnings of the cable, 2s 6d per word	The fixed charges, including working expenses, renewal fund and interest, being in all £144,350 per annum	
		Deficiency	Surplus
1897	£113,173	£31,177	.....
1898	124,331	20,019	.....
1899	135,489	8,861	.....
1900	146,647	.....	£ 2,297
1901	157,805	.....	13,455
1902	168,963	.....	25,613
1903	180,121	.....	35,771
1904	191,279	.....	46,929
1905	202,437	.....	58,087
1906	213,595	.....	69,245

This last estimate gives the result for the first ten years' operation of the cable, based on a 2s. 6d. rate, and a low normal increase. It shows that the revenue for the first year would be sufficient to pay the whole interest on capital, in addition to working expenses and provisions for renewal fund, and that the co-operating Governments would together require to pay £31,177 to make up interest. In the following year, the deficiency to be

*As the assumed traffic is found to be considerably within the actual traffic for 1893, the estimates of earnings in these tables should be proportionally increased.

made good would be £20,019; in the third year, £8,861. A small surplus would result in the fourth year, and at the end of ten years there would be an accumulated surplus of over £250,000, after meeting interest on cost and every other charge.

COMPARISON WITH PRESENT SUBSIDY.

If we compare these estimated results with the sums now paid for the temporary use of the existing telegraph at lower rates than formerly, we shall find everything in favour of an independent cable owned and controlled by Government.

There is first a fixed annual subsidy of £32,400 paid to the Eastern Extension Cable Company by five of the colonies. In addition to this annual payment, I find in the Postmaster General's (N.S.W.) Report for 1892, (page 25), that further sums have been paid to the same company, for the past two years, to obtain a reduction in charges from 9s. 4d. to 4s. 9d. Under the heading "Cable Guarantee," I find that £27,520 was paid for the year 1891-92, and £21,778 for the year 1892-93. If we add this guaranteed payment to the subsidy, we find the payments in each case to have been £59,920 and £53,363, made as follows:—

COLONY	SUBSIDY AND GUARANTEE PAID	
	For year 1891-2	For year 1892-3
By Victoria.....	£25,730	£23,048
" New South Wales.	23,787	21,126
" South Australia...	7,966	7,213
" Tasmania.....	1,447	1,102
" Western Australia.	990	874
Total sum paid..	£59,920	£53,363*

*NOTE.—This does not include £825 paid by New Zealand.

These figures, obtained from official returns, make it clear (1) that the five colonies mentioned have paid, in each of the past two years, to the Eastern Extension Cable Company (£59,920 and £53,363) sums in excess of the interest (£52,350) on the whole capital required to establish the Pacific Cable, together with the purchase of an annuity to extinguish the subsidy obligations of these five colonies; moreover, the liability for interest would not be confined to the five colonies referred to, the intention is that it shall be borne in equitable proportions by all, including New Zealand, Queensland, Fiji and Canada, and, in consequence, would fall lightly on each. (2) That while at no time would the interest charge, distributed over nine Governments, exceed £52,350, so soon as the cable goes into operation the payments on interest account would gradually be reduced, and in a very few years would be wholly covered by surplus revenue. It is quite true that the guarantee now in force may cease any year by giving notice, and the obligation resting on five colonies to pay the annual subsidy of £32,400 will, in any event, terminate in 1899; but, without an alternative line under Government control, will not the Eastern Extension Company be in a position to make new demands and raise charges to the old high rates unless an extension of the subsidy be granted them?

Conclusion.—In connection with the estimates of revenue, I have pointed out from statistical returns two elements of increase of business—(1) a normal increase under an exceedingly high tariff; (2) a very much greater increase under a lower tariff. There will be a third increase, which will be due to the development of traffic with Canada, and in bringing the Australian colonies into direct telegraphic touch with the whole telegraph system of North America. At present telegraphic intercourse is insignificant; but with a 2s. or a 2s. 6d. rate across the Pacific in place of a 6s. rate by a circuitous route, the circumstances will be favourable to the growth of telegraph business between the two continents, and in

consequence, the revenue to the Pacific Cable from this source will rapidly develope to large proportions.

In the foregoing estimates of revenue, I have reckoned only the normal increase under a high tariff, and taken no account of the greater increase which certainly will result from the charges being lowered, as proposed. I have likewise added nothing for the Australasia-North American business, the whole of which would flow to the Cable. I am quite warranted, therefore, in expressing the opinion that the estimates of revenue I have presented are not exaggerated or unreasonable, and that the Pacific Cable, established by Government in the manner proposed, would effect very important results. It would practically extinguish all subsidies now paid, and render guarantees unnecessary. It would permanently establish low rates for ocean telegraphy. It would yield a revenue which, after paying working expenses, and providing for maintenance and renewals, would make good all interest charges on the whole cost of the undertaking from the beginning, and in a very few years would furnish large surplus earnings. I venture to think, then, that if the resolution passed by the Postal and Telegraph Conference in March last* be generally assented to in these colonies, the Governments need not hesitate in incurring the comparatively small, almost nominal, liability necessary to secure a telegraph connection across the Pacific, which every British subject will recognize to be of the greatest national and commercial value.

Appended to the above Memorandum.—Distances by the several routes or combinations of routes referred to in the Memorandum of Mr. Sandford Fleming, October 11th, 1893, on the Pacific Cable:—

*RESOLUTION—"That in the opinion of the Conference, the time has arrived when a second cable route should be established via the Pacific to Vancouver, touching at such places en route as may hereafter be agreed upon."

ROUTE No. 1.

	Knots.
Vancouver Island to Fanning Island.....	3,232
Fanning Island to Fiji, North Island.....	1,715
Fiji to Norfolk Island	1,022
Norfolk Island to North Cape, New Zealand....	415
Norfolk Island to Tweedmouth, near boundary New South Wales and Queensland.....	761
Total	7,145

ROUTE No. 2.

Vancouver Island to Necker Island.....	2,431
Necker Island to Fiji.....	2,546
Fiji to Norfolk Island.....	1,022
Norfolk Island to North Cape, New Zealand....	415
Norfolk Island to Tweedmouth.....	761
Total	7,175

ROUTE No. 3.

Vancouver Island to Necker Island.....	2,431
Necker Island to Onoatoa (in the Gilbert group)	1,917
Onoatoa to S. W. Viti Levu (Fiji group).....	980
Viti Levu to North Cape, New Zealand.....	1,004
Onoatoa to San Christoval (Solomon group)....	953
San Christoval to Bowen (Queensland).....	979
Total	8,264

ROUTE No. 4.

Vancouver to Necker	2,431
Necker to Apamana (Gilbert group).....	1,865
Apamana to San Christoval (Solomon group)..	969
San Christoval to Bowen, Queensland.....	979
Total	6,244

ROUTE No. 4a.

Vancouver to Bowen, Queensland (same as No. 4)	6,244
Tweedmouth to North Cape, New Zealand.....	1,066
Total	7,310

During the sojourn of Mr. Bowell and Mr. Fleming in Australia, the Premiers and prominent public men of the colonies of New South Wales, Queensland, Victoria and South Australia were interviewed. Boards of Trade were also addressed. At all these meetings, with the exception of those which took place in South Australia, much was said in relation to trade; but a spirit of extreme caution was manifested when the cable scheme was under consideration. No one was disposed to question the advantages which would accrue from having an alternative line to that in operation; no one opposed the project on its merits. There was, however, an apparent aversion to the saying of anything which could be construed into a positive commitment to the undertaking. This was particularly so in New South Wales and Victoria. In Queensland, Sir Thomas McIlwraith and his associate in the Government freely confessed their sympathies; but they could not, for obvious reasons, commit the colony at that time to definite action. In his report to the Canadian Government, Mr. Mackenzie Bowell refers to the matter in these words:—

“Sir Thomas McIlwraith was outspoken in his approval of the cable scheme, which was particularly gratifying in view of the fact that Queensland had but lately subsidized the new French cable to New Caledonia, which action, he publicly assured us, would not, in any way, interfere with the greater and more important matter of a direct British cable between Canada and Australia.”

Beneath this hesitancy on the part of the three Governments indicated, was undoubtedly a very proper fear of the Eastern Extension Company, arising out of a knowledge of the power of that corporation, and the pos-

sibility of an early increase of telegraph tolls. In South Australia, however, the Canadian delegates were left in no doubt as to the attitude of the Government of that colony. That attitude was one of hostility, and for a reason which was not without considerable force. In 1870, South Australia had built a telegraph line across the continent, a distance of 1,975 miles, to connect with the cable at Port Darwin, which creditable piece of enterprise had entailed a cost of £506,000. All the other colonies enjoyed the advantages of the connection thus established; but despite the volume of business which passed over the line, the net result had for years been a loss to the South Australian Government. Under an arrangement made with the Eastern Extension Company and the other colonies, in 1891, this annual deficit was very largely reduced. The other colonies, under the arrangement of 1891, agreed to bear a share of the loss, pro rata. In these circumstances, the Premier, Hon. C. C. Kingston, frankly informed Mr. Bowell that his colony could not be expected to encourage an enterprise which would injure the value of a public asset, and involve a loss of public income, unless compensation were afforded in some form for the interests vested in the land line. The South Australian view was tersely stated by "The Express and Telegraph," of Perth, in its issue of November 3rd, 1893:—

"With regard to telegraphic communication, local conditions necessarily present themselves. The scheme presented by Mr. Sandford Fleming, which has already appeared in our columns, and which he so lucidly explained, has features that may very naturally commend it to the favourable notice of the Canadian and Imperial Governments. But on our part we cannot overlook the fact that one of its foundation stones, so to speak, is the reduction of our transcontinental business by one-half. Just so far as it fails to do this the scheme of a Pacific cable will suffer financially, and if it cuts our receipts in a higher proportion we shall lose the more. Such being the case, it can hardly be expected that we shall grow

very enthusiastic over the matter. While we are not so narrow and provincial in our notions as to seek to block the way of the undertaking, we should fail in our duty if we were not anxious for our interests to be safeguarded before it is entered upon."

This was a reasonable position, and Mr. Fleming was not prepared at the time to show that, notwithstanding the use which would continue to be made of this land line, and the lower cost of cable tolls to the people of South Australia, after competition had been brought about, there might not still be a small direct loss to the colony.

It became apparent about this time that little real progress would be made until the Premiers of the various colonies, or their representatives, got together. New South Wales and Victoria, the two leading colonies, were too dependent on the Eastern Extension Company openly to favour the Pacific Cable without incurring what was regarded as a serious risk, and lacking the outspoken approval of these influential Governments, the other colonies felt that it would be imprudent to commit themselves. Sir George Dibbs, Premier of New South Wales, was well disposed, but non-committal. Hon. J. B. Patterson, Premier of Victoria, was of the same mind. It was suspected that the attitude of nearly all the colonies would be altered into positive and active sympathy, if it were once made clear that the cable scheme would go ahead; and that it would have the necessary financial support by joint agreement of Great Britain, Canada and Australia. This situation suggested the need of a conference, and Mr. Bowell accordingly placed himself in communication with the Governments of the several colonies, including New Zealand, pointing out the situation, and asking if they could not arrange to call a conference, which he would attend. Owing, however, to certain of the legislatures being in session, it was found that the proposal could not be carried into effect for several months. It was now November, and Mr. Bowell was obliged to be in Canada early in January. It was,

therefore, suggested to him the propriety of inviting a conference of colonial delegates, to take place in Canada in the following year. Immediately on his return to Ottawa this suggestion was acted upon by the Canadian Government, with the assent of the Imperial authorities. The Colonial Conference, held in Ottawa in 1894, was the result, and that Conference, following upon the mission to Australia, brought the Pacific Cable scheme to a definite focus.

At this juncture it may not be amiss to take note of the impression which was made upon the leading organs of public opinion in Australia by the mission of Mr. Bowell and Mr. Fleming. These gentlemen frequently addressed public gatherings on the objects of their visit, and were often interviewed by press representatives. Their advocacy of the Pacific Cable project was, therefore, well known. They were taking the very best means available of strengthening the hands of those Premiers who had confidentially expressed their sympathy with the scheme, but who did not feel warranted in making a public declaration thereof. They were arousing popular interest in the matter, and disseminating useful information. And in this connection it is only just to give credit to the assistance which they received from Hon. Edmund Barton, now Premier of the Australian Commonwealth. At that time Mr. Barton was not in the legislature. He had suffered defeat under circumstances which need not be detailed in this connection, and was not, in the parliamentary sense, in public life. He was, however, one of the strongest personalities in Australia, a far-seeing and shrewd politician, an ardent Imperialist, a fearless advocate of Confederation, and a believer in the Pacific Cable. To the Canadian delegates his advice and co-operation were invaluable, and it was in consultation with him, Sir George Dibbs assenting, that Mr. Bowell reached the wise decision to summon the Colonial Conference of 1894. This step would not, however, have resulted in anything of consequence, so far as the Pacific Cable is concerned, if public judgment had not been stimulated

by the press of Australia. Most of the leading journals referred to the project in terms of commendation, and gave encouragement to the idea that colonials would welcome relief from the existing monopoly. It would be difficult to overestimate the value of this assistance.

The story of the mission to Australia would be incomplete if it omitted a reference to the means which were taken by rival interests to check the possible growth of a favourable impression in relation to the Pacific Cable. The situation gave encouragement to such efforts. The colonies had just emerged from a financial crisis of unprecedented gravity, and any measure involving either increased public expenditure or fresh liability upon the colonies would be apt to excite hostile criticism. This made responsible members of Government cautious, and disposed to suggest delay. Joined to this condition was the indifference of the people at large. They knew very little indeed about the proposition, and what they knew had come to them almost wholly from antagonistic sources. It may be said, therefore, that the Canadian missionaries found the outlook exceedingly discouraging; but neither Mr. Bowell nor Mr. Fleming were men easily daunted by unpropitious circumstances. They approached the representatives of the various Colonial Governments in a spirit of business-like earnestness, feeling assured that the merits of the matter would win support. They had not, however, been long on Australian soil before they discovered that influences were at work, which had already filled the minds of leading public men with doubt as to the practicability of the scheme, and with the conviction that the Imperial authorities were tacitly opposed to the undertaking. These influences were soon identified as those against which Mr. Fleming had been battling for many years, although, on the surface, they seemed to emanate from strictly official and disinterested quarters.

Directly after it was known in London that Messrs. Bowell and Fleming were about to start for Australia on cable business, two documents were sent from the

Colonial Office in Downing Street, "for the information of the Australian Colonies," the receipt whereof by the several Governments was nicely timed to anticipate the mission of the Canadian delegates. The alleged facts set forth in these documents are so closely of a piece with those which had been urged in opposition to the Pacific Cable ever since the matter was mooted, and throw such a direct light on the tactics of opponents, that they must here be given a place in full:—

"General Post Office, London, 5th July, 1893.

Sir,—The Postmaster General directs me to reply to you. Letter of the 3rd December last, on the question of the construction of a submarine cable between Vancouver and Australasia.

For a cable to land only on territory under British protection, or belonging to the British Crown, the route which would be selected would probably be as follows:—

	Distance in knots.
Victoria, Vancouver Island, to Fanning Island	3,298
Fanning to Canton Island.....	845
Canton to Fiji	1,130
Fiji to the Bay of Islands, New Zealand.....	1,080
	6,353

The total distance is 6,353; but to ascertain the length of cable required, it is necessary to add 20 per cent. for slack, making 7,623 knots.

For the sections between Fanning Island and New Zealand, the engineer-in-chief of this Department thinks it would suffice to use a cable of which the core would consist of 130 pounds of copper and 130 pounds of gutta percha to the knot; and, with the information at present at his command, he estimates the cost of making and laying it at about £150 per knot, or say £549,000 for the three sections.

On the Vancouver-Fanning section, he is of the opinion that to secure even moderate working speed of

12 words a minute, the cable must have a core of 940 pounds 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 £2,374,200. The total cost of the whole line from Vancouver to New Zealand would thus be about £2,924,100.

There would be no novelty in laying or maintaining cables of the type required between Fanning and New Zealand; but a cable like that which would be required between Vancouver and Fanning has never yet been laid. The heaviest core in any existing cable contains only 400 pounds of copper and 400 pounds gutta percha to the knot. It may be well doubted, therefore, whether, with existing appliances, the Vancouver-Fanning section could be either laid or maintained.

If it were found possible to establish the communication, it would be necessary to its proper maintenance that a ship, especially constructed for the purpose, should be stationed in the Pacific, and that depots of coal, spare submarine cable, and other stores, should be established at various points.

As to the financial aspect of the question, it is not possible, where everything is so problematical, to prepare a trustworthy statement. If the charges of telegrams to and from Europe were the same as the charges by the existing route, the annual revenue proper to the new line could scarcely at first, or indeed for many years, exceed £70,000 a year. Interest at 4 per cent. on the capital of £2,924,100 would be £116,964; a sinking fund at 4 per cent. to replace the capital in 25 years, would take £70,000 a year; and the cost of maintenance and working could not well be estimated at less than £40,000 a year. There might thus be an annual expense of £227,164 as compared with a revenue of £70,000, leaving a deficiency of £157,164 to be made good by subsidies.

Her Majesty's Government give no subsidy in respect of the existing cables.

If it were not necessary to land the cables in all cases on British territory, a line of communication be-

tween North America and Australasia could be established for a smaller sum. Thus, the first section might be laid from Vancouver or from San Francisco to Ohio in the Sandwich Islands, and the core of this section of this cable need not exceed 400 pounds of copper and 400 pounds of gutta percha to the knot.

It seems unnecessary, from the point of view of Imperial interests, to go further into this plan; but it may be well to refer to a misconception on the part of some of those with whom it finds favour. Met with the objection that a cable landed on foreign territory might be of little use for the defence of the Empire, they replied that the difficulty is provided for by an International Convention under which all cables are made neutral in time of war. This is not the case. The only International Convention relating to the protection of submarine cables is that which was made at Paris on the 14th of March, 1884; and if reference be made to the copy of the Convention annexed to the Submarine Telegraph Act, 48 and 49 Vic., ch. 49, it will be seen that it contains no provision for the neutrality of cables.

I am, &c.,

(Signed) J. C. LAMB,

The Under Secretary of State for the Colonies."

The other document was as follows:—

"Report by the Hydrographer on a Proposal to connect Vancouver Island and New Zealand by a Submarine Telegraph Cable:—

Looked at from an Admiralty point of view, the sole advantage of a submarine cable across the Pacific would be the power of communication afforded with ships at Honolulu, and the Fijis and surrounding groups. This advantage cannot be considered as, in times of peace, great; and it would not appear, in time of war, to be important, as the Fijis are the sole possession affected.

From an Imperial point of view, any alternative line of communication with our possessions must be of value, but there are grave drawbacks to this present proposal. It has been gradually recognized that in order to minimize the effects of breakdowns on a submarine cable, the individual lengths between the landing places should be as short as possible, in order that the time lost by bridging over a steamer until the repairs can be made good should be reduced to a minimum. Now, the proposed line would not only be made up of the longest length of submarine cable known, but the state of trade and the calling places is such that steamers might not be available for temporary service in case of a messenger vessel being required.

From a commercial point of view, its success must depend upon (1st) the amount of traffic likely to be set up between America and Australia, and (2nd) how far the company could afford to compete with the existing line already duplicated. So far as my knowledge goes, the half of the present traffic from England and the traffic to accrue from America, would afford a poor prospect of an income without a heavy subsidy from the Government, seeing, especially, the probable difficulties of laying and maintenance. These will be alluded to hereafter.

The existing communication with Australia is already good. It touches Portuguese territory at Lisbon and Dutch Java, and passes through Egypt at the Isthmus of Suez, otherwise it is wholly in British territory. The lines are British lines, worked by British clerks, and cypher messages are, therefore, no more likely to be tampered with than if such landing places were British. The communication is duplicated throughout (though, in some cases, by an alternative route not so entirely in British hands) to Australia. Between Australia and New Zealand the line is single.

The different sections are as follows:—

Present line of communication (1892):

England to Lisbon, 725 miles; duplicated by a line calling at Vigo.

Lisbon to Gibraltar, 295 miles; duplicate cables, also land line.

Gibraltar to Malta, 980 miles; duplicate cables, also land and sea lines via Sicily.

Malta to Alexandria, 819 miles; duplicate.

Alexandria to Suez, 135 miles; land line (Egyptian).

Suez to Aden, 1,308 miles; quadruple.

Aden to Bombay, 1,637 miles; triplicate.

Bombay to Madras, 560 miles; land line (a third route to Bombay from Europe through Persia).

Madras to Penang, 1,270 miles; duplicate cables.

Also land line through British Isles.

Penang to Singapore, 375 miles; duplicate.

Singapore to Banjoewangie, 880 miles; duplicated by line to Batavia and land line in Java.

Banjoewangie to Australia, 1,045 miles; duplicate cable to Port Darwin; a third to Roebuck Bay.

Port Darwin to Sydney, Roebuck Bay to Sydney, 1,980 miles; two separate land lines.

In the event of both lines breaking simultaneously on any section, the greatest length to be bridged over is 1,600 miles, from Aden to Bombay, where numerous steamers are available.

The Pacific line would touch foreign territory at one point only—the Sandwich Islands—and would be made up of the following lengths:—

England to Cape Breton via Newfoundland, 1,865 miles; triplicate.

Cape Breton to Vancouver Island, 2,712 miles; land line.

Vancouver Island to Fanning or Washington Island, 3,220 miles.

Washington Island to Phoenix Island, 790 miles; 5,940 miles of cable to be laid.

Phoenix Island to Fiji, 920 miles.

Fiji to New Zealand, 1,010 miles.

New Zealand to Sydney, 1,125 miles; duplicate.

It will be observed that the total distances to Sydney are in either case identical, but that the 7,425 miles of Pacific is in only five sections, all of great length.

On the roseate view expressed by the promoters on the question of laying the cable, I would remark as follows:—

That very few soundings exist on the actual line proposed.

That the soundings near this line show that the depth would be unusually great, and, therefore, unfavorable for repairing.

That the probabilities for sudden inequalities of the bottom are very great in such an island-studded ocean, and that such inequalities would be also unfavorable to the maintenance of the cable.

(It would require a long, minute search, by a vessel specially fitted for sounding, before the best route could be selected.)

It is very doubtful, therefore, what the ultimate cost of the undertaking may be, and even at the estimate now made (£2,000,000), it is more than doubtful whether it could possibly be made to pay. As a single line of submarine telegraph has never yet been found to answer commercially, it would probably be necessary to duplicate this one; this would cost about one and a half millions sterling extra.

My general conclusion is, that if the Government is to aid in a substantial manner any scheme for multiplying the lines of communication to Australia, it should be in the direction of triplicating, by means of sea cables, those portions of the existing route which are now duplicated by foreign land lines.

W. H. WHARTON,
Hydrographer.

Admiralty, 28th February, 1887."

Mr. Fleming did not reply to these communications until he returned to Canada, when he did so in the following letter:—

Ottawa, 6th February, 1894.

The Honourable Mackenzie Bowell,
Minister of Trade and Commerce.

Dear Sir,—Referring to the documents respecting the Pacific Cable, transmitted on September 15th last year, from the Colonial Office, London, to the Australian colonies, for the information of the respective Governments, I beg leave to remark as follows:—

1st. With respect to the letter from the Secretary of the General Post Office, of date July 5th, 1893.

On careful examination of the scientific calculations, the results of which are presented in the letter referred to, it is with a feeling of regret that I find the statements made, inaccurate and misleading. Calculations based on the most reliable data go to show that to obtain the working speed mentioned, viz., 12 words a minute, the weight of cable on the Vancouver-Fanning section is greatly over-stated. Moreover, I find that the Post Office authorities are far astray in the question of cost. When in London a few weeks back, I made it my special business to consult two of the oldest cable manufacturing companies on this point. I have now received the very best assurances from them that they will be quite prepared to enter into contract to lay cables on the Vancouver-Fanning route, or any of the four routes described by me in the memorandum I handed you in Sydney on the 11th of October last, at prices under my estimates.

2nd. With respect to the report of Captain Wharton, Hydrographer of the Admiralty, dated February 28th, 1887.

It will be noticed that this report is about seven years old, and I need scarcely say that during these seven years much light has been thrown on the advantages of a Pacific cable, and the necessity for its establishment.

In this report, Captain Wharton argues against a Pacific cable, and in favour of maintaining telegraphic connection between England and Australia by one route, that is to say, by the lines of the Eastern and Eastern Extension Telegraph Company. Arguments which he used are much the same as those advanced by Sir John Pender, chairman of these companies, at the time of the Colonial Conference of 1887. The arguments were conclusively answered by delegates during the discussions, as the proceedings of the Conference clearly show. If further evidence is necessary to bring out the peculiar advantages of a Pacific cable, I may be permitted to refer to the remarks which I submitted, as delegate of the Board of Trade of the City of Ottawa, to the Second Congress of Chambers of Commerce of the Empire, held in London in 1892. I venture to add that, with the light of added experience, and under the new conditions which have sprung up, I doubt if Captain Wharton or any other British officer would write the same report to-day. It seems to me unfair to that gentleman, to reproduce an old document, perhaps hastily written, with but little data before him, and hold him responsible at this hour for the opinions which he then expressed.

Yours faithfully,

SANDFORD FLEMING.

A copy of the foregoing was promptly dispatched to the several Governments of Australasia, and it transpired at the Colonial Conference in June following, that it served effectively as an antidote to the documents sent out from the London General Post Office and the Admiralty. In the interim, Mr. Fleming had made some important investigations in London as to the facts in connection with the suspension of survey work in the Pacific, which must be left for treatment in another chapter.

CHAPTER IV.

STEPPING STONES IN MID-PACIFIC.

Early Northern Routes for a Submarine Cable to Asia and Australia via the Aleutian and Kurile Islands. Southern Routes. Necker Island: Story of an Attempt to secure an Ideal Landing-place, and how it Miscarried. The Fanning Island, and other routes.

Of the many questions demanding solution, in connection with the Pacific Cable, none was more vitally important than that of landing-places, and none had, perhaps, given the promoters of the project so much trouble and anxiety. Many routes and many landing-places have been from time to time suggested, and rejected, since the daring project of binding the mighty Pacific with an electric girdle was first mooted. It is the purpose of this chapter to give, as clearly and concisely as may be, a history of the several successive routes and landing-places, and especially of the plucky and ill-fated attempt to secure possession of that inhospitable, but much-sought-after, rock in the midst of the Pacific—Necker Island.

As long ago as 1879, we find the matter being discussed by two Canadians, whose names will forever be associated with the great subject of submarine telegraphy—the late F. N. Gisborne, originator of the first Atlantic telegraph scheme, and Mr. (now Sir) Sandford Fleming, father of the Pacific Cable.

On the 11th of June, in that year, the Engineer-in-Chief of the Canadian Pacific Railway, Mr. Fleming, writes to Mr. Gisborne, then Superintendent of the Telegraph and Signal Service of Canada, outlining a scheme for connecting the Canadian Pacific telegraph system, then nearing completion, with the telegraph system of Asia, by a submarine cable. Mr. Fleming, even at that early date, regards it as a question of Imperial importance that the British possessions to the west and south of the

Pacific Ocean should be connected by submarine cable with Canada, and through Canada, with England, without passing through foreign countries. In this letter we find what is probably the first written statement looking to the joining of Canada and Australasia by an electric cable. "A submarine telegraph," writes Mr. Fleming, "from the western coast of Canada to Asia, in continuation of the Pacific Railway line, while completely girdling the globe by an electric wire, would connect with the Australian and New Zealand branch, and, without question, would extend the most important advantages to the whole outer Empire of Great Britain."

The route advocated in this first scheme for a Pacific cable, was from the north-west point of Vancouver Island across the Pacific in a direct course to Japan, where it would connect with the existing line to Hong Kong, China, Australia, New Zealand, and elsewhere. An alternative route was from Vancouver Island, via Amlia, one of the Aleutian Islands, to Yezo, in Japan. Still another suggested route was via one of the Kurile Islands, north of Japan, and thence direct to Hong Kong. It was not anticipated at the time that there would be any difficulty in obtaining landing rights from the United States Government, for a mid-station on one of the Aleutian Islands, or from the Japanese Government, if it were thought advisable to carry the cable to the Kurile Islands. Both Mr. Gisborne and Mr. Fleming were confident of the complete practicability of the scheme, as well as of its importance to the general interests of Great Britain and her dependencies. From our later standpoint, however, it was not without grave weaknesses. Most of the landing-places would be upon foreign soil; and unless it were decided to continue the proposed cable from Hong Kong to Australia, the people of Australasia would still be at the mercy of the existing cable monopoly. It is doubtful whether this route would, in fact, have been considered, had not Mr. Fleming, as well as Mr. Gisborne, at that time shared the popular idea that the bed of the Pacific, between the parallels of 30° north

and 30° south of the equator, was of such a nature as "entirely to preclude the successful accomplishment of cable enterprises within those limits."

Mr. Fleming, however, shortly afterwards became convinced, on close study of all the available authorities, and especially of the voluminous reports of the "Challenger" expedition, that there were no insuperable difficulties in the way of a direct cable between Canada and Australia, and as he fully recognized the advantages of that route over the round-about route via Japan, he abandoned all thought of the latter, and devoted his energies thenceforth to the furtherance of a direct Canada-Australasian Cable.

In considering the question of landing-places along this route, naturally the first thought was to secure a midway station on one of the islands of the Hawaiian archipelago, this group lying on the direct course between Canada and Australia, and about equally distant from each. The Hawaiian group consists of eight islands, ranging in area from 50 to 3,000 square miles each, with a soil in many parts of extraordinary fertility. The most eastern, and largest island, is named Hawaii. The others in their order are: Manui, Kanulani, Lanai, Matokia, Oahu (on which the capital, Honolulu, is situated), Kanui, and Niihau. The two latter are separated from the main group by open water, at no point less than 65 miles in extent. Of all these islands, Mr. Fleming considered that the most desirable for the purposes of the cable would be either the most eastern (Hawaii), or the most western (the twin islands, Kanai and Niihau). The Hawaiians themselves would probably prefer to have it landed at Honolulu. Much though they desired cable communication, there was grave doubt, however, whether the Hawaiian Government would be willing to surrender one of these islands to England, and as there was a very strong feeling, both in Australia and Canada, that the cable should land only upon British soil, it became desirable to cast about for some unclaimed island in mid-Pacific.

It immediately became apparent that the choice was very meagre. A glance at the map will show how singularly barren of islands is this portion of the ocean, outside of the Hawaiian group. There was indeed Fanning Island, but Fanning Island stood at such a distance from the Canadian starting point that the laying of the first link of the cable would be both very difficult and very expensive; indeed, some competent authorities insisted that it was an impossibility. Certainly, no such single length of cable had ever yet been laid the world over. While Mr. Fleming was, nevertheless, of opinion that the Fanning route was quite feasible, he yet thought it preferable, if at all possible, to secure a landing-place more centrally located—one somewhere in the latitude of the Hawaiian group.

After examining the Admiralty charts, and making careful inquiries, Mr. Fleming found that there was a small, rocky island, called Necker, lying in latitude $23^{\circ} 35'$ north, longitude $164^{\circ} 39'$ west, about 240 miles westward of the Hawaiian group, or something over 400 miles west of Honolulu. This rocky islet lies on the shortest and most direct course from Vancouver Island to the northern coast of Queensland, passing Apamana, in the Gilbert group, and San Christoval, in the Solomon group, both of these groups being British territory.

Very little was known about the island, as no one had ever landed upon it. What information there was had been published chiefly to warn mariners from its inhospitable shores. Necker Island is, in fact, a mere rock, from one-half to three-quarters of a mile long and one thousand feet broad, with an elevation at two points of 250 and 280 feet, on the south-east. Not a single tree is to be found upon the island, but there is stated to be abundant vegetation on the high land towards the summit. The shores rise steep as a wall, and the sea breaks with fury at all points. The island was discovered by La Perouse, on the 1st of November, 1786, but was regarded as too insignificant for ownership.

In September, 1893, as already stated, the Hon. Mr. (afterwards Sir) Mackenzie Bowell, proceeded on a diplomatic mission to Australia, on behalf of the Canadian Government, and Mr. Fleming accompanied him, at his own expense, with the object of forwarding the Pacific Cable project.

While at Honolulu, *en route* to Australia, Mr. Fleming prepared a memorandum respecting Necker Island, which was forwarded to Ottawa by Mr. Bowell, and made the subject of an official despatch from the Canadian Government to the Home Government, urging the immediate acquisition of Necker Island as a landing-place for the cable.

A copy of this memorandum was at the same time left with the British Minister at Honolulu, to be forwarded direct to the Foreign Office; another copy was sent to the Admiralty; and still another to Admiral Stevenson, commanding on the North Pacific Station, so that he might be prepared for any instructions the Admiralty should see fit to send.

This memorandum embodied such further particulars as Mr. Fleming had been able to glean touching Necker Island. It was uninhabited, possessed, in fact, no means of supporting life, and was consequently useless to any nation, except for such a special purpose as a cable station. Its position is described as "singularly commanding, not only in respect of a cable from Canada to Australia, but likewise to Japan and Hong Kong." A mid-ocean station in this part of the Pacific, entirely removed from foreign influences, being of supreme importance, and there being "no certainty that one of the Hawaiian islands could be obtained," Mr. Fleming strongly recommended that Necker Island should be formally taken possession of without delay in the name of Her Majesty.

On reaching Australia, Mr. Bowell placed the facts in relation to Necker Island before the Governments of New South Wales, Victoria and Queensland, and in October, 1893, each of these Governments, convinced of

the importance of acquiring such an admirably situated landing-place for the cable—one, too, that had never yet been taken possession of by any nation, and could be had for the mere trouble of taking—sent instructions to their respective Agents-General in London to urge upon the Home Government the importance of taking immediate steps to secure the island.

In their interviews with the Governments of Queensland, New South Wales and Victoria, Mr. Bowell and Mr. Fleming learned, with deep regret, that despatches had quite recently been received from England, covering reports from officials in the Admiralty and Post Office Department, the tone of which was peculiarly antagonistic to the project of a Pacific Cable. It so happened, however, that the very severity of the British official criticism turned to the advantage of the Canadians, for the despatches had laid stress upon the difficulty or impossibility of connecting Fanning Island with Vancouver by cable, and it was the more easy to convince the Australian ministers of the vital necessity of securing Necker.

Australia having thus approved of the Canadian proposals, it only remained to persuade the Imperial Government. It being sufficiently apparent that nothing could be gained by correspondence, it was decided that Mr. Fleming should proceed direct to England, and bring the importance of the project to the personal attention of the Imperial Ministers. Mr. Fleming accordingly proceeded from Australia to England, first writing the High Commissioner in London, informing him of the state of affairs, and the desirability of pressing the Necker matter upon the Home authorities.

The Secretary of State for the Colonies, Lord Ripon, sent a despatch to Ottawa in reply to the despatch of the Canadian Government urging the speedy acquisition of Necker Island. This reply is dated 20th December, 1893, and informs the Dominion authorities that "the Secretary of State for Foreign Affairs will defer action in the matter, pending

the establishment of the Government of Hawaii upon a more permanent footing." It will be remembered that the death of King Kamehameha had been followed by a revolution, in which the Queen was deposed, and a provisional Government established. The members of this Government were nearly all citizens of, and in active sympathy with, the United States. The British Government, always anxious to avoid the tender corns of the United States, possibly felt that to take possession of Necker Island might cause annoyance at Washington. At any rate, they evidently felt it necessary to consult the Hawaiian Government in the matter, though on what grounds it is somewhat difficult to determine, as Necker Island did not belong, either politically or geographically, to the Hawaiian group. As Mr. Fleming very forcibly put it, "Necker Island is an unoccupied and unclaimed spot in the middle of the Pacific Ocean, wholly unfit for settlement, and destitute of the means of supporting life; it is valueless to any nation as a strategic point; affords neither a haven for ships nor a depot for commerce; is entirely outside the Hawaiian group of islands, and beyond the sphere of the Hawaiian kingdom or state, being, in fact, as distant from Honolulu as Washington is from Ottawa, and double the distance that London is from Paris."

Mr. Fleming, however, knew nothing, until the following summer, of this curious decision of the Imperial Government, and having arrived in London towards the end of December, at once saw the Canadian High Commissioner, and through him arranged an interview between the Colonial Minister and the Canadian and Australian representatives. After some delays, Lord Ripon met the delegates, on January 12th, 1894. the following colonies being represented, in addition to Canada: New South Wales, New Zealand, Victoria, Queensland and Tasmania. During the interview Mr. Fleming read and handed to the Colonial Minister a memorandum, setting forth the particulars regarding

Necker Island, and urging the vital importance of securing it without delay as a mid-Pacific telegraph station.

On the 16th January, the High Commissioner, Sir Charles Tupper, sent a report on this interview to the Hon. Mackenzie Bowell. Lord Ripon, he wrote, "seemed to be much impressed with our representations, and promised to place himself in communication with the Foreign Office, with a view of ascertaining what action can be taken in the matter." Apparently not a word was said during the interview of His Lordship's remarkable despatch of the 20th December, 1893, announcing the singular decision of the Secretary of State for Foreign Affairs, to defer action in the matter of acquiring Necker Island "pending the establishment of the Government of Hawaii upon a more permanent footing."

Mr. Fleming returned to Canada immediately after the interview, buoyed up with the confident hope that the British Government had at last been awakened to the vital importance of taking possession of Necker Island, and that the requisite action would no longer be delayed.

The months of February, March and April passed, but nothing could be learned in Ottawa, although frequent inquiries were made, as to any steps which had been taken by the Imperial authorities. Early in May, the Minister of Trade and Commerce cabled to Sir Charles Tupper to ascertain what had been done in the matter. The High Commissioner called at the Colonial Office, but no satisfactory reply could be obtained, and from what was learned it appeared that the matter was in exactly the same position as before the interview with the Marquess of Ripon. The Foreign Minister, Lord Roseberry, had "expressed his desire that the Imperial Government should do anything possible in the premises; that Her Majesty's representatives at Honolulu had been requested to watch the matter closely; but he thought it undesirable, in view of the disturbed relations in the Sandwich Islands, that any definite steps should be taken for the present."

Months passed, and although the importance of acquiring Necker Island at once had been repeatedly pressed upon the attention of the Imperial authorities, both by Canada and the Australasian Colonies, the Home authorities had apparently decided to forget the whole incident. The Colonial Conference at Ottawa was fast approaching, when the Pacific Cable matter would be threshed out in all its bearings, and the importance of Necker Island as a half-way house for the cable ventilated and made public, and it might then be too late to take possession of it.

Mr. Fleming, feeling that no time was to be lost, and realizing that nothing was to be hoped for from the Imperial Government in the matter, sought earnestly for some other solution of the difficulty. He talked the question over, confidentially, with those interested in the project, but they could offer nothing helpful. Finally, a suggestion came to him, in conversation with a high military official, who had served in India and whom he met when travelling. Their talk drifted to the Pacific Cable. Among other things, Mr. Fleming explained the highly unsatisfactory state of the Necker project. "Ah," dryly remarked the officer, "the best thing to do in a matter of that kind, is to act first, and ask for leave afterwards." His listener began to look interested. "Perhaps," continued the official, "you have not heard how we got the island of Perim?" The French had an eye on it, and sent an admiral to hoist the tri-colour. The admiral went ashore at Port Aden, visited the British Resident, who dined him, and wined him, and presently learned the object of his voyage. The British diplomat left the room for a moment, on pretext of a bottle of extra good wine, and incidentally gave orders that with all possible expedition men should be sent to Perim to hoist the British flag, and take possession of the island in the name of Her Majesty. He then returned with the wine, and astonished and delighted the admiral with the charm of his conversation, the pungency of his wit, and the excellent quality of his wine. The two made

merry far into the night. Next morning the French admiral took an affectionate farewell of the British Resident, and sailed over to Perim to fulfil the objects of his mission. Arrived there, what was his amazement to find a flag already floating over the island. It was not, however, the flag of France." "That," concluded the military officer, "is what will have to be done."

Mr. Fleming took the hint. What a British official had done at Perim, on his own responsibility, he could do at Necker. He knew of a discreet man in Toronto—a retired naval officer—who could safely be entrusted with a delicate mission. He sent for him, explained the circumstances in connection with Necker Island; that it had now become a question of securing the island at once by a private *coup*, or losing it altogether; and possibly put an end to the project of connecting Australia with Canada by a direct cable. The naval expert agreed to undertake the mission, his expenses, of course, to be borne by Mr. Fleming.

Mr. Fleming then outlined his plan. The naval officer was to proceed to Vancouver forthwith, where he would catch the first steamer for Honolulu. There he was to disembark, and there the special service would practically commence. At Honolulu he was to procure a vessel to take him to the vicinity of "an unoccupied rocky island situated about latitude $23^{\circ} 35' N.$ and longitude $164^{\circ} 39' W.$ "—in other words, the much-discussed Necker. Arrived at the island, he was to make an examination of the character of the shores, and ascertain the best point or points for landing an electric submarine cable; take such soundings in the immediate vicinity of the island as would enable him to report on the approaches; and make an approximate survey and sketch of the island. Finally, he was to "leave behind him evidences of his visit"; in other words, he was desired to emulate the example of that enterprising official at Perim, plant a flag-staff, unfurl the British flag, and take possession of the island in the name of Her Majesty the Queen. Being a British subject, and a retired officer of

the British navy, there would be no question as to the legality of such a claim, provided the Imperial Government chose to recognize it.

The mission was one of more than ordinary difficulty. It must be carried through with the utmost secrecy, and, at the same time, with the utmost expedition. The time available was extremely limited. The Colonial Conference was to meet at Ottawa towards the end of June. It was already the beginning of May, and Mr. Fleming considered it very important that the flag should float over Necker Island, and that he should be satisfied of that fact when the Conference met.

The naval officer returned to Toronto, and Mr. Fleming set himself to a study of Pacific time-tables. It appeared that a steamer, the "Warrimoo," would leave Vancouver for Australia on the 16th May, and was due to arrive at Honolulu on May 24th. The steamer "Arawa," which was booked to leave Sydney on May 18th, would be due at Honolulu on June 2nd, *en route* Vancouver. There was no other steamer leaving Honolulu for the North American continent until June 23rd, on which date the "Australia" was due to sail for San Francisco, reaching the latter place on June 30th. It was evident that, if the report on Necker Island was to be in Mr. Fleming's hands by the middle of June, his agent must leave Vancouver by the "Warrimoo" on the 16th, and return from Honolulu by the "Arawa." This would give him from the 24th May to the 2nd June within which to accomplish his mission—a trifle over a week; and during that time he must secure a vessel, without arousing the suspicions of the Hawaiian Government, steam to Necker Island, some 400 odd miles distant from Honolulu, effect a landing (which, it must be remembered, had never before been accomplished), make a rough survey, take soundings, leave tangible evidence of his visit and its object, and be back in Honolulu in time to catch the "Arawa" on the 2nd June.

Mr. Fleming, having got thus far, telegraphed to the naval expert, on the 7th May, as follows:—

“Outgoing steamer due at point of departure for special service May 24th. Return steamer due at same point June 2nd. I find service must be performed between those dates. Can you undertake?”

The reply came the same day, brief and to the point: “Yes, weather permitting, and if arrangements now understood carried out.”

The arrangements referred to contemplated the securing of a suitable vessel at Honolulu in advance of the naval officer's arrival there, so that not a moment might be lost in proceeding to Necker Island. To this end Mr. Fleming sent a telegram to San Francisco, to be forwarded to Honolulu by steamer leaving San Francisco on May 12th. The telegram would consequently anticipate the arrival of Mr. Fleming's agent at Honolulu by some five days. The message was addressed to a reliable firm at Honolulu, the members of which Mr. Fleming had met on his trip to Australia the previous year, and they were asked to look out for “a small seaworthy steamer, or other suitable craft, for a gentleman, arriving by the “Warrimoo,” to make an excursion of a few hundred miles around the Hawaiian Islands, between the arrival of the “Warrimoo” and the sailing of the “Arawa” for Vancouver.”

All arrangements having been made, the naval officer left Toronto on the 9th May, armed with explicit written instructions, and caught the “Warrimoo” at Vancouver.

Having seen his lieutenant safely off upon this momentous journey, Mr. Fleming sat down and wrote a report to the Canadian High Commissioner in London.

“In view,” he wrote, “of the Conference to be held here next month, I felt that the decisive moment had come, and not a day to spare, and that circumstances appeared to throw the duty of taking action upon myself, and that I should at once set about it without counting the cost; I have, therefore, on my own responsibility as

a private individual, and without the official knowledge of anyone here, arranged to place the British flag in the Queen's name on this island in the Pacific, unoccupied and unclaimed by any maritime power. The gentleman I have sent left with my private instructions two days ago. He is a British subject, and was at one time in the British navy. * * * I have reason to believe the flag will float over Necker Island within the present month, and before the Conference meets I shall hope to learn that all has been satisfactorily accomplished. I believe the man I have selected is a discreet person, who will keep his own counsel, and he is instructed to report only to me. By this course I think Necker Island will pass under the British flag without even my own name being known, and it will then rest with the British Government to see that it remains a British possession.

"As the Home Government may hear of the proceeding before long through some other channel, and you have direct relations with them, I think you should, as soon as possible, be placed in possession of the facts. I do not propose, for the present at least, to communicate them to any other person."

Sir Charles Tupper took an early opportunity of communicating the substance of this important letter to the Imperial authorities; and on the 31st May, Mr. Fleming received from him the following cablegram:—

"Roseberry much annoyed at action. Will repudiate. Fears will destroy good prospect of obtaining Necker. Prevent action becoming public, if possible."

The following day (June 1st) Mr. Fleming wrote the High Commissioner in further explanation of his action. He enclosed a copy of his private instructions to the nautical expert, from which he thought it was clear that "there were no grounds for the fears expressed by Lord Roseberry."

"When I wrote you," he continued, "I considered it only necessary to refer to one object of the expedition, that not even mentioned in my instructions, and only remotely alluded to in the words "leave behind you evi-

dences of your visit." The other object is to gain some knowledge of Necker Island. We scarcely know more than that it exists, and the movement for a British cable between Australia and Canada has obviously reached that stage when we should know how far it may be suitable for a mid-ocean telegraph station. It is manifestly important that this knowledge should be obtained before the Conference meets, and it can only be gained by an examination such as that undertaken. With respect to either object, we all recognized that there was, and is, a difficulty in having anything done by the Government. In consequence of this the duty seemed to devolve upon some one outside of the Government to move in the matter, and it was necessary to do so at once. Rightly or wrongly I assumed the sole responsibility. If wrongly, I must bear the whole blame, for although others privately knew, no one here disapproved of the action to be taken, and I took care that no one officially was cognizant of it. I deeply regret that anything was done which would cause even temporary annoyance in any quarter, and while all censure must rest on me, I can only say that the action was taken only to advance the public interest."

Meanwhile, the naval officer was speeding south to Honolulu, where he landed on the 24th May. Mr. Fleming had a note from the naval officer, announcing his arrival at Vancouver and departure therefrom; and he presently received a fuller report from Honolulu. The time for action had arrived, and the agent entrusted with the matter lost not a moment in prosecuting his delicate mission. He called as early as possible the following morning upon the merchant to whom Mr. Fleming's telegram had been addressed, to present his letter of introduction, and ascertain what steps had been taken to provide him with a suitable vessel for the Necker Island expedition.

The senior member of the firm, who it appears was British Vice-Consul at Honolulu, was not in town, but his partner received the naval officer, read his introduc-

tory letter, and told them they had been somewhat at a loss to understand the message from Mr. Fleming, but supposed that the individual mentioned as being *en route* was simply bent on making a pleasure excursion among the islands, to see the volcanoes, &c. Under this impression, they had made inquiries, and had the offer of two boats—the only craft available and suitable for the purpose. One of these steamers, the "Lehua," was ready the same day that the "Warrimoo" arrived, and the other, the "Iwalani," would be available to-day. The former, which was a small, slow boat, could be had for \$100 a day, and the latter, a much better and faster steamer, for \$250 a day, all found. Neither had been definitely engaged, pending the arrival of the naval officer. It appeared also that these rates only applied to a trip among the Hawaiian islands.

Finding matters thus, the naval officer deemed it necessary to explain that his objective point was beyond the Hawaiian group, and as this member of the firm was acting more or less as Assistant British Consul, he conceived it best to fully explain the purport of his mission. He did this, and showed him as well Mr. Fleming's confidential instructions, and after reading these, the acting Consul laid before him a sketch of certain negotiations then pending between the British Foreign Office and the Provisional Government of Hawaii. It appeared that the British Government had already recognized—apparently quite gratuitously—the right of Hawaii to the island of Necker as an appanage of the Hawaiian Crown or Government, and had asked the Provisional Government on what conditions they would allow Great Britain to have control of the island, for the purpose of landing a cable there. It will be remembered, in this connection, that Hawaii had never yet landed a man on Necker Island, or established the remotest claim to it; that the island was uninhabitable, and commercially useless, except for such a purpose as a cable station; that it possessed no strategic value as a naval base, it being a mere rock, harbourless, and difficult and next to impossible to

land upon; that it lay hundreds of miles outside the Hawaiian archipelago proper; that, in fact, Hawaii had no legitimate claim to the island, either politically, commercially, geographically, or by right of possession. As the sequel will show, the Hawaiians themselves were not satisfied that they had any claim to the island which rested upon a secure basis, in international or any other law. As a matter of fact, the only basis that has ever appeared for any such claim, is the somewhat sweeping and visionary scheme of King Kamehameha, to include all the islands of the Pacific in one magnificent—though, perhaps, a trifle unwieldy—ocean empire, of which he would be monarch. In pursuit of this laudable ambition, he sent a certain Captain Patey, in 1857, off to the westward, with general instructions to explore the Pacific and raise the flag of Hawaii over any islands or reefs that might turn up around the horizon. He did so on several islands, but he merely saw Necker at some distance, and we have his own report (now deposited in the Government Museum at Honolulu) to prove that he never set foot on the island. His report, which is accompanied by a chart, is as follows:—

“Necker Island: Bears from Honolulu, N. W. by N. $\frac{3}{4}$ N., distant 403 miles. This is very precipitous—300 feet high, one mile long, and half a mile wide. Its surface covered with grass patches, but no possible landing could be effected for boats, as the surf broke high all around the island. A bank of rocks and sand makes off south and west, extending from eight to ten miles. I found bottom at 18 fathoms two miles off island, then bearing N.E.”

However, the Imperial Government were pleased to credit Hawaii with the ownership of Necker Island, notwithstanding representations to the contrary, and had asked the Provisional Government to grant them permission to land a cable. About April 12th the Provisional Government had sent a reply, through the British Consul, asking the requirements of the Imperial Government:—

1st. As to whether the proposed cable was to be a Government cable, or a private company's?

2nd. How long would occupancy of the island be required—in perpetuity or not?

3rd. How soon would active steps be taken for cable construction or laying?

Up to that time. (May 26th) no reply had reached Honolulu from London.

This, then, was the condition of affairs which the naval officer had to face. His instructions were no longer any guide to him, for they were conceived and given under the very natural impression that the Home Government had decided, for the present at all events, to take no steps towards acquiring Necker Island. In the face of Lord Ripon's despatch of the 20th December, 1893, and his explicit caution to the colonial representatives who interviewed him in London, on the 12th January, 1894, that "they should all be extremely careful to avoid any public reference to the subject," it being most important that "the whole matter should be held to be strictly confidential, inasmuch as any reference to it by the newspapers of the day might imperil the object they all had in view," it could hardly have been foreseen that the Imperial Government would forthwith proceed to confide the scheme to the very ones whom it was most essential to keep it from. The only sane interpretation that can be put upon the caution as to newspaper publicity, is that if the scheme got into the newspapers, the Hawaiians would immediately forestall them, and take possession of the island. The Foreign Office adopted the more direct method of an official despatch to the Provisional Government—a diplomatic stroke for which one searches in vain for a parallel.

Mr. Fleming's agent immediately came to the conclusion that Her Majesty's Government, having made overtures directly to Hawaii for permission to occupy Necker Island, it would no longer be proper or expedient for him to pursue his private mission. The circum-

stances were entirely changed, and Mr. Fleming's instructions became virtually as if they had never been written.

The agent abandoned all thought of visiting Necker Island, returned to Canada on the "Arawa," and reported all the facts to Mr. Fleming, who fully approved of the course he had adopted.

The Secret Mission had been abandoned, but the last had not been heard of Necker Island. The day after the arrival of the "Warrimoo" at Honolulu, the larger of the two vessels which had been selected for the use of the naval officer, the "Iwalani," was taken possession of by the Hawaiian Government, and the same afternoon she left for an unknown destination.

Such an extraordinary circumstance naturally aroused much curiosity in the usually placid atmosphere of Honolulu. The local newspapers indulged in the wildest speculations; and the excitement grew intense when it was learned that H.M.S. "Champion" had followed the "Iwalani," that the latter vessel had on board a member of the Provisional Government, and that she carried an exceptionally large crew. A slight clue to the mystery was obtained when it became known that the "Iwalani" had taken on board, at the last moment, a large flag-pole. Evidently the Provisional Government intended to take possession of some unoccupied island; but where was the island; and why such anxious haste to acquire it? What, too, was the "Champion's" destination? Was she merely, as had been officially stated, out on target practice, or was her motive a more sinister one? Was she, in fact, racing the "Iwalani" for possession of some coveted island?

One of the Honolulu newspapers announced the following morning that the "Iwalani's" destination was Johnston Island, in latitude $16^{\circ} 15' N.$, longitude $169^{\circ} 30' W.$, but this statement was corrected by the same paper the next day. Johnston Island had, as a matter of fact, been taken possession of by the "Champion," in 1892, as a possible landing place for the Pacific Cable,

and had been restored to Hawaii, who claimed it (probably as a portion of King Kamehameha's Imperial domain), on the understanding that England should have the right to land a cable there, if it was desirable to do so. The ownership seems to have been further complicated by a United States claim, the Washington authorities holding, it is said, that Johnston Island was taken possession of, as long ago as 1852, by one Captain Parker, an American citizen. However this may be, the destination of the "Iwalani" was not Johnston Island.

The same Honolulu newspaper was equally positive that the "Champion" was also bound for Johnston Island, to take possession of it in the name of Her Britannic Majesty. They professed to have inside information on the point, and surely they ought to have had the "scoop," for they were indeed the Government organ. However, as it subsequently turned out, the "Champion" was not bound for Johnston Island, or any other island; neither had her present voyage the remotest connection with that of the "Iwalani." The rival newspaper, drawing a bow at a venture, had given Necker Island as the destination of the "Iwalani," and so it proved to be. The Hawaiian Government had, in fact, completely turned the tables on Mr. Fleming. They had, quite unconsciously, adopted the very tactics he had contemplated, and were stealing a march on him, as the British Resident had stolen a march on the French admiral at Perim.

The "Iwalani" returned on the 30th May from her momentous journey. It appears from the captain's log that she left Honolulu at 5.10 p.m. on May 25th, and arrived off Necker Island at 11 a.m. on the 27th. A boat was at once lowered, the weather being favourable, and a party, consisting of Hon. J. A. King, Hawaiian Minister of the Interior, Captain Freeman, of the "Iwalani," one of his officers, and several sailors, were rowed ashore. After considerable difficulty the party were safely landed. A hard climb up a rugged cliff some 260

feet high was successfully accomplished, when Hon. Mr. King hoisted the Hawaiian flag, and read the following proclamation:—

“I, James A. King, Minister of the Interior of the Provisional Government of the Hawaiian Islands, in pursuance of a commission granted to me by His Excellency Sanford B. Dole, President of the Provisional Government of the Hawaiian Islands, do hereby, in the name of the Provisional Government of the Hawaiian Islands, take possession of this island, known as Necker Island, as a part of Hawaiian territory; the same lying within the Hawaiian archipelago, in latitude $23^{\circ} 35' 18''$ N., and longitude $164^{\circ} 30'$ W., and having been claimed by the Hawaiian Government as Hawaiian territory since the year 1845, when an expedition under Captain William Patey was sent to survey the island.

“Done at Necker Island, this 27th day of May, in the year of our Lord one thousand eight hundred and ninety-four.”

Thus, at last, the Hawaiians had established a genuine claim to Necker Island, and had gained thereby what seemed at the time to be a secure hold on the Pacific Cable, sufficient to control the location of its landing-place in mid-Pacific.

Necker Island, according to Captain Freeman's description, is a large lava rock. It was evidently inhabited at some remote period, square walls having been found standing, about 3 feet high, 3 feet wide, and from 30 to 40 feet long, on the top of which were large flat stones, standing on end, and about 2 feet apart. It was at first thought that some shipwrecked crew had made a landing here, but after a search nothing could be found to indicate that such was the case. Captain Freeman found several ancient images and idols in a good state of preservation, except for the injuries received by exposure to the weather. A number of these were brought back to Honolulu, and may now be seen in the Government Museum.

We know now the "Iwalani's" destination; and it is also perfectly clear why she went there; but one point still remains to be elucidated—why the Provisional Government of Hawaii were in such a desperate hurry to take possession of Necker? That after the application of the British Government they had determined to seize the island is tolerably certain. The Provisional Government recognized that they had no valid claim. To establish a claim they must land and take formal possession. Now, this barren rock, uninhabitable, and completely outside the sphere of Hawaiian activities, was useless to them in itself. It is perfectly safe to say that, had the Pacific Cable project not given the island a peculiar importance, Hawaii would never have taken the trouble to take possession, unless, indeed, another Kamehameha should arise, imbued with an equally wild scheme for territorial aggrandizement. It was first made known to them in or before the month of April, 1894, by the despatch already referred to from the British Foreign Office, that it was proposed to utilize Necker Island as a landing-place for the Pacific Cable. Consequently, when Mr. Fleming's agent arrived in Honolulu on the 24th May, the Provisional Government had known of the contemplated acquisition of the island for about two months—though, of course, they had no idea of the Canadian plan to take possession of it off-hand. For a couple of months past it had been open to the Hawaiian Government formally to annex the island at any time they chose to send a vessel. Yet they had not done so up to the time of the naval officer's visit. The natural assumption is, that they felt there was no pressing hurry about the matter. The British Government were negotiating, in their own leisurely fashion, and had already recognized Hawaii as the owner of the island. Hawaii could send a vessel to take possession of Necker and raise the flag, when the negotiations had reached such a stage as to make that step desirable.

This was the state of affairs when they learned, on the arrival of the mail steamer, that a conference, to deal

with the cable matter, was about to meet in Ottawa. The Hawaiian Government accordingly chartered a vessel, and sent her in hot haste to Necker, with a member of their own Government on board, to proclaim Hawaiian sovereignty over what one of the local newspapers not inaptly described as "the little lava rock."

Although the "Iwalani" incident was exhaustively discussed at the time by the Honolulu newspapers, and the wildest speculations were indulged in to account for the action of the Provisional Government, nothing was said that would indicate a knowledge of the actual presence in Honolulu, at the time, of an agent sent expressly to take possession of the island in the name of Her Majesty. It is not at all probable that the Provisional Government had been informed of any particular plan to seize the island, but it is certain that they had been told of the early meeting of the Cable Conference, and warned, either deliberately or unintentionally, that there was danger of the island passing into British hands.

Now, the question arises:—where did the Hawaiian Government get their information? The explanation forms an essential portion of the Necker Island story, but as it involves the reputation of a gentleman who was at the time a Minister of the Crown, the regrettable incident is omitted from these pages.

It might have been supposed that the failure of his ingenious plan for securing Necker Island would deter Mr. Fleming from any further efforts in that direction. About the middle of August, however, he is again taking the matter up, as a result of certain recommendations made during the Colonial Conference at Ottawa, in the previous month. In a lengthy communication to Sir John Thompson, then Premier of Canada, he places before him a succinct account of the efforts which had been made (so far without success), since September, 1893, to secure a station for landing the cable which would be at a less distance from Vancouver than Fanning Island, the nearest British possession. He also urges that the desired mid-station should still be sought for, and if pos-

sible secured before the date which had been fixed by public advertisement for receiving tenders for establishing the cable. He is of opinion that, although Hawaii was now in rightful possession of Necker Island, it was still open to Great Britain to secure landing rights.

"The Hawaiians can have no desire to see the cable laid direct from Vancouver to Fanning Island, the nearest point controlled by Great Britain, as this route would deprive them of the much-required benefits of telegraphic service. There can be no doubt in my mind that if proper negotiations are entered into, as suggested by one of the resolutions of the Colonial Conference, the Hawaiian Government will see the advantage of making reasonable concessions. They may, in fact, be found willing to give up control of Necker Island if, on our part, we undertake to give them a branch cable to Honolulu."

So convinced was Mr. Fleming of the importance of securing Necker Island as a landing-place for the cable, that he suggested whether it might not even be expedient, if nothing better could be done, to lay the cable from Vancouver to Honolulu at once, provided the Hawaiian Government would agree to give up to the British Government entire control of Necker Island. The cable laid *via* Honolulu would be considered a commercial line, and as, in a few years, a second cable would be required, it could then be established on the Necker Island route, as a purely national line of telegraphic communication.

Whatever plan was ultimately adopted, Mr. Fleming urged the immediate importance of entering into negotiations with the Hawaiian Government, and making the best terms possible with them. He felt satisfied that the most effective means of reaching a satisfactory arrangement with Hawaii was to have a special commissioner sent to treat with them directly. As it was important to close the matter with the utmost possible dispatch, and delay would doubtless ensue if a commissioner were sent out from England, Mr. Fleming sug-

gested that the assent of the Home Government should be obtained to some person from Canada going to Honolulu as a special commissioner. There being already a resident British Minister at Honolulu, the Canadian Commissioner could be associated with him in the negotiations. Mr. Fleming concluded by suggesting that, if possible, the Hon. Mr. Bowell, who was fully conversant with the Pacific Cable project, should be sent as Canadian Commissioner.

These suggestions were at once considered by the Canadian Government, and it was decided to send a Commissioner to Honolulu, with the approval of the Home authorities. It was found impossible for Hon. Mr. Bowell to leave Canada at that time, and Mr. Fleming was consequently asked to accept the duty himself, which he consented to do.

On the 10th September a communication was sent to the President of the Hawaiian Republic, notifying him that Mr. Fleming had been appointed a special commissioner to proceed to Honolulu for the purpose of submitting to the Hawaiian Government certain matters in relation to the Pacific Cable project. The Secretary of State for the Colonies had also decided to send Mr. W. H. Mercer, of the Imperial Colonial Office, to take part in the negotiations for obtaining neutral landing ground for the proposed cable on one of the islands of the Hawaiian archipelago.

Mr. Mercer arrived in Ottawa on September 18th, and on the following day he and Mr. Fleming left for Honolulu, which they reached on the 6th of October. The President of the Republic, Mr. Dole, and the Attorney General, Mr. Smith, were absent from Honolulu during the period of their visit; but the Commissioners had frequent conferences with other members of the Hawaiian Government, the Foreign Minister and Acting President, Mr. Hatch; the Minister of Finance, Mr. Damon; and the Minister of the Interior, Captain King.

While making inquiries in various quarters, as to possible landing-places for the cable, Mr. Fleming gained

some information of an uninhabited island—Wihoa or Bird Island—150 miles nearer Honolulu than Necker Island, which he deemed it expedient to visit. On reaching the island a landing was effected, and Mr. Fleming satisfied himself, that while Bird Island did not in all respects present the conditions desirable in a mid-ocean station for the proposed telegraph, it nevertheless offered certain advantages, and he recommended that a further and more thorough examination should be made.

After considerable negotiation, a draft agreement was drawn up, under which the Hawaiian Government agreed, subject to certain conditions and stipulations, to lease to the British Government either Necker Island, French Frigate Shoal, or Bird Island, or some other uninhabited island within their jurisdiction, whichever of them the British Government might select, for the purposes of the Pacific Cable.

It was noted, however, that the Hawaiian Government were debarred by their Reciprocity Treaty with the United States from leasing or otherwise disposing of their lands, or from granting any special privileges to any foreign Government, and it therefore became necessary for the Hawaiian Government to obtain the sanction of the United States Government as a condition precedent to the granting of the proposed lease. They undertook to bring the proposed arrangement to the notice of the Washington Government at an early date, with a view to ascertaining whether the United States would waive the prohibitory clauses of the Reciprocity Treaty, so far as the proposed agreement in relation to the Pacific Cable was concerned.

The Hawaiian Government further agreed, in the event of the consent of the United States being obtained, to bring before their Legislature a proposal for an annual subsidy of £7,000 to the Pacific Cable. The British Government, or the lessees of the cable, on their part, agreed to lay a branch cable from the leased island to Honolulu, so as to connect that place telegraphically with all points on the main cable; to accept telegraphic

messages from Honolulu at special specified rates; not to fortify the island, or use it as a naval station; and to surrender it to Hawaii in the event of the cable being finally and permanently abandoned at any time. The Hawaiian Government also suggested, as an alternative proposition, that in lieu of a subsidy, the British Government should accept the absolute sovereignty of Necker Island, or such other uninhabited island as might be selected. The Commissioners, however, were debarred by their instructions from considering this proposal, but promised to submit it to the British and Canadian Governments.

The negotiations having been carried as far as was possible, pending the decision of the United States for or against the proposed agreement, the Commissioners returned and reported to their respective Governments, and the Hawaiian Ministers, pursuant to their promise, submitted the suggested agreement for the approval of the United States Government. In due course the matter came before the United States Senate, where it was finally disposed of by an adverse vote. Necker Island thenceforth dropped out of sight, so far as the Pacific Cable was concerned.

Before finally dismissing Necker Island, however, it may be desirable, to complete the historical survey, to describe very briefly the several routes which depended upon that island. The shortest of all these routes, and one of the first suggested, was from Vancouver Island to Necker; thence to Apamana Island, in the Gilbert group; thence to San Christoval, in the Solomon group; and, finally, to a point at or near Port Denison, Queensland, Australia. This route did not include New Zealand, the proposal being to utilize the existing cable from Port Jackson to New Zealand.

Another route, after leaving Necker Island, ran to an island several degrees to the south-east of Apamana. There it branched, one section running to San Christoval, and thence to Australia; the other turning south to Fiji, and thence to New Zealand. A third route suggested

was from Necker direct to Fiji; and from Fiji to New Zealand. Apamana, San Christoval, and Fiji are all British possessions.

The tenders which had been called for laying the proposed cable were received about the time that the United States Senate finally gave the quietus to the Necker Island project, and these tenders showed conclusively that it was perfectly feasible to lay the cable, as originally proposed, by the Fanning Island route. This route was consequently adopted.

It may, perhaps, be interesting to note, in this connection, that the cost of laying the cable by the longer route to Fanning Island amounts to something like two and a quarter million dollars in excess of the cost via the Necker Island route. Moreover, it will not be possible to send messages as effectively—that is to say, at the same rate of speed—by the longer route now adopted. This represents the price that the Empire has to pay for the failure to secure Necker Island; a failure which, in the end, was certainly inevitable, but at one time could have been avoided at the mere cost of despatching a British war-ship to take formal possession of the island.

Fanning Island ($3^{\circ} 51' N.$ lat. $159^{\circ} 22' W.$ long.) is described in the *Colonial Office List* (1902) as a small atoll, nine miles by four, covered with cocoanut trees; copra and guano being exported.

Fanning Island was annexed by Great Britain in March, 1888, in view of the possibility of its being utilized in connection with the projected cable. At the same time two other islands, Christmas and Penrhyn, were taken possession of, for the same purpose. Christmas Island ($1^{\circ} 57' N.$ lat., $157^{\circ} 27' W.$ long.) is an atoll ninety miles in circumference, barren, with only brackish water. A trading firm collects mother of pearl shells. Penrhyn Island ($9^{\circ} S.$ lat., $158^{\circ} 3' W.$ long.) is also a small atoll, 30 miles in circumference, partly covered with cocoanut trees, and having a population of about 300. Mother of pearl is exported. Suwarrow Island ($13^{\circ} 13' S.$ lat., $163^{\circ} 9' W.$ long.) was also annexed as a possible landing-

place for the Pacific Cable, on the 22nd April, 1888. It is now proposed that Suwarrow, Penrhyn, and one or two other small islands which were taken about the same time, should be annexed to New Zealand. With the exception of Fanning Island, none of these small atolls would be available for the purposes of the Pacific Cable. How well they could have been spared, and that barren little rock, Necker Island, annexed in their stead! But it was not to be.

CHAPTER V.

THE CONFERENCE OF 1894.

As has been stated, circumstances were of such a nature that Mr. Bowell was unable to bring together the representatives of the several colonial Governments of Australasia in conference within the bounds of Australia. The happy thought occurred to him and Mr. Fleming to suggest that a meeting might be arranged to take place in Canada.

The Earl of Hopetoun, then Governor of Victoria, in proroguing his Parliament, in November, 1893, said:

"It has been suggested that the object in view would be attained by a Conference in Canada of Australasian representatives with the Government of Canada. Should such a conference be arranged, due provision will be made for the representation of this colony on the occasion."

Mr. Bowell, in his report to Council, dated 5th February, 1894, says he "had conference and communication with the Government of the seven colonies * * * at which it was suggested, and a decision arrived at, between the Minister of Trade and Commerce and the Premiers of New South Wales, Queensland, Victoria and South Australia, that it was important that a conference should be held, at as early a date as would be most convenient, in the City of Ottawa, Canada, for the purpose of discussing the arrangements which might be considered the most desirable to carry out the object in view."

Mr. Bowell recommended that the Governments of New South Wales, Queensland, Victoria, South Australia, Tasmania, New Zealand and Fiji be invited to send delegates to meet in Ottawa on 21st June, 1894; that the Government of the Cape of Good Hope be invited, and that the Imperial Government be requested to

take part, since the aims were of an imperial as well as of a colonial character.

These recommendations being concurred in by the Council, His Excellency the Governor-General sent the invitations.

The Marquess of Ripon, then Colonial Secretary, returned the following answer:—

Downing Street, 6th June, 1894.

My Lord,—I have the honour to acknowledge the receipt of your despatch (No. 32) of the 8th of February last, inclosing copy of one which you had addressed to each of the Governors of the Australian colonies, and to the Governor of the Cape of Good Hope, inviting the appointment of delegates to represent the several colonies at a Conference to be held at Ottawa, on the 21st of June next, for the purpose of discussing the question of trade relations and telegraphic communication between Canada and the Australasian colonies.

Her Majesty's Government look forward with much interest to the meeting of the proposed Conference, and as a practical indication of their sympathy with the colonies interested, and in response to the invitation of the Canadian Privy Council, I have had the pleasure to acquaint you by telegraph, on the 28th ult., that the Imperial Government will be represented by the Earl of Jersey, G.C.M.G.

Lord Jersey's duties will be to hear and report what passes, and to give information to the Conference on matters of fact; but it will not be in his power to bind Her Majesty's Government, or to express views on their behalf, as they must reserve any expression of opinion on the subjects discussed at the Conference until they have before them the report of the proceedings and the resolutions which may be arrived at. Lord Jersey has asked that the services of Mr. W. H. Mercer, of my department, who is specially conversant with the correspondence bearing on such questions as those which will

be discussed at the Conference, may be placed at his disposal; and I beg to recommend Mr. Mercer to your good offices and acquaintance.

I have, &c.,

(Sgd.) RIPON.

The Earl of Aberdeen,
&c., &c., &c.

The several members of the Australasian group received their invitations with every evidence of good will, just as the Imperial Government did.

They commissioned the following gentlemen to represent them:—

New South Wales—Hon. F. B. Suttor, Minister of Public Instruction.

Tasmania—Hon. N. Fitzgerald, M.L.C.

South Australia—Hon. Thos. Playford.

New Zealand—Alfred Lee-Smith, Esq.

Victoria—Sir Henry Wrixon, K.C.M.G., Q.C.;
Hon. N. Fitzgerald, M.L.C.; Hon. Simon Fraser,
M.L.C.

Queensland—Hon. A. J. Thynne, M.E.C.; Hon. Wm. Forrest, M.L.C.

A special invitation which greatly pleased Cecil Rhodes, then Premier, led to the appointment of Hon. Sir Henry de Villiers, K.C.M.G., Chief Justice; Sir Charles Mills, K.C.M.G., Agent-General at London and Hon. Jan Hendrick Hofmeyer, M.L.A., to represent the Cape of Good Hope.

Fiji was unable to accept the invitation, the officer administering the Government being obliged to make a tour of inspection of the Solomon Islands. Newfoundland sent regrets that it could not accept owing to brief notice and press of business.

On motion of Sir John Thompson, Prime Minister, Hon. Mackenzie Bowell, Minister of Trade and Commerce, Hon. George E. Foster, Minister of Finance, and Hon. Sir Adolphe Caron, Postmaster-General, were appointed to represent the Canadian Government. In ad-

dition, Sir John said "the Minister also recommends—considering that the laying of an electric cable for communication between Australia and Canada will probably be one of the subjects discussed at the Conference, and considering the interest taken in that undertaking by Sandford Fleming, C.M.G.—that Mr. Fleming be associated with the Canadian representatives at the Conference in all matters relating to telegraphic communication."

Sixteen of the gentlemen appointed met in Ottawa on the 28th June, 1894, and were greeted by the Earl of Aberdeen, at a public meeting held in the Senate Chamber.

Short extracts from some of the speeches will serve to show the general tendency of the conference of prominent men of the Colonial Empire:—

His Excellency the Governor General delivered the address of welcome. Among other remarks, he said:—

"This occasion is in no small degree unique. There have been conferences similar in some respects to that which we are now about to inaugurate; but these, we may say, have been rather precursors than precedents, because of the distinctive characteristics which, I make bold to say, will characterize your proceedings, and the result of those proceedings. The objects before you, the development and increase of trade within the Empire, and the means which may be taken to carry out such an extension, undoubtedly furnish a topic which cannot fail to produce the most significant and valuable discussions and recommendations in the direction which we all desire to pursue."

Sir John Thompson said: "We realize fully that the questions which you have to deliberate are questions requiring the greatest care and the closest examination of details. Matters connected with trade, with tariffs, with steamboats and with telegraphs, will require the most practical as well as the most patriotic deliberations of the gentlemen who are assembled here to-day. That

they may be guided to useful conclusions with regard to all these matters is the great ambition to-day of every portion of the Canadian people, among whom they are assembled. The great object of our hope is that as a result of the deliberations of the Conference, the ocean which divides the colonies shall become the highway for their people and their products."

The Earl of Jersey said: "We, who are the representatives of various parts of a world-wide Empire, may well feel proud of the privilege which has been intrusted to us—for there can be no greater privilege intrusted to a body of men than to try and bring various countries, various colonies, together for the purpose of increasing the happiness and prosperity of all."

Hon. N. Fitzgerald said: "We are engaged in this Conference hoping to prove the great advantages that will flow from sending representatives of the great dependencies of the Empire to exchange ideas and to consult as to the wants and necessities of the colonies, illustrating the unity of the Empire to which we are proud to belong. We are here from Australia to endeavour to work with our Canadian and other colleagues for our mutual benefit, feeling assured that everything which enhances the progress and prosperity of the colonies must add to the wealth and the power of England. We are assembled to endeavour to bridge over the great stretch of ocean that divides the colonies in the south from Canada. We are here to endeavour, by mutual concession and arrangements, and it may be sacrifices, to lessen space, as it were, to annihilate time. We are here to endeavour to arrange for the exchange of products to the advantage of all, and by telegraphic communication to draw closer a union and to cement in every way we can an intercourse of trade and friendship which happily has not begun to-day, which will, we trust, in future expand and extend until the Pacific has become the highway to Canada and the Mother Country."

Hon. F. B. Suttor said: "Perhaps I might express the hope that, by its position and the action it has taken

in relation to the present Conference, Canada may be the central swivel in that chain bringing us together in common interests which will prevent any knotting or friction, and prove a source of encouragement to all the great colonies of England to work harmoniously together."

Sir Henry de Villiers, of Cape Colony, said: "Here in this country you have solved problems which with us are still unsolved. You have solved the great question of Confederation, and you have known how to reconcile local autonomy with a central administration of affairs of general concern. There is one experience which is common to both, and that is, that we have two nationalities, the Dutch and the English, just as you have two nationalities, the French and the English, which it is the part of wise statesmanship to fuse. And there is another point of agreement between the Cape of Good Hope and the Dominion of Canada, and that is, whatever nationality we belong to, we are all united in the most perfect and sincere loyalty to the good and great Queen, who for so many years has ruled over her vast Empire, of which the colonies represented at this Conference form a part."

Hon. Simon Fraser said: "That though a native of Canada, he had been in Australia for 40 years. We have wondered over and over again at the wonderful progress made by this great Dominion, and I can say that although the progress is marvellous, and the people and the Government who have had the courage, the daring I might say, to carry out such a successful policy, should be congratulated and complimented; still, I may say that quite such a future is in store for us in Australia, should we have the good fortune and good sense to follow the example so well set us by Canada."

Hon. A. J. Thynne said: "I think up to the present moment our bond with Canada has been that feeling of sympathy which existed in Canada and that feeling of sympathy which existed in Australia towards our common object—the Mother Country. But that bond of sympathy will be none the less effective if our people,

our merchants and traders, are interested directly in the course of trade between the colonies, are interested in our investments, in the development of commercial intercourse, and in the establishment of cable communication; and I trust that we shall make our heartiest efforts towards bringing about the additional bonds which these objects would involve."

On assembling for business, the Conference appointed Hon. M. Bowell, President, and Sir Adolphe Caron, Vice-President.

Subjects of great importance were discussed, references to which would be foreign to the purpose of this chapter, which deals with the action of the Conference on the Pacific Cable question.

Hon. Mr. Suttor, representing New South Wales, put on the notice paper, the first resolution respecting the cable. This resolution, in the modified form adopted during discussion, reads:—

"That in the opinion of this Conference immediate steps should be taken to provide telegraphic communication by cable, free from foreign control, between the Dominion of Canada and Australasia."

In bringing this resolution before the Conference, which he did on the 2nd of July, Mr. Suttor said that he moved it chiefly with a view of inviting the Conference to consider the position, and whether the proposition to connect Canada with the Australasian colonies by cable was or was not practicable.

In presenting his view of the position of the question at that time, he recalled the fact that the proposition first took definite shape when the Conference sat in London in 1887. on which occasion two resolutions were carried by the representatives from Canada: that although these resolutions expressed the strong desire of the Conference that a thorough and exhaustive survey should be made, yet the position had not been advanced beyond the fact that the Imperial authorities had promised to endeavour to arrange for soundings being obtained gradually during some years; that even this

cautiously-worded promise had not been acted upon, since the vessel was withdrawn; that the next step was taken by a Conference held in Sydney, N.S.W., in March, 1888, when a resolution was passed, all the Australian colonies being represented, to the effect that an early survey was necessary of a suitable route for ocean cable telegraph, by way of the Pacific Ocean, from Vancouver Island, the cost to be defrayed by Her Majesty's Government (Imperial), the Government of Canada, and the Australasian colonies; that a reply was received that the "Egeria" was on the point of sailing from Sydney, to clear up the dangers and fix positions by a survey of the islands on the route from New Zealand to Vancouver; that the next important step taken to keep the question alive was taken by the Postal Conference of the Australian colonies, in the early part of 1894, when the following resolution was adopted:—

"That considering the important interests involved, both of a national and commercial character, in the establishment of a Pacific cable, the representatives of the respective colonies, assembled at this Conference, recommend their Governments to consider the desirability of entering into a guarantee with the other countries interested for a period not exceeding fourteen years, and to guarantee interest at four per cent. on a capital of not more than £1,800,000 to any company undertaking the laying of a Pacific cable; the tariff not to exceed 3s. per word for ordinary telegrams, 2s. per word for Government telegrams, and 1s. 6d. per word for press telegrams to and from Great Britain and the colonies; that the United Kingdom be asked to join in the guarantee; the routes to be either of the following: Brisbane to Ahipara Bay (New Zealand), Ahipara Bay to Suva, Suva to Apia, Apia to Fanning Island, Fanning Island to Sandwich Islands, Sandwich Islands to Vancouver, or from New Zealand to Suva, Suva to Apia, Apia to Fanning Island, Fanning Island to Sandwich Islands, Sandwich Islands to Vancouver."

Passing from the sketch of what had been done, to the discussion of the resolution he had put before the Conference, Mr. Suttor referred to Mr. Fleming in eulogistic terms, declaring that "if there is any one man more than another who deserves the congratulations of the people of Canada for the energetic way in which he has endeavoured to bring about the construction of this cable it is Mr. Fleming. He has, in a way we seldom find any gentleman doing, given an enormous amount of attention to the subject now under discussion, and I am sure he deserves not only credit for doing so, but also the thanks of every patriotic Canadian in this Dominion for his very great exertions. We must all of us have read with a great deal of interest the numerous letters he has written, and the sketches he has given, and undoubtedly to all of us they have been matters of great interest. Mr. Sandford Fleming, arguing in favour of his proposal, says practically that the construction of this cable across the Pacific would, in the first instance, stimulate and facilitate commercial intercourse; and I think that is so apparent from the facts that it needs no argument to prove it beyond those given by Mr. Fleming. Another argument that he uses is, that the construction of such a cable would greatly assist in the defence of the colonies during the time of war; and this, I think, is a point that we cannot lose sight of, especially in connection with the position which the Imperial Government may take with regard to this proposal; because we feel that if this cable is going to be constructed, it should be a work of a national character, and that all parts of the Empire interested should accept some of the responsibility in connection with the laying of it. That is a point I will discuss later on at greater length.

Now, if I am correct, Mr. Sandford Fleming's arguments are under three heads. His third argument is, that the laying of such a cable will largely reduce the cost of cable messages between Australia and Canada and the United States, and that must be admitted as one of the strongest arguments in favour of this cable from a

commercial point of view. It will not, I hope, be considered inopportune if for a few moments I go into the details of what the different routes proposed by Mr. Fleming are. I will point out his arguments in favour of them as shortly as I possibly can, and then I think it is only fair to the members of the Conference to point out the objections raised by the Imperial authorities to his proposals. I think we might have maps at our disposal by which we might trace the different routes. To begin, Mr. Fleming suggests four routes, no one of which renders it necessary to go outside of British protection. In the memorandum that he wrote in Sydney, on October 11th, 1893, he described definitely four routes which he proposes, any one of which, he argues, would be without undue cost. Route 1, he proposes to commence at Vancouver Island, and extend to Fanning Island, and thence to the nearest island of the Fiji group. From Fiji it could run direct to New Zealand, and thence to the Australian continent; or it could go from Fiji to Norfolk Island, and from there bifurcate to the northern part of New Zealand, and to a convenient point near the boundary between New South Wales and Queensland. The length of this line would be 7,145 knots, and the cost would be £1,678,000. The second route proposed would go from Vancouver Island to Necker Island, a small unoccupied island 240 miles from the Hawaiian group. From Necker Island it would go to Fiji, and thence, as in Route No. 1, to New Zealand and Australia. The length of this line would be 7,175 knots, and the cost would be £1,585,000. The third route would go from Vancouver Island to Necker Island, and thence to Onoatua, or some one of the eastern islands of the Gilbert group. From the station in the Gilbert group, two branches would extend—one to Queensland, and the other to New Zealand. The Queensland branch would touch at San Christoval Island in the Solomon group, and terminate at Bowen, connecting at that point with the land lines easterly to Brisbane and Sydney, and then going westerly to the Gulf of Carpentaria, where a con-

nection might be found with the overland line to Adelaide, leading to Victoria, Tasmania, South and West Australia. The New Zealand branch of the route would find a mid-station on Viti Levu, the southern island of the Fiji group. The length of this line would be 8,264 knots, and the cost would be £1,825,000. Then, the fourth route would be from Vancouver to Necker Island, and thence in a direct line to Bowen, touching at Apamana—a central island in the Gilbert group—and at San Christoval of the Solomon group. At Bowen, as in the case of route 3, the line would connect with the southern colonies by means of the overland line to Adelaide. This route offers probably the shortest line between any part of Canada and any part of continental Australia, but it has the disadvantage of excluding from its telegraphic service the Fiji Islands and New Zealand. That line would be in length 6,244 knots, and cost £1,380,000, according to the estimate given by Mr. Sandford Fleming. It may not be inopportune to remind the members of the Conference that three out of the four of the routes, outlined or proposed by Mr. Fleming, touch Necker Island, and until a short time ago Necker Island was apparently no man's land. It was supposed to be open to annexation by any nation; hence it was a reasonable proposition to make that a part of Mr. Fleming's scheme and land the cable on Necker Island, with a view to lessening the distance between Vancouver and Fanning Island, if such a course were found to be necessary. He proposed to carry the cable from Vancouver to Necker Island to shorten the distance. That was the position until a few weeks ago. I understand in the estimate of cost given by Mr. Sandford Fleming he has added 20 per cent. to the mileage for "slack," in order that the cable may be safely laid at all depths, and in the case of No. 1, a special allowance was made on account of the unusually long section between Vancouver and Fanning Island. Mr. Fleming is so intimately conversant with this project, that we cannot allude to this work without constantly using his name. I find that he has made several pro-

posals in regard to the way in which his scheme should be carried out. The first proposition is that the work should be carried out through the agency of a company, liberally subsidized, and the second is, that it shall be a public work carried out entirely under Government control, each Government interested paying pro rata for the construction. Now, with regard to these two proposals made by Mr. Sandford Fleming, I think I shall be justified in expressing the opinion, that so far as the Government of New South Wales, of which I am a member, is concerned, I do not think that we can see our way clear to enter into any arrangement such as that by which this cable will be constructed directly by the Government itself. My Government is not prepared at the present time to enter into any such proposal as that. Mr. Fleming admits that he recognizes the difficulty arising from the obligation of certain of the Australian Governments to pay the Eastern Extension Company until May, 1899, an annual subsidy of £32,400, but he considers that it can be readily overcome by providing out of capital an annuity to meet the subsidy as it annually becomes due. That, of course, is in the event of the Governments of the different colonies arranging to carry out this work themselves. While I do not think it is at all likely that the Governments will enter into any such proposal as that—I may say here, in parenthesis, with regard to the Eastern Extension Company, that the colony I come from (New South Wales) has no feeling whatever against the company. We feel that during the time it has been in existence it has done good work. We feel that it has on every opportunity met the wishes of the different Australian Governments, so far as it could within reasonable limits. And, if the construction of the Pacific Cable means the destruction of the other cable, I do not see that by constructing the Pacific Cable and destroying the other we shall be in any better position than we are at present. Therefore, whilst I am quite prepared to give all the assistance that I legitimately can, with my instructions, to the consideration of this cable, I do not

see that we should be justified in constructing it if it is going to cause the destruction of the one already in existence. We feel that there is work for both cables, and that we should assist in every possible way we can in doubling this communication between the parts of the Empire concerned. Therefore, we are of the opinion that whilst we will give all legitimate assistance to the proposal now under consideration, at the same time we do not in any way desire to unnecessarily hamper or restrict or discourage the companies already in existence, by which we have telegraphic communication between Europe and Australasia.

Hon. Mr. Foster.—The Eastern Extension Company is Sir John Pender's?

Hon. Mr. Suttor.—Yes, but I think the more we leave out the names of individuals in these discussions the better. Some little time since, Mr. Fleming was under the impression that we had no hope of getting any assistance from the Imperial authorities, and he then suggested that the Dominion of Canada and the Australian Colonies, with Fiji, should take up this work and build the cable at the cost of these great dependencies. Although I do not for a moment doubt the capacity of the different colonies for constructing a work of such magnitude, still I feel that the Imperial authorities, if this line is to be considered a national one, should assist us in the construction of such a work. The Imperial authorities ought to do this, if it is to be considered at all from a national point of view. We find that one colony, which is now rapidly increasing both in population and importance, Fiji, is a Crown colony, and as we all admit, if this cable is to be a success, it should go through as much British territory as possible, and Mr. Fleming's proposal is that it should go through Fiji. As Fiji is a Crown colony, I do not think we are asking too much, even from that point of view, in requiring that the Imperial Government should give some assistance in this great undertaking. Now, it is not necessary for me to dilate fur-

ther on the advantages that we must all see would be derived from the construction of this cable. We, in Australasia, will be placed in direct communication, not only with this great Dominion of Canada, but with the great nation adjoining her boundaries with its sixty-odd millions of people—the United States of America—with whom we are on the most friendly relations, and with whom we consider the importance of trading, which is only natural. If this cable should be constructed, if possible through English territory, between Australia and Canada, one of the strongest arguments in favour of it no doubt is, that it will foster, not only fuller communication with the Dominion of Canada, but the whole of this great continent of America, than we now have. It will materially cheapen the means of communication between these two sections, which are now becoming larger and more important every day. As this matter has been for some time under the consideration of many scientific men—I have as shortly as I could pointed out the advantages derivable from the proposed line—it is now only right that I should give an epitome of the reports from scientific men, who have objected to some of the proposals submitted by our friend, Mr. Sandford Fleming. These reports point out that there is a strong probability of some of his proposals being impracticable, or if not impracticable, at least so costly that no direct good would come from the construction of such a line. In December, 1892, the Secretary of State for the Colonies wrote to the Postmaster General, in London, upon the question of the construction of the submarine cable between Vancouver and Australasia, and on the 5th of July, 1893, a reply was sent to that letter, and although they did not fix upon one of the lines suggested, they fixed practically upon a somewhat similar route, and they discussed the possibility of constructing a cable over that route. The proposal the Postmaster General made through his scientific officer, was that the line should go from Victoria, Vancouver Island, to Fanning Island, which is a distance of 3,298 knots, and from Fanning Is-

land, to Canton Island, and from Canton Island to Fiji, and from Fiji to the Bay of Islands, New Zealand, a total distance of 6,353 knots. To this it was necessary to add what Mr. Fleming has done to his lines, 20 per cent. for "slack," making the total distance 7,263 knots. Now, that distance, according to the report, between Fanning Island and New Zealand, can be laid without any unusual cost, and experience shows there will be no great difficulty at all in constructing that portion of the cable. It will be sufficient there to lay a cable of which the core would consist of 130 pounds of copper and 130 pounds of gutta percha to the knot, or £150 to the knot, or say £549,900 for the three sections from Fanning Island to New Zealand. But they take great exception to the proposal to lay a cable from Vancouver to Fanning Island, by reason of the stretch of distance and unknown depth that will have to be spanned between those two points, and they say that even to secure a moderate working speed of twelve words a minute, you will have to lay a cable with a core of 940 pounds of copper and 940 pounds of gutta percha to the knot, and the cost of manufacturing and laying such a cable would be £600 a knot, or £2,374,200. So, you will see, whilst the ordinary cable contains 130 pounds of copper and 130 pounds of gutta percha to the knot, according to these authorities, if we lay a cable from Vancouver Island to Fanning Island, we shall require one containing 940 pounds of copper and 940 pounds of gutta percha to the knot. The total cost of the whole line, from Vancouver to New Zealand, would be about £2,924,000, or roundly, the construction of this cable from Vancouver to Australasia, if we have to construct it from Vancouver to Fanning Island, means the enormous sum of £3,000,000. The great trouble will be to span the space between Vancouver and Fanning Island. Perhaps, coming as we did from the Australian colonies, we have not been able to secure the latest information on the subject, and I am only too glad to have been just now informed by His Lordship, the Earl of Jersey, that the figures I have just

quoted have been reduced from, roundly, £3,000,000 to £2,128,650.

Lord Jersey.—The cost is put at less, viz., about £1,800,000.

Hon. Mr. Fitzgerald—And on accurate survey might be still less again, the figures of the survey being so very incomplete.

Hon. Mr. Suttor.—I am glad to have this later information. I am glad to find there is so much reduction in the estimated cost. Still, the cost of the construction of this line can only be approximate, because we have, from Vancouver Island to Fanning Island, a stretch which is absolutely an unknown sea. Until we get that length thoroughly measured as to depth, I take it that no officer of any experience can give any definite idea as to what the cost may be. The depth between Vancouver and Fanning Island may not be so great as we have been led to believe. Of course, if it be not so great, the cost of laying the line would be very materially lessened. I have corrected some of the figures I have made with regard to the cost estimated by the Postmaster General at London. But, besides that, a further report was submitted to the Imperial authorities by the Hydrographer of the British navy, and although that report dates back as far as 1887, I am informed by Lord Jersey, that so far as the estimate is concerned, the information upon the probability of carrying out this line remains as it was.

Lord Jersey.—Substantially.

Hon. Mr. Suttor.—Substantially the same. I do not think we can easily cast aside the statements of a responsible officer, such as the Hydrographer of the navy, and we are bound to consider, if we can, any objection raised by a high authority as he must be. It seems to me the position he takes, appears to be strong, and it requires some very forcible arguments to show that the statements made by him in connection with this matter are altogether unworthy of consideration. He pointed out

that to minimize the effect of breakdowns on a submarine cable, the individual length between the landing-places should be as short as possible, in order that the time lost in bridging over by a steamer, until the repairs can be made good, should be reduced to a minimum.

The proposed line would not only be made up of the longest length of submarine cable known (the proposed line of cable between Vancouver Island and Fanning Island), "but the state of trade at the calling places is such that steamers might not be available for temporary service in case of a messenger vessel being required." These difficulties can be got over. Further, the hydrographer states "(1) that very few soundings exist on the actual line proposed; (2) that the soundings near this line show that the depth is unusually great, and, therefore, unfavourable for repairing; (3) that the probability of sudden inequalities at the bottom are very great, in such an island-studded sea, and that such inequalities would be also unfavorable to the maintenance of the cable; and (4) it would require a long and minute search by a vessel perfectly fitted out for sounding before the best route could be selected." "It is very doubtful, therefore," the Hydrographer concludes, "what the ultimate cost of the undertaking may be, and even at the estimate of £2,000,000, it is more than doubtful whether it could possibly be made to pay," and now this is the concluding paragraph of the Hydrographer's remarks which I am quoting. We all desire to be enlightened, and I will be very glad to listen to any reply. He says:—

"As a single line of submarine telegraph has never yet been found to answer commercially, it would probably be necessary to duplicate this one; and this would cost about £1,500,000 extra."

Now, if we are to involve our colonies in such a large expenditure, not only for the single cable, but it may be to duplicate it, we shall have to seriously consider whether we are in a position at all to undertake such a proposal as this, but we know that, although a single cable may not be as convenient as a double one, many telegraph

lines have worked with a single cable for some considerable length of time before the duplicate has been laid down. As the Eastern Extension Company has already been mentioned by me, I do not think it is necessary at this stage that I should use any arguments raised by them in objection to this proposed line. I have restricted myself wholly to the opinion expressed by the different officers employed by the Imperial Government. I have alluded to the report submitted by the Postmaster General, and to the report furnished by the Hydrographer of the navy. The Secretary of Telegraphs, in New South Wales, Mr. P. B. Walker, who, I think, will be admitted by any one knowing him, to be an officer of high standing and considerable ability, discusses these proposals as submitted by Mr. Fleming. First of all, he questions the accuracy of the estimated cost.

Hon. Mr. Fraser.—Mr. Walker is the Secretary of Telegraphs for your colony?

Hon. Mr. Suttor.—Yes, he is the Secretary of Telegraphs for New South Wales. He disapproves of all the routes proposed by Mr. Sandford Fleming, and questions the accuracy of his estimate of cost. But his disapproval of the routes is from a commercial point of view rather than from a national or strategic point of view. Mr. Fleming's desire is that this cable should be laid absolutely and entirely through British territory, while this officer looks upon it from the commercial point of view rather than the national point of view. With regard to the length of distance to be spanned between Vancouver and Fanning Island, Mr. Walker is very strongly of the opinion that it is not at all likely such a length of cable could be successfully worked. He says route No. 1, as proposed by Mr. Fleming, would be a mistake, as such a length of cable as that required between Vancouver Island and Fanning Island (3,200 nautical miles), without any intermediate relay, would not work satisfactorily. He points out that it is well known, that when a cable over 3,000 miles in length is

worked in a direct circuit, great difficulty is experienced through the slow progress in working, and he is quite sure that no cable company would attempt such a cable. The longest length of cable worked *en route* to England extends from Bombay to Suez, a distance of 3,253 knots, but it touches at Aden, where an intermediate relay is inserted to assist the circuit. There is another cable from Alexandria to Gibraltar, 2,037 knots, with an intermediate relay inserted at Malta, and there is also a cable from Port Darwin to Singapore, of 2,055 knots, with a relay at Banjoewangie, and one of 1,770 knots from Singapore to Madras, with a relay at Penang. From the practical experience of the existing cable companies, such a proposal as that to connect Vancouver and Fanning Island direct is not, he thinks, satisfactory. At this stage it will not be necessary for me to detain the Conference by discussing in detail, or at any very great length, the financial part of this matter. I think, as far as I am concerned, I might leave that to a subsequent occasion, if it becomes necessary. My Government are not in any way tied down to any particular scheme or any particular route; but I am prepared to listen to every suggestion made and every argument used in reply to the objections taken as to the practicability of the route proposed between here and Fanning Island. If that route cannot be carried out, no doubt some alternative proposal can be made. Now, as I have already stated, I feel that this, if it should be undertaken at all, should be undertaken as a great national work. I hope that those of us representing the Australasian colonies, will, if possible, work harmoniously in endeavouring to bring about what we must all admit would be a very great benefit, not only to ourselves, but to the Dominion of Canada, and also to England. If this is to be considered from a national point of view, and if it will be possible to construct this cable entirely through British territory, we shall not be asking too much if we inquire of Lord Jersey, who represents the Imperial Government, how far the Imperial Government is prepared to assist us in the work which

we are to take in hand. If we are informed that the Imperial Government do not see their way at all to assist, then the question will remain with us whether we shall have sufficient power behind us to construct this line irrespective altogether of the British Government. With regard to the preliminary step that must be taken; that is to say, the necessary survey between Vancouver and Fanning Island, or between Vancouver and any other island which may be chosen as an alternative route, I am permitted to say that my Government is quite prepared to bear its proportionate share of the expense of that survey, if the Home Government do not see their way to meet it with the ordinary means at their disposal. As to the way in which the line will be constructed, I do not think that my Government will agree to any proposal by which the work shall be carried out under the direct control or at the cost of the Governments. We feel that this, as other projects of a similar nature, should be allowed to rest with private enterprise; and, further, although I am not directly prohibited from entertaining any proposition that will necessitate my Government granting a subsidy in the event of such a line being undertaken; still, at this stage, I must say that we would much prefer that our responsibility should not be beyond those laid down by the Conference in New Zealand. We are not prepared to subsidize any company, but we are quite prepared to enter into a guarantee as defined by the Conference in New Zealand, to provide that any company undertaking this work should not be at a loss; in other words, that we should provide the difference between some fixed amount of interest mentioned and the deficiency that would arise between the net receipts and that amount. So far as I am concerned, and those I represent, we shall be willing to go as far as that. I do not feel that we are in a position at this early stage to consider this subject in detail, and, therefore, I have asked you to approve of this resolution, which simply expresses the opinion that early steps should be taken to connect the Dominion of Canada with the Australasian colonies.

Sir, I have much pleasure in moving the resolution as it stands in my name.

Lord Jersey.—Might I ask Mr. Suttor one question; it is rather a leading one, but what would be the basis of the pro rata agreement to which you alluded as having been suggested by the New Zealand Conference?

Hon. Mr. Suttor.—The pro rata amount would be taken, as is generally done in our colonies, on a population basis. That is the basis we pay our subsidies on, and no doubt we would pay this the same way.

Lord Jersey.—But as regarded Great Britain and Canada?

Hon. Nicholas Fitzgerald.—Lord Jersey appears to be asking what the proportions would be of payment between the Imperial Government and the Australian colonies.

Lord Jersey.—That is the question, and it is very important.

Hon. Mr. Suttor.—I will refer to the resolutions I have already read, which were passed at the New Zealand Conference.

Mr. Lee-Smith.—It is half and half; Australian colonies half and Canada and Great Britain half.

Hon. Mr. Suttor.—That was the proposal made some time ago.

Lord Jersey.—It was supposed to be a tri-partite agreement?

Mr. Lee-Smith.—Exactly.

Hon. Mr. Suttor.—I think I am only echoing the sentiment of my fellow members when I say that if the Imperial Government will come in, in a reasonable way, we shall be prepared to accept all the responsibility we can in this matter.

Mr. Lee-Smith.—Would it not be a convenient way to move my amendment now, seeing a similar question has been raised by Sir Charles Mills? It would clear the ground.

Sir Adolphe Caron.—I should like to know if any gentleman wishes to speak to this motion, and then I would hear the amendment.

Hon. Mr. Fraser.—I think it would be greatly to the advantage of members of this Conference if the paper of Mr. Sandford Fleming were taken now. The motion is now afloat.

Mr. Fleming, being called on, discussed briefly Sir John Pender's "latest hostile utterances," and then proceeded with the reading of the following paper:—

"Every thoughtful mind must be impressed with the importance and significance of this gathering in the Canadian capital. We have here assembled representative men from the British peoples who dwell in distant parts of the world, who have travelled to Ottawa, some of them from the other hemisphere, to consider matters of common interest, and to determine the best means by which we can be drawn closer together. The primary object, or at least one of the primary objects, of this Conference, is to effect some practical arrangement for the establishment of a Pacific Cable. The subject is one to which I have given my attention for years, and in placing before you the views which an earnest consideration of the question has led me to entertain, I am sustained by the conviction that I am performing a public duty in doing so. * * * There are many leading minds in the Mother Country, in Canada and throughout the colonies, who recognize the value to the Empire of a telegraph across the Pacific, who, indeed, wonder that it has not before now been established. * * * *

I will now, with your permission, allude to the possibilities in the future which the Pacific Cable, established in the public interests, would open up.

With an electric cable laid across the Pacific, all points in Australia, by means of land lines, may communicate with all points in the United Kingdom, without a single message being repeated in a foreign port. The geographical position of Australia is such, that the tele-

graph system can be extended westerly to South Africa and north-westerly to India—in both cases by cables of moderate length, and without touching territory which is not British. South Africa may be connected telegraphically with Australia by two routes. First, by a cable laid from Durban in Natal to the south-west coast of Western Australia, touching at the island of St. Paul in mid-ocean. The two sections would, together, be about 4,200 miles, and would cost probably less than £950,000. Second, by a cable extending from Natal to the Mauritius, 1,600 miles, thence to the Keeling Islands, 2,300 miles, and thence to N. W. Cape in Western Australia, 1,150 miles—total, 5,050 miles; or it may be extended from the Keeling Islands direct to Port Darwin, although the distance would be somewhat greater. The second route, although the longest between South Africa and Australia, has the advantage of approaching India at the Keeling Islands. From these islands the distance to Ceylon is about 1,450 miles, so that India, as well as Africa, could thus be connected telegraphically with Australia, by laying cables from point to point, aggregating a total distance of 6,500 miles. The whole cost would not be far from £1,500,000.

In order to make plain the vast importance of these possible extensions of the Australian telegraph system, considered in conjunction with the Pacific Cable, let us examine the map of the world, on which the British possessions are depicted. The prime meridian passing through Greenwich may conveniently be taken as a base, separating as it does east from west longitude. It may be observed, that no single British possession in east longitude is connected telegraphically with London without having the wire passing over some foreign territory, or landing at a number of foreign ports. This is true of South Africa, of India, and of Australia. If a difficulty arose in Portugal, or in any one of the half dozen foreign ports touched by the present telegraph, South Africa would be cut off. or should a similar difficulty be experienced in almost any part of Europe, or in Egypt, both

India and Australia would be cut off. It was pointed out a few days ago, at the annual meeting of the London Chamber of Commerce, by the chairman, Sir Albert Rollit, that if the land wire between Bombay and Madras was cut during any rising in the Interior, Great Britain would have to communicate with Australia through Siberia. The chairman might have added, that there are many places equally vulnerable on the existing telegraph system, both east and west of India.

I am sure the representatives from South Africa will bear me out in this. With the permission of one of them, Mr. Hofmeyer, I would like to quote from his speech at the Conference of 1887. On that occasion Mr. Hofmeyer foreshadowed the scheme of the great Imperial cables I am touching upon. He said: "We must not only look to the proposed Pacific cable for communication with Australia, but also to, I should not say an alternative, but a duplicate scheme of submarine communications. When I say this, I look to my part of the Empire, that is to say, South Africa. Let us view the position of affairs at present as far as South Africa is concerned. It is pretty generally agreed, that if war should break out the Suez Canal would be blocked. Table Bay is dependent for its telegraphic communication upon the Eastern Company's line, which comes down by the east coast of Africa. It is laid in shallow water, and touches at many points of foreign territory, I cannot say how many, but very many points indeed. Now, if in time of war the Suez Canal is blocked, it stands to reason that all communication by this cable would be blocked too. It might be cut at various points. England might be at war with any European nation whose territory is touched by this cable; in other words, there would be no communication between England, the most important part of the British Empire, and the rest of the world; telegraphic communication would cease at once."

Since 1887, when these words were spoken, a cable has been laid along the west coast of Africa, but it is open to precisely the same objections, touching as it

does at many foreign places on the way. Moreover, both cables are laid in shallow water, and on that account can be easily fished up and destroyed. As a matter of fact, all the lines connecting England with South Africa either pass through foreign territory, or are practically at the mercy of foreigners.

If we examine a map showing the general telegraph system between England and South Africa, it will be noticed that the cable lands at the following mid-stations:—

By First Route.

1.	Lisbon	
2.	Madeira	Foreign.
3.	St. Vincent	do
4.	Bathurst	do
5.	Sierra Leone .....	..
6.	Accra .....	..
7.	Lagos .....	..
8.	New Calabar .....	..
9.	Bonny .....	..
10.	Prince's Island .....	..
11.	St. Thomas Island	Foreign.
12.	St. Paul de Loando	do
13.	Benguela	do
14.	Mossamedes	do
	Cape Town.	do

By Second Route.

1.	Lisbon	
2.	Gibraltar	Foreign.
3.	Canary Islands .....	..
4.	St. Louis	Foreign.
5.	Bathurst	do
6.	Bissao .....	..
7.	Conakra	Foreign.
8.	Sierra Leone	do
9.	Accra .....	..
10.	Porto Novo .....	..
11.	St. Thomas	Foreign.
12.	St. Paul de Loando	do
13.	Benguela	do
14.	Mossamedes	do
	Cape Town.	do

By the first route there are 14 mid-stations, of which 8 are on foreign territory. By the second route no less than 10 mid-stations are at points claimed by foreign powers.

Third Route, via Egypt and the Red Sea.

1. Lisbon.....	Foreign.
2. Gibraltar.....	..
3. Malta.....	..
4. Alexandria, through Egypt to	} All Stations
5. Suez.....		Foreign.
6. Aden.....	..
7. Zanzibar.....	..
8. Mozambique.....	Foreign.
9. Delagou Bay.....	do
10. Durban.....	..

We have been considering the British possessions in east longitude; let us now turn our attention to the surface of the globe west of Greenwich. Already many cables are laid from the shores of Great Britain to the shores of Canada. The geographical position of Canada between the Atlantic and the Pacific, renders it possible to extend the wires to Australia, and, as has been shown, from Australia to Africa and to India. These may be considered the trunk lines of the Imperial telegraph system. From them branch cables can be completed from Halifax via Bermuda to the West Indies, on the Atlantic side of Canada. From Port Darwin, in Australia, to British North Borneo, where a junction would be effected with cables already laid to Hong Kong, Singapore and Madras. Again, at the Mauritius, the telegraph would connect with an existing cable to the Seychelles Islands, Zanzibar, on the eastern coast of Africa and Bombay. Thus, by the establishment of the great trunk lines of cable with the few short branches which I have pointed out, India would be approached telegraphically from both sides, and every British possession of any note in both hemispheres would be brought into daily and hourly electric touch of each other and the Mother Country.

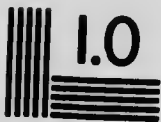
The point I desire to make clear is this. The interposition of Europe and Northern Africa absolutely prevents and forbids a continuity of telegraphic communications from Great Britain to the British possessions in the south and east without traversing shallow seas adjoining foreign territory, or landing on soil belonging to foreign powers, which at any moment may be hostile; while the geographical position of the Dominion, and other favourable conditions, render telegraphic continuity under our own flag perfectly practicable, from London to Australia, to Africa and to India, and to all the territories of the Empire in both hemispheres.

These exceedingly interesting, and to my mind, important considerations, will recall to gentlemen in this Conference the views and aspirations of a deceased statesman, who, in his lifetime, filled the most responsible positions as an adviser of Her Majesty. I allude to the Right Honourable Edward Stanhope, who, as Colonial Minister, was called upon to take the initiative in assembling the Colonial Conference of 1887. In the despatch which he sent to the Governors of all the colonies, informing them that Her Majesty's Government had advised the Queen to summon a Conference, Mr. Stanhope gave great prominence to intercommunication by telegraph. He pointed out that they concerned, in a special degree, the interests of the Empire, and that it was desirable the question should be considered as a whole, in order that the needs of every part of the Empire might as far as practicable be provided for. No man at that period appeared to take a firmer or broader grasp of this important subject than the deceased statesman. I venture to think that the design of the Imperial cables, which I have attempted to describe in outline, is in complete harmony with the principles which he advocated, and that the establishment of those great lines of communication would go far to meet the national requirements he pointed out. In no other conceivable way, without being absolutely dependent on the friendship and sufferance of foreign powers, can direct telegraphic connection



MICROCOPY RESOLUTION TEST CHART

(ANSI and ISO TEST CHART No. 2)



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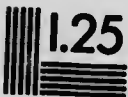
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so easily and so usefully be established between Great Britain, as the head of the Empire, and the great possessions of Her Majesty in every quarter of the globe.

It is quite true that the distance from London to India, or South Africa, is greater by the new route suggested than by the existing telegraph lines. The most distant of all by the proposed new route is South Africa. The length of wire in this case would be nearly three times the length of wire by the present route. Distance, however, counts for little where electricity is employed as the medium of communication. Take a familiar illustration—the telephone and its social uses; by means of this application of science we can, with equal ease and at the same cost, speak to a friend across the street and to a friend leagues distant. The same with the telegraph, and our highest aim should be to have the telegraph system of the British Empire keeping pace with the extraordinary growth of the Empire itself. A wonderful power has been placed at our disposal, and we should endeavour, as far as possible, to render this power as useful to the British people throughout the world as the ordinary telephone is to the inhabitants of a city, or as the ordinary application of the telegraph is in countries limited in extent.

The present Premier of Her Majesty's Government, Lord Rosebery, recently pointed out to those resident in England, that they inhabit not an island but an Empire, and that this Empire is a collection of states spread over every region of the earth. In Canada, and in all the colonies, we are proud to feel that we, too, inhabit this world-wide Empire. We feel that, although separated by the ocean, we are in direct relationship with our fellow-subjects in the Mother Country. Nevertheless, we desire to make that relationship closer and stronger by means of faster steamships and by increasing the number of ocean cables. As a humble follower of the late Imperial Minister, Mr. Stanhope, I, for one, feel called upon to express the opinion that, by every means in our power, we should endeavour to establish close and in-

imate relationships with all our sister provinces and colonies, in whatever part of the world they may be situated.

It must be obvious to all who consider the question with attention, that the first step we can take towards the attainment of these ends is the completion of the Pacific cable. That is the work which lies nearest us, and I humbly express my view that Canada and Australia, with the sympathetic aid of the Mother Country, can, without appreciable difficulty, take this first step and render further advance possible. I have shown that when Canada and Australia will be united by a British cable, an additional expenditure of not more than a million and a half pounds (£1,500,000) would bring South Africa and India into connection by telegraph with Canada and England, without being indebted for transit or resting place to any foreign power whatever. It is difficult to conceive that such enormously important results may be attained by an expenditure so limited, I may say so insignificant, in view of the national objects to be achieved. I trust I have made it clear that it will be entirely owing to the telegraphic connection of Australia with England by way of Canada, as proposed by the Pacific cable, that the attainment of such results will become possible.

Before turning to the more practical side of the question, allow me to quote from an address Mr. George R. Parkin delivered a few weeks ago in Edinburgh, which appears in the May number of the "Scottish Geographical Magazine":—

"A new nervous system has been given to the world. The land telegraph and submarine cable have changed the whole conditions of national life; above all, they have revolutionized the meaning of the terms 'geographical unity' and 'geographical dispersion.' Especially is this true of the British Empire. * * * The transactions of finance and commerce, the regulation of demand and supply, the direction of our commercial fleets and of the armed navy which defends them, all now depend in great measure upon the far-reaching influence of the electric

force. It is no flight of the imagination, but a simple fact to say that by the agency of the telegraph, backed by the diffusive power of the press, in a few short hours the heart of our nation, through all its world-wide extent, may be made to beat with one emotion, from Montreal to Melbourne, from London to Zambesi, from the Ganges to the Saskatchewan.

“ Think of the single fact that more than £1,000 per day is spent in telegraphic communication between the United Kingdom and Australia alone, and in that fact we have some measure of the value put by our people upon this new link of unity which has been added in the latter half of the nineteenth century.

“ But this nervous system is not as complete as the geography of the Empire makes possible; one may say that it has defects which might prove fatal if not remedied in time, and at this present moment are fraught with no small dangers. The greatest gap consists in the lack of connection between Canada and Australia. Reflect upon what this means. There is, perhaps, no responsibility which statesmen feel more deeply than that connected with the maintenance of our position in India and the east. The financial and commercial interests which we have at stake there are simply enormous, and practically reach every home in this country. For purposes of trade, as well as for defence, both military and naval, instant communication with the east has become almost a necessity.

“ But it would be almost certainly broken at once in the event of our being engaged in a great European war. There are at present many routes of telegraph by which we can reach India and Australia; across the continent by way of the Mediterranean and the Red Sea, round Africa, and even across Siberia. But all these lines either pass through possibly hostile countries, or through shallow seas, where they could easily be fished up or destroyed in time of war.

"A cable across the Pacific would be free from both these fundamental objections. That this cable should be laid has become a matter of Imperial necessity.

"This new set of nerves will undoubtedly change the whole conditions under which the naval wars of the future will be carried on, quite as much as the change from wooden and wind-driven ships to those built of iron and impelled by steam."

We are assembled here to-day to deal with the important subject alluded to by Mr. Parkin, and I will only add to the words I have quoted, that if it be the ultimate design to make perfect the "nervous system" of the British Empire, it will be necessary to trace the nerves from the great "nerve centre," not eastward but westward. We must, in fact, follow the sun from Great Britain to Canada, from Canada to Australia, and from Australia to Africa and Asia.

Having endeavoured to show here, and elsewhere, that the Pacific cable is demanded by the needs of trade and commerce, having indicated that it will in the near future subserve Imperial purposes of the very highest importance, I beg leave to submit some observations on the means by which the undertaking may be carried out.

There are two distinct methods by which the Pacific cable may be established, viz. :—

1. Through the agency of a subsidized company.
2. Directly by Government as a public work.

I have given this branch of the subject long and earnest attention, and I have arrived at conclusions which, to my mind, are confirmed by every day's experience.

At one time I favoured the first method. It has been customary to have enterprises of this character carried out by companies, and it seemed to have been assumed that there was no other way by which the work could be accomplished. However, when it is considered that in the United Kingdom, in India, in the Australian colonies, and in a great many foreign countries, the tele-

graphs are owned and worked by Governments, there appears no good reason why Government ownership should be confined to land telegraph. No doubt it would give least initial trouble to Governments to offer liberal subsidies in order to have the telegraph across the Pacific laid and owned by a company, but I am perfectly satisfied that in the long run, the second method will be found in every respect more advantageous. The interests of a company and the public interests are not identical: they are in some respects the very opposite. While the primary object of a company is to extract from the public as much profit as possible, the interests of the public, on the other hand, are to secure cheap telegraphy, and to have it as free and untrammelled as possible. Suppose, for example, that a large subsidy be granted, such a subsidy as Sir John Pender has declared to be necessary, and that the whole undertaking be passed over to the Eastern Extension Company to carry out, would not the effect be to confirm and perpetuate the telegraphic monopoly which at present exists between Australia and the outer world? Would it not simply shut out all prospect of obtaining the reduced charges to which we may confidently look forward to; would it not contract intercourse, instead of providing the fullest opportunity for its free and full expansion, so much to be desired? I look forward to the time, and I do not think it is far distant, when, if a wise and prudent course be followed, the telegraph will ramify in many directions under the ocean to all the principal colonial possessions, and that, in the not distant future, there will be a greater reduction in charges on messages, than has taken place in letter postage during the past fifty years.

Speaking for myself, I have arrived at the conclusion that the true principle to follow, looking solely at public interests, present and prospective, is to establish the Pacific cable as a Government work. In my judgment it would be a grave and irremediable mistake to give it to the existing company on their own terms, or perhaps on any terms. Even to hand the work over to a new com-

pany entirely distinct from the Eastern Extension Company would scarcely mend matters. It would be impossible to prevent the two companies combining in some form, to advance their common advantage, to the detriment of the public interests.

I have elsewhere endeavoured to show the advantages derivable from the establishment of the Pacific cable, as a public work directly under Government control. It is a matter of constant experience, that the promoters of companies, as a rule, set out with the determination to make large sums of money, that investors are promised large returns, and they are not satisfied unless they are forthcoming. In consequence, 9 per cent., and in some cases more than 9 per cent., is paid for money raised for private companies, while, on the other hand, Governments can borrow capital at 3 per cent. Hence, it is possible, under Government ownership, to reduce charges on telegraphy much below the rates charged by private companies.

With the proposed cable under Government control, it is not easy to assign a limit to the reduction in charges for transmitting messages; and with low charges there will arise, without any appreciable extra cost in working, a great expansion in the business of the telegraph. Thus the public will be benefited to an extent which would not be possible, if the cable became the property, or passed under the control, of a private company.

I had hoped to have seen present at this Conference His Excellency Sir Ambrose Shea, Governor of the Bahamas. He would, I am sure, have given the best testimony in favour of the plan of Government ownership. Less than two months ago, I had a letter from him, in which he furnished indisputable evidence as to the superiority of the principle of Government control. The Bahamas are connected with the mainland by a cable owned by Government. The first idea was to have it carried out by a company under a subsidy of £3,000 a year for twenty-five years. Fortunately, it was decided to make it a Government work; the cable is entirely so

established, and the policy of its operation is dictated primarily by the commercial requirements of the colonies. Profits are, of course, desired; but these are held to be a subordinate consideration. This policy would have been reversed had the cable been controlled by a company, the interests of the company *per se* would have remained paramount. Sir Ambrose Shea informs me that even in a financial aspect it has proved fortunate that they kept the cable under Government control. Instead of paying £3,000 a year in the form of a subsidy, the charge on the colony is already reduced to £1,800, after fully providing for a sinking fund to cover renewals, as well as interest on the cost and all other charges. Beyond the question of money, the Governor attaches much importance to the power held by the Executive for adapting the policy of the cable management to the growing and varying wants and conditions of the colony.

It appears to me, that in bringing two of the leading divisions of the Colonial Empire into telegraphic connection, we cannot do better than place before us the experiment to which I have referred as having been successfully tried. Great importance must be attached to the views and ripe judgment of Sir Ambrose Shea, strengthened in a matter of this kind by the experience of the Bahama cables. Every commercial object points to the expediency of retaining the Canada-Australian cable under Government ownership; and apart altogether from commercial considerations, there is no reason to warrant that so important a work, undertaken for national purposes, should be removed from the effective control of the Governments, by whose authority alone the great principles of its establishment would be fully observed.

If, then, it be deemed expedient to carry out the project of a Pacific cable as a public work under federated Government ownership, it becomes necessary to consider the means by which this end may be satisfactorily accomplished. Without taking into account the Crown Colony of Fiji, whose affairs are directed from the

Colonial Office, London, the following representative Governments are interested in the undertaking:—

1. The Imperial Government.
2. The Government of Canada.
3. The Government of New South Wales.
4. The Government of Victoria.
5. The Government of Queensland.
6. The Government of South Australia.
7. The Government of Tasmania.
8. The Government of Western Australia.
9. The Government of New Zealand.

If the six Australian Colonies were federated, a partnership arrangement would be much simplified, but as at present the period is not determined when this union will be effected, it becomes expedient to find some means, by which the object may be attained without unnecessary delay. It is scarcely to be expected that the several Governments will be of one mind as to the best practical means of carrying out the work, especially as the colonies do not occupy all the same position with respect to it; and, moreover, as they will not be equally affected by its operation. The position of South Australia is different from the others. In 1870, the colony of South Australia, with very great enterprise, undertook, single-handed, to span the continent from south to north with a telegraph wire, to meet the cable of the Eastern Extension Company at Port Darwin. The length of this land line is about 2,000 miles. In two years it was completed, and in October, 1872, telegraphic communication was opened between Adelaide, the capital, and London. From Adelaide telegraphs extend to the other colonies, so that each one of them was benefited by the efforts and expenditure of South Australia. This overland telegraph from Adelaide to Port Darwin cost for construction, including permanent iron poles, up to 31st December last year. £506,500. Moreover, it has been maintained and worked at the cost of South Australia, and the returns show generally a loss after charging revenue with interest. In

1893, the revenue was £39,700. The working expense, £19,899; and the interest on bonds, £24,703. The working expense and interest together, amounting to £44,602, or £4,902 more than revenue. The whole loss, from the opening of the line for business in 1872, including interest on cost of construction, amounting to £293,282.

It is obvious that the inevitable result of a new telegraph across the Pacific would be for a time to reduce the business over the old line and increase the loss to South Australia. The enterprise of this colony has already been recognized to some extent by the other colonies, and for some years back the deficit arising from reduced charges has been shared by them. In any new arrangement it is obviously expedient that the position of South Australia should be considered in a fair and generous spirit. I have always held this view, both with respect to South Australia and the Eastern Extension Company, although it must be admitted the facts establish the company to be in a very much better position than the colony. There is no desire that the company's lucrative returns should be diminished, that is merely an incidental consequence which may result from the national undertaking we are considering, and it should be met in the fairest way which can be devised. At the Colonial Conference of 1887, I submitted a scheme by which I considered and still consider that full justice would be done both company and colony. This suggestion was of a comprehensive character; it embraced (1) the establishment of the Pacific cable, (2) the purchase of all the cables of the Eastern Extension Company, (3) the transfer of all the telegraphs of the separate Australian colonies, together with the Pacific cable and Eastern Extension cables to a trust or commission created by the co-operating Governments, under which the whole would be managed. The leading principles by which the arrangement might be effected were set forth as follows:—

I. It would be necessary for each of the colonies to agree to hand over to the central authority their respective telegraph systems, retaining a pecuniary interest in

revenue in proportion to the value of the works handed over.

2. The establishment of the new cable across the Pacific would require new capital, to be raised possibly on the joint guarantee of the colonies and the Imperial Government, as in the case of the Intercolonial Railway of Canada. By such means the money could be obtained at the very lowest rate of interest.

3. New capital would likewise be required to purchase the cables of the Eastern Extension Company, if that company would be willing to sell at a fair value. This capital would also be obtained at a low rate of interest, and thus the whole connection between Asia, Australia, Canada and Great Britain would be most economically established. It would thus become practicable to reduce charges on messages to the lowest possible tariff rates, by which the public would greatly benefit, without detriment to any private interest.

The proposal was designed to harmonize all interests, to bring all cables and telegraphs within the management of one department under Government control, to relieve South Australia from loss by putting this colony on the same footing as all the other colonies, and by taking over the present cables at a fair value, to remove all reasonable objections on the part of the Eastern Extension Company. Further details of the scheme will be found appended to the report of the Minister of Trade and Commerce on his mission to Australia (pages 92 to 101).

A less comprehensive scheme may be found expedient, if the Eastern Extension Company have no desire to part with their property on fair terms. Whatever scheme be considered, the principle I mainly advocate is, that the Pacific cable be established as a public work, and retained under Government control. It seems to me that this principle could be best carried out under the circumstances of this particular case, by the appointment of commissioners, to act as trustees for the co-operating Governments, under statutes to be passed, for whatever

arrangements may be arrived at, it will require ratification by the respective parliaments and legislatures. The commissioners would act in trust, and, generally speaking, their duties would resemble those of directors of a joint stock company; by virtue of their office they would do everything necessary to establish and carry out the work, and for this purpose, under provision of statute, would be authorized to raise the necessary capital on interest-bearing securities.

It may be anticipated that the whole of the nine Governments may not see their way to co-operate in the manner proposed, and that some of them would prefer granting a fixed subsidy, as they would to a company. There could be no objection to this course, as it would in no way invalidate the general scheme, provided a sufficient number of Governments determined to carry it out. Any subsidy received would be applied by the commissioners to the purposes of the undertaking, precisely as subsidies are appropriated by directors of companies in like cases.

There remains another plan by which the Pacific cable might be established under Government control. The undertaking may be divided into two sections, the northern and the southern. The cable on the northern section may be laid directly by the Government of Canada, through the medium of the Department of Public Works, while the southern section may be similarly undertaken by one or more of the Australasian Governments. In both cases the Governments assuming the duty of carrying out the undertaking would receive from other Governments such assistance in the form of subsidies or guarantees as may be agreed upon.

I suggest for your consideration these alternative plans. All will concede that it is desirable to proceed step by step; if it be first determined that the Pacific cable should be established as a Government work, and retained under Government control, the next step will be to consider the best means of accomplishing that end.

I will only add, that while it is plain much has to be discussed before any plan can be adopted, I am unable to see that any serious difficulty will arise in the arrangement of details. At this stage I will not presume further to take up the time of the conference.

Mr. Lee-Smith, representing the Government of New Zealand, resumed the debate, and said:—

"I have listened with great attention to the able and masterly statement of Mr. Sandford Fleming in regard to this cable, and, as we expected, he has given us a clear and distinct account of what has been done and what he proposes to do in the future."

Hon. Mr. Playford, who was later on referred to as *Advocatus diaboli*, so strongly did he champion the cause of the Eastern Extension Cable Company, continued the debate on the 3rd July, and made an able speech. He said that the colony of South Australia was in a peculiar position, because she had constructed a line of telegraph across the Australian continent, some 2,000 miles long, without any assistance and without any subsidy, and if a new cable were constructed across the Pacific, the result would be to deprive South Australia of the business she had expected. He elaborated this point at considerable length, and then passed on to give his individual opinion on the general question. He stated that in this branch of the question discussed, he did not represent the colony of South Australia, but gave his own views. These were such as to present him before the Conference the strong supporter of the views of Sir John Pender and his cable companies.

He declared that the Pacific Cable from Vancouver to Australia was not wanted to connect the colonies with Europe, Asia, Africa or America, because they were already connected by a system which "can do five times the amount of work without the slightest difficulty, that we are doing along the lines now." "We have," he continued, "in every instance duplicate, triplicate, quadruplicate cables the whole of the way; if one breaks down

there is another to rely upon, and so we have the best means of communication that we can possibly have ; therefore, it is not wanted for this purpose."

Another argument that Mr. Playford attacked was, that the Pacific Cable was wanted for strategic purposes. If it was, he thought it very singular that there had never been a report from an expert of the Imperial Office showing that it was so wanted. "How is it," he asked, "that Mr. Fleming and Sir Charles Tupper and other gentlemen who had taken a deep interest in this cable, advocating it on the ground that it would be of such great benefit to the Empire in case of war, have never, during all these years since the Imperial Conference met in 1887, got the opinion, through the Colonial Office, of course, of some Imperial officer fitted by his position and knowledge to express an opinion on the subject? You have got the Hydrographer's opinion. He is opposed to it, he says it is not wanted for the defence of the Empire. The Post Office say they do not want it."

He then briefly traced the history of the proposed cable. He stated that the first paper he had been able to get on the subject was one dated 1886, by Mr. Sandford Fleming. This document was a letter written by Mr. Fleming to Sir Charles Tupper, dated 10th July, 1886, and containing enclosures concerning the cable, dated April 6th and July 1st, 1886.

Mr. Playford analyzed these papers, showed how powerful they were, how Mr. Fleming had never wavered in his opinion, that if the line is constructed at all it will be cheaper and better and more satisfactory if done by the Governments interested than by private companies. "He (Mr. Fleming) took up that position in 1887, and he has held it all through, and you know how eloquently and how carefully he puts his points in connection with the advantages of the Governments doing it rather than companies."

After dilating on the caution and the care displayed by Mr. Fleming, he pointed out that Mr. Fleming had

acknowledged that the facts regarding the Pacific Ocean were meagre, and that it was of great importance that a proper nautical survey should be had.

The reason for this line of argument is found in the following extract:—

Now, gentlemen, this is the position clearly laid down by the Conference, unanimously laid down by the representatives of Canada on the one end of the line, and by the representative of Queensland at the other end, agreed to by Mr. Fleming himself (who has been so enthusiastic in connection with this cable) that before we can do anything in connection with the consideration of whether we shall undertake the laying of this cable, we, at all events, must have an exhaustive survey of the proposed route, and we must be thoroughly certain we can lay the cable, and know exactly what depth we will have to lay it, and what difficulties we will have to surmount, and all matters connected therewith, and I say that we are in no better position to-day than they were in 1887."

It is not necessary to give a further resumé of Mr. Playford's remarkably able speech. The great point in 1894, as in 1887, was that nothing should be done, nothing could be done, to advance the Pacific Cable till a complete survey had been made. The representatives of the Colonial Conference of 1887 had been bound in slavery to the idea that practical business principles demanded, first of all, an exhaustive survey.

Seven years had passed, and the practical business idea of a comprehensive survey still cast its spell over the minds of the sixteen representative men assembled in Ottawa.

What seemed to be an unanswerable argument led, bit by bit, to the great climax, "you must have an exhaustive survey."

The Conference, when it came to vote on the motion, passed it unanimously, Mr. Playford being excused from voting.

The second motion was, as it seemed to the survey-chained representatives, a logical sequence to the first. It reads:—

“That the Imperial Government be respectfully requested to undertake, at the earliest possible moment, and to prosecute with all possible speed, a thorough survey of the proposed cable route between Canada and Australia, the expenses to be borne in equal proportion by Great Britain, Canada and the Australasian colonies.”

As the main debate was upon the first motion, there was not much discussion over the second.

It seemed settled that the old road must be travelled all over again, with the probable result that, seven years later, another Conference would meet, and deplore that in spite of two strongly-worded resolutions, the survey remained for future action.

Mr. Playford was well pleased with the result. He could afford to be facetious. There were some, however, who could not but regard it as ominous that they were travelling over again the same hard road.

Sir Henry Wrixon voiced this feeling. He said: I do not think this Conference will have any objection to the motion I wish to make. It has been hitherto found to be the case, and I think it will occur again, that after this Conference closes there will be nobody to carry on the continuity of the business. The whole thing is apt to lapse and disappear until the next Conference, unless some one takes it in hand to carry on the technical, practical business. I think we should pass a short resolution, designating some one to act in questions of practical detail with regard to what we have done, to communicate with the different Governments, the Governments of the Australian colonies, and if necessary, the Cape and the Canadian Government, to form a sort of link of communication between them with regard to the after matters which will necessarily arise from what we have done. If we are to have any one it should be Mr. Sandford Fleming, who has shown a life-long devotion to this subject, and who is so intimate with it. I thought

of moving this, by consent: "That Mr. Sandford Fleming be requested to attend to questions of practical detail arising from the proposed cable between Canada and Australia, and to communicate with the various Governments concerned." It is merely ministerial, so that there may be some person who will interchange communications and keep the thing from expiring before the next Conference.

Hon. Mr. Foster.—How far do you mean that to go? Do you mean that the views which we have expressed by resolution shall be presented to the Imperial Government and to the other Governments by Mr. Fleming?

Sir Henry Wrixon.—Oh, no; but as to what arises hereafter. There may be letters. Who will get them? There will be letters in reference to what is proposed, letters in reference to the surveys, and there will be practical questions arise which somebody must attend to, or else there will be a perfect blank.

Hon. Mr. Playford.—That person ought to be a member of a Government.

Hon. Mr. Foster.—Do you mean as to consultation? I suppose some short method will have to be adopted by which the views of this Conference will be brought at once to the notice of the parties interested; for instance, the British Government, for one. Then, if certain points arise as to details as regards the cable, Mr. Fleming could attend to those. I wish to see the prosecution of the work. For instance, we have passed a resolution. That will lie as dead as a door nail, unless somebody takes it up. Somebody must look after that. Who shall that somebody be? It is an entirely diplomatic piece of business, and that must be in the hands of the Government.

Hon. Mr. Thynne.—Yes.

Sir Henry Wrixon.—Of course, any matter of detail would be confided to Mr. Fleming, but there is a good deal of ministerial work to be done, if we are to keep the matter alive.

Lord Jersey.—Could it not be done by asking questions of the different Governments in their respective Parliaments?

Sir Henry Wrixon.—Perhaps the Chairman will accept that responsibility.

The President.—I will accept that responsibility as long as I remain a member of the Government. In all matters affecting this cable, I shall avail myself of the practical knowledge of Mr. Fleming, in connection with it, and I should carry out, practically, what my friend wants done, and that is, that Mr. Fleming, who has given, as he says, a life-long study to this question, will have all the practical details of the work. If correspondence came from England to our Government, from the fact that I have the honour to be president of this Conference, I should at once consult Mr. Fleming, and say such and such a thing was wanted, please do it. That is what I think you intend.

Sir Henry Wrixon.—Certainly.

Mr. Fleming.—I need not say that I am pleased to be of any assistance either way. My only purpose is to see the views of the Conference carried out.

Hon. Mr. Fraser.—Some such motion is necessary to keep life in the matter.

Hon. Mr. Suttor.—Oh, no.

The President.—If you leave the matter with me it will not die, if there is any possibility of keeping it alive.

Sir Henry Wrixon.—Then I will withdraw my motion. I am sure we will leave it in good hands, but our previous Conferences have come to so little.

Even this arrangement, which was a vast improvement over the 1887 Conference, did not satisfy everybody.

Accordingly, Mr. Lee Smith moved four resolutions, to the effect that as the best way to see if surveys were really needed would be to authorize the Canadian Government to call for tenders for the construction and lay-

ing of a cable between Canada and Australia, under protective conditions relating to all the parties to the arrangement.

These resolutions were put to the Conference, and declared lost. We shall see, later on, that though thrown aside, the idea was productive of a most beneficial change in the methods adopted in the further prosecution of the work upon which the representatives had fixed their purposes most firmly.

The third resolution adopted by the Conference relating to cables was the following:—

“That it is for the interest of the Empire, that in case of the construction of a cable between Australia and Canada such a cable should be extended from Australia to the Cape of Good Hope, and that for that purpose arrangements should be made between the Imperial and South African Governments for a survey of the latter route.”

The fourth resolution was productive of no results. It has been consigned to the limbo of useless motions by the logic of events as has been narrated already in Chapter V.

It may, however, be given:

4. That in view of the desirability of having a choice of routes for a cable connection between Canada and Australasia, the Home Government be requested to take immediate steps to secure neutral ground on some one of the Hawaiian Islands, in order that the cable may remain permanently under British control.

The fifth resolution was the most pregnant of good results.

It was moved by Mr. Thynne, of Queensland, and seconded by Sir Henry Wrixon, of Victoria.

It reads: “That the Canadian Government be requested, after the rising of this Conference, to make all necessary inquiries, and generally to take such steps as may be expedient in order to ascertain the cost of the

proposed Pacific Cable, and promote the establishment of the undertaking in accordance with the views expressed in this Conference.

The debate on this resolution is here given in full.

The President.—The next order is Mr. Thynne's motion, as follows:—

“Moved by Mr. Thynne, seconded by Sir Henry Wrixon : That the Canadian Government be requested, after the rising of this conference, to make all necessary inquiries and generally to take such steps as may be expedient in order to ascertain the cost of the proposed Pacific cable and promote the establishment of the undertaking in accordance with the views expressed in this conference.”

Mr. Foster.—In respect to that, Mr. Thynne, what is your idea? How far does it go?

Mr. Thynne.—My idea in moving this resolution is, that the Government of Canada shall have put upon them the duty of keeping this question of the cable alive, on the lines that have been suggested. It will let them feel that we, the other colonies, in putting this duty upon them, are prepared to assist them, and support them, as far as we possibly can, on the lines we have expressed during the debate. It is desirable that this question of the cable should be kept moving. I think this is a wise step, after the resolutions which have been passed. I do not think, Mr. President, I need detain the Conference by making any speech upon this motion. I think that it is one which will meet with approval.

Mr. Fleming.—May I be permitted to say a few words. My name has been so much connected with this matter, that I thought it best that other gentlemen should express their views to the Conference. There are three points, however, with respect to which I would like to submit a few observations. It was said, sir, by one of the delegates, the Hon. Mr. Playford, that there is no evidence to show that any Imperial officer considers the Pacific cable would be of any strategical value. In reply to this, it must be obvious that the value of the cable is self-evident, to anyone. I think it would not be possible,

sir, to find any officer, naval or military, whose opinion is of any weight, who does not place the highest value upon the Pacific cable as an alternative line to Australia and the east.

Hon. Mr. Playford.—What about the Hydrographer's report?

Mr. Fleming.—I will come to that presently. I have in my possession, evidence which I think must be satisfactory to all, if evidence is needed. So high an authority as Field Marshal Lord Wolseley years ago expressed the opinion publicly that it would be unwise and suicidal to depend on the existing telegraphic system as a means of telegraphic communication between England and India, as well as Australia. This opinion, I am certain, is shared by every Admiral and General of any note in Her Majesty's service. After Mr. Playford spoke on the subject the other day, when I left this room, almost the first man I saw was a well-known and distinguished British officer. I refer to General Herbert, at this moment in the service of the Canadian Government. I asked what opinion he held, and without the least hesitation he expressed himself strongly in favour of the Pacific Cable; since then he gave me a document, an extract from which I would like to submit to the Conference.

Hon. Mr. Playford.—I would ask if this gentleman speaks as a British officer, or as a Canadian officer? He is in the service of the Canadian Government at present.

Mr. Fleming.—He always speaks as a British officer. He says: "The present lines of telegraphic intelligence between Great Britain and the Cape are singularly exposed to interruption. They present a large number of mid-stations, many in foreign territory, while others are on undefended points of British possessions or protectorates.

The main line connecting Great Britain with Australia is still more exposed to interruptions. It has many mid-stations, and, consequently, many possible points of attack; while many of these mid-stations are on foreign

territory. Passing through the narrow and shallow seas of the Indian Archipelago, the cable becomes vulnerable throughout its entire length. In the event of the interruption of the existing line, Australia becomes isolated, for the purpose of telegraphic intelligence, from the rest of the Empire, since there is no alternative line.

Viewed by the light of the above statements, the strategical effect of connecting Canada and Australia by a telegraphic cable, is to confer a distinct increase of defensive power on the British Empire, for the following reasons:—

1st. Such a cable would double the existing means of telegraphic intelligence between Great Britain and Australia, and ultimately between Great Britain, the Cape and India.

2nd. The line so provided would be less vulnerable than the existing ones, since all the mid-stations of the submarine section, and all those of the overland section, would be in British hands.

3. The Pacific section of the line being a deep sea cable, the line would not be exposed to the danger referred to above as existing in the shallow waters north-west of Australia.

4th. Canada would be provided with an alternative line of intelligence with Great Britain in the improbable yet possible event, of a general interruption of the transatlantic lines landed in Canada, at a time when those landed in the United States might not be available.

5. A direct line of telegraphic intelligence would be established between the northernmost station of the British Squadron and the stations of the Australian Squadron; an incalculable advantage in facilitating the co-operation of these naval forces with one another.

It must be observed, that the full advantages above detailed would be neutralized, in the event of the Queensland-New Caledonia Cable being made a section of the proposed transpacific system, since that system would then cease to be purely British.

In military, as in commercial affairs, the importance of a rapid and secure interchange of intelligence, between distant points, cannot be over-estimated. The proposed transpacific cable will doubtless find many advocates upon purely commercial grounds, but I will venture to report that, viewed solely as a military line of intelligence, its value is so great that it should secure the unhesitating support of all the Governments whose interests, and very existence, demand the fullest development of an organized system of Imperial defence."

Sir, it is not necessary to say anything more with regard to the strategical aspect of the cable, and I am very glad to be able to supply the evidence which one member of the Conference seemed to think was wanting.

The second point I wish to direct your attention to is one referred to by, I believe, Lord Jersey; I think he asked that the line of cable should be in some way defined, so that the survey might be proceeded with without unnecessary delay, that, in fact, it was necessary to have some idea where the survey should be carried on before it could be commenced. With regard to this, I can only say, that if the object be to establish a British cable, we must commence the survey at Vancouver, and proceed to Fanning Island, and thence southwards, Fanning Island being the nearest British Island that we possess. This reminds me, sir, that it is due to myself to make this explanation:—I took upon myself to point out, on three separate occasions, that another island considerably nearer Vancouver than Fanning Island was available for a mid-ocean station. On the 23rd of September, I prepared a memorandum, which was sent from Honolulu by Mr. Bowell, informing the Canadian Government that this island was unoccupied, and unclaimed. I refer to Necker Island. When I reached Australia, the same statement was repeated by me in a memorandum dated October 11th, which was submitted to the various Australian Governments. And, again, in January last, I had, with the Agents-General and the High Commissioner of Canada, an opportunity of seeing Lord Ripon, and I placed

in his hands a third document, dated January 6th, in which I pointed out that this island, 800 miles nearer than Fanning Island, was still unoccupied and unclaimed by any maritime power. That island, however, is not now available. On the 27th May last formal possession was taken of it by the Hawaiian authorities, so that if we want Necker Island we must now apply to those who have so recently laid claim to it. The nearest British island is Fanning Island, and, therefore, the survey should be made between Vancouver and Fanning Island, unless some terms can be made for landing the cable at one of the Hawaiian Islands. As far as the section between Vancouver and Fanning Island is concerned, of course it would be very desirable to have it shorter, but it is perfectly feasible to lay a cable to Fanning Island. The third point I wish to mention is this:—It was pointed out by Mr. Foster that it was necessary to know the cost of the undertaking in order that the several Governments might intelligently consider the whole question. The survey alone will not give us the cost of the undertaking. Something more is needed, and the question in my mind is, who is to obtain that further information? Are we to wait until another Conference, or will it not be better to have some one in authority to act in following up the resolutions of the Conference in regard to the establishment of a cable? The resolution submitted by the Honourable Mr. Thynne has a direct bearing upon the matter. If the Canadian Government be authorized and requested to make all necessary inquiries, and take such steps as may be found expedient to promote the object we have in view, I am sure the Conference cannot arrive at a better conclusion. There are other matters besides the survey and the cost which require to be considered. It may be necessary to carry on correspondence in connection with the acquiring of a mid-ocean station. Possibly, a correspondence with the Hawaiian authorities and the Imperial Government, possibly with electricians, manufacturers of cables, and others; therefore, I think the resolution submitted by Mr. Thynne is one which should

be passed by the Conference.

Hon. Mr. Foster.—The survey to Honolulu, and thence further across, would that be all that would be necessary, even if the cable ran to Fanning Island?

Mr. Fleming.—I think a survey from Vancouver to Fanning Island, with some soundings in the direction of Honolulu, would answer all the objects.

Hon. Mr. Playford.—The motion is a very proper one, after the position the Conference has taken. I should not have risen to say a word, were it not for what Mr. Fleming has said. He fancies he has answered my statement. He has not answered me in the slightest. My contention was that it was a very singular thing that Sir Charles Tupper and Mr. Fleming, who have taken such a great and deep interest in this cable matter, and have written so much about it, had never, through the Colonial Office, got the Imperial Government to get a report from a competent Imperial officer on the question of the strategic importance of this particular cable. He thinks he has answered me by quoting some Imperial officer, who evidently is in the employ of the Canadian Government. This Imperial officer has not been asked by the Imperial authorities to express his opinion. It should come through the Colonial Office in the proper way, and not through Mr. Fleming direct. It is no answer to my contention to say that an Imperial officer has given such a report to Mr. Fleming. My contention was that the report of the Imperial officer should be given to the Imperial Government, and should be got in the proper channel, through the Colonial Office, by either Mr. Fleming or the High Commissioner, Sir Charles Tupper. I contend that I am in no way answered by quoting a statement from General Herbert, who may be a very competent individual, and I have no doubt has taken what he believes to be a correct view of the situation; but, it is no answer to my contention, that if we are to get opinions upon this very important subject, on which we are going to ask the Imperial Government to give us assistance, that the

reports of such Imperial officer should be obtained by the Imperial Government, and that they should have a choice of the officer, and that they should secure the best official for the purpose of making it.

Mr. Fleming.—I have been aware for several years that there is in the hands of the Imperial Government the strongest reports in favour of an alternative line. I have seen such reports myself. I have seen them since this Conference met, but they are confidential and cannot be produced.

Hon. Mr. Playford.—It is very singular that the only report they have allowed to go out is the report of the Hydrographer, and he is opposed to it.

Hon. Mr. Fraser.—Surely the report of the Hydrographer cannot be put against the report of General Wolseley. As I understand the position of the Hydrographer, it is from a mere commercial point of view.

Mr. Fleming.—There are reports which have not been produced.

Hon. Mr. Thynne.—If you read the Hydrographer's report, you will see it does not deal with the strategic question at all; it only deals with the requirements of the cable for commercial purposes.

Hon. Mr. Playford.—Oh, no. I have not got my papers with me to-day, because I did not anticipate anything more would be said about the cable.

Hon. Mr. Foster.—Then, Mr. President, we should arrive at some definite understanding. If you entrust the Canadian Government with the duty of carrying out the wishes of the Conference, according to these resolutions, what position is the Canadian Government to take when it comes to asking for a survey? Are we to ask the British Government to conduct the survey, and where? Are we to take Mr. Fleming's suggestion? We would like some definite instructions from the Conference in regard to this matter. Are we to take Mr. Fleming's suggestion, and ask for a survey from Vancouver to Fanning Island, with side soundings to Honolulu? If it is not

that, what are we going to ask? If we make a request for a survey, we must indicate some particular portion of the Pacific Ocean we want surveyed.

Sir Charles Mills.—Would it not be wise to find out which is the cheapest and best route, and allow the Government to have the survey made wherever they think fit?

Mr. Lee Smith.—You want the plan of procedure defined as far as possible?

Hon. Mr. Foster.—I thought it was important we should state somewhere near the portion of the ocean we wanted to have them survey.

Hon. Mr. Thynne.—I do not think we can do more than has been done. I think the general line has been laid down by the discussion which has taken place. We want the shortest and quickest route. We want it through British territory, or under British control. That is a definition of itself, and defines the course of the line.

Hon. Mr. Playford.—The shortest route leaves New Zealand out.

Mr. Lee Smith.—We could get a line across.

Hon. Mr. Thynne.—The Admiralty will be able to select the most effective and best course to take. We have laid down, in a general way, that it is to be the shortest and quickest route. We want also, that the line should go through British territory, and be under British control. Those two definitions, practically, are sufficient for the Imperial and the Canadian Governments, as guides for the direction in which the survey should be made.

Mr. Lee Smith.—Mr. Playford has suggested the position of New Zealand. So far as New Zealand is concerned, we have got two cables across to Australia. To make this matter complete, we want to get possession of these two, or get an independent line, or, as a third alternative, go direct to New Zealand. If we are expected to contribute to this, we should have an independent line. With regard to Mr. Foster's suggestion, that there should be some statement as to how we shall carry

out Mr. Thynne's motion, let me say this: Even suppose we did not want a company to put it down and run it for themselves, why not advertise for somebody to lay the cable as a national concern, and to keep it in order for so many years. I think you would get plenty of offers within six months.

Hon. Mr. Suttor.—I think the point raised by the Hon. Mr. Foster is worthy of consideration by every member of the Conference. If we ask the Home authorities to survey a route, say from Vancouver to Fanning Island, and they report that the depth of water, and the condition of the bottom, make it easy to run a line from Vancouver to Fanning Island, we should not stop there; we should consider further the objections raised by some of the scientific people, that it is impossible to work a line profitably, of such a length. If we are to restrict our ideas to the survey of a line irrespective of the scientific objections raised, we may then find ourselves in the position that it is quite possible and easy to lay a line from Vancouver to Fanning Island, but the question of the practicability of working a line of that length may not have been considered. It seems to me we must go further than ask the Imperial authorities to make a survey; we must ask them to ascertain, from the highest possible authority, whether we can profitably work a cable of that great length. If there is any doubt about that, we must then ask them to have surveyed an alternative line; but, we cannot ignore the question of the practicability of working a line of that length. We may find ourselves in the position that it is quite possible to lay a line, but it may not be practicable to work it. That will have to be considered in making the proposal we shall have to make to the Imperial authorities.

Hon. Mr. Foster.—The two, certainly, must go together.

Hon. Mr. Suttor.—Yes. We must ask the Imperial authorities for something more than the mere survey of the line. I am very glad to support the proposition made by Mr. Thynne, and, although it is not very definitely

stated, I conclude his proposal embraces the suggestion that all communications with the Imperial authorities should be made by the Canadian Government. I should like to suggest in connection with this, and I hope I shall not be considered out of place in doing so, that if the Canadian Government are going to make these representations through their High Commissioner in London, Sir Charles Tupper, they will permit to be associated with him the different Agents-General of the colonies interested. We feel that our representatives in London should know exactly what is going on, so that they may report to their different Governments the steps that are being taken from time to time.

The President.—You mean in connection with making the inquiries?

Hon. Mr. Suttor.—I am sure the suggestion I am making will be accepted in the same spirit in which it is made, that all the colonies interested in this Conference may be represented in any communication between the Dominion of Canada and the Imperial authorities.

Hon. Mr. Foster.—Any communications the Government of Canada would make to Great Britain would not be made through Sir Charles Tupper; they would be made direct to the Colonial Office, and, very often, in regard to these things, we send the same information to Sir Charles Tupper, as our High Commissioner. We ask him to follow up the matter. Certainly, all the colonies interested should have their Agents-General working in unison. There is no doubt about that. We will see to that.

Hon. Mr. Suttor.—If the communication is made direct, the colonies will be informed of the steps taken as soon as possible.

Mr. Lee Smith.—What is it understood you are going to do, Mr. Foster?

Hon. Mr. Foster.—Give effect to these resolutions. I take it, that under that instruction, if it were considered advisable, in the first place, take one contingency, if we

get a survey, that it is open to the Government, if it thinks best, to try to get at the cost of a cable by some such means as my friend Mr. Smith suggests.

Mr. Lee Smith.—That is the very thing that I want. I think you will find that is the only practicable method.

Hon. Mr. Foster.—I mean, that under the resolution, if it asks for a survey, and the British Government come to the conclusion that they are not able to make that survey, and in fact do not make it, it is open for the Government of Canada to try to ascertain the cost of the cable, or what it could be constructed for, by some such means as my friend Mr. Smith suggested, by asking parties to tender. Or, it is perfectly competent for them to communicate with the Australian Governments, and say, shall we carry on this survey alone?

Hon. Mr. Thynne.—Or, you may go further. Supposing you have the survey made, you may call for tenders as to cost of laying the cable.

Hon. Mr. Foster.—Oh, yes, certainly; we would be obliged to do that.

The motion was then put to the meeting and unanimously carried.

CHAPTER VI.

TENDERS FOR CABLES.

In the chapter on nautical survey, reference has been made to the changed aspect of affairs caused by the introduction of Mr. Lee Smith's resolutions in the Ottawa Conference of 1894.

Mr. Lee Smith*—Perhaps this would be an opportune time for me to give notice of my resolution. So certain am I that on the present lines nothing will be done, that there will be a delay of probably five or seven years as in the past, that I think the proper way to proceed is in accordance with the resolution which I now read. This will bring the question before us in a definite, business-like form. We will be able to get tenders; for I am certain that the bogey of survey will be got over in six months. A first-class firm would complete the thing in a fifth of the time a Government would. Mr. Sandford Fleming suggests that I should add another proposition which I will place at the end:

(1) That in the opinion of this Conference, the most speedy and effective manner in which direct cable communication between Canada and Australia could be established would be by inviting offers to carry out the work, under conditions to be hereafter decided upon.

(2) That with a view to this end, the Canadian Government be requested to solicit offers of plans, specifications and terms for alternative lines, as indicated by the several propositions submitted to this Conference.

(3) That any tenders received be submitted for the consideration of the several colonies interested, and that any expenses incurred be paid by the said colonies jointly, according to their population.

(4) That in the event of the proposals not being satisfactory, the several Governments take steps to carry out the undertaking as a national work.

*Colonial Conference 1894—Proceedings of, page 157.

Subsequently, on moving the adoption of his resolutions, Mr. Lee Smith said:—

I may say, at once, that after the motions which have been recently moved and carried with regard to the advisability of obtaining a survey at the joint cost of Her Majesty's Government and the Australian colonies and Canada, I have not the least idea I shall carry my motion; but so convinced am I that the motions you have carried will result in nothing but delay similar to that which has taken place since 1887, that I feel justified in putting this resolution before the meeting for the purpose of putting on record the objection which I have taken to that method of procedure. However, to be in harmony with other gentlemen and with other colonies, I have agreed to that proposition, although I do not think it will result in any practical work being done in the direction we all wish. I will not take up the time longer. I have already enlarged very considerably on the question. The survey will be put off and put off, and I am perfectly certain that in three years we shall be no further advanced than at the present day. I will do no more, sir, than put before the meeting these propositions, and ask the opinion of the conference upon them, so that I shall have, as I said before, my objections upon record. Two things may occur. First of all, it may be that if these proposals are rejected it may spur on the British Government to do something. They may say, one colony brought before the Conference the advisability of doing this by contract, we will not allow that, we will do it ourselves. On the other hand, if the British Government do not consider this favourably, and do not do anything, as I do not think they will, then you have this position to fall back upon. However, it will be on record that one colony has indicated the method in which we ought to do this work. I will move the four *en bloc*.

Hon. Mr. Fitzgerald.—I hope the mover of these resolutions will stand alone.

Mr. Lee Smith.—I merely do it in order to put on record my objections.

Hon. Mr. Playford.—I will second it for the sake of having it before the Conference.

Hon. Mr. Fitzgerald.—Though the reasons given by Mr. Lee Smith may be satisfactory to himself, I think they are by no means complimentary to the Imperial Government, nor do I think the circumstances warrant our at all even insinuating the want of confidence which those resolutions impute.

Mr. Lee Smith.—I did not refer to tenders; I referred to the work.

Hon. Mr. Fitzgerald.—But we have not agreed to do anything more than make a survey at present.

Hon. F. B. Suttor.—I would suggest to my friend, Mr. Lee Smith, to withdraw the motion, rather than allow it to be negatived. We have not negatived anything yet.

Hon. Mr. Foster.—You will get your protest in all the same.

Sir Henry Wrixon.—He has suggested that the work should be done by private enterprise, as far as possible. Generally, I agree with that, though I doubt if you will get it to work. The contrary view has been put forward here, and withdrawn on the ground that it was not desirable for us to enter into that question either way. Therefore, I think, Mr. Lee Smith may, for the same reasons, withdraw his motion.

Mr. Lee Smith.—I am in rather a peculiar position. There have been surprise motions disposed of before mine, and honourable gentlemen have committed themselves; therefore, they cannot discuss the matter from my point of view. I have already given way once, therefore, I think I must stand by the motions which I have made. I should like to have these motions recorded, even though I stand alone. It is no insult to the British Government to say there has been delay. Seven years ago we were told that the work would be proceeded with. What has been done? Would it not be a monstrous thing to come this whole distance, at great inconvenience

and expense, with the object of advancing the interests of our colonies, and go away, and have no prospect that any result will follow what we have done?

Mr. Fleming.—I think if this passes it will lead to very important results. I think it would show that we would not receive from any company satisfactory tenders, and, therefore, leave the project of the Pacific Cable to be carried out as a national work. I think that is the important result we would reach, and that we would save time by it, because if there be a future conference, two or three years hence, after surveys have been made, they will probably decide to call for tenders. I am perfectly satisfied, in my own mind, that the work is practicable whichever route is taken.

The motion was put to the Conference, and declared lost.

Of the fact of delay, there had been several complaints in the Conference. For instance, Hon. Mr. Fraser said:

It does appear to me rather strange that there is always some difficulty turning up. As a purely business man during my whole life, it does appear to me very strange that whatever course is taken, something will turn up to impede the progress of this matter. No sooner had the correspondence appeared when the Eastern Extension Company began to wield their enormous influence. I am not going to say that they are not justified in using that influence. Business men are the same all over. They are trying to put money into their own business concerns, and, perhaps, they are justified in trying to oppose any other rival company, but in this case something has always cropped up in some mysterious way at all times; but we have had gentlemen who are anxious to promote this cable, and the part which they have taken is creditable to them. I hope the opposition will cease in future. The Eastern Extension Company do not appear to think the difficulties are insurmountable at all just now. I believe they will be quick to accept a subsidy of £190,000. I believe from past experience that

the statements of Mr. Sandford Fleming will be borne out. He has gone carefully into the matter some years ago, and the prediction which he made with respect to the business on the present line has been borne out in a very surprising manner, indeed.

Hon. Mr. Bowell, in speaking to the resolution requesting the Imperial Government to prosecute the survey with all possible speed, said:

For some reason or other, there appear to have been influences at work, whether with the Admiralty or with the Colonial Office, wherever it may be, because this work was progressing and was stopped. One reason given, incidentally, by Lord Jersey, was, that they were not aware what route was to be taken, and, therefore, that it was not thought judicious or proper to go on expending money without knowing exactly where they were to go.

Mr. Lee Smith was correct as to the fact of delay, unaccountable delay, as is well known. His plan of flanking the men of delay by calling for tenders must have won support after reflection, for on the last day of the Conference, Mr. Thynne moved the resolution already given.

Mr. Lee Smith was again to the fore. He said: "I am delighted with this motion of Mr. Thynne, because it is practically an affirmation of the method of procedure which I advocated the other day, and which was then not considered to be advisable. * * If you look at the terms in which Mr. Thynne's motion is put, you will see it really means that the steps to be taken must necessarily lie in the direction of inviting tenders from companies in one way or another. During the debate on my motion, the question was asked, how can you do it unless there is some survey? The same question is applicable to this motion. How are you going to get any definite information as to what this will cost unless you have surveys, or unless you take the risk, or unless some company will take the risk of making a survey and send-

ing in a tender? It is really my motion in another form. I trust it will lead to what we all desire, and that it will not be long before we know what the cost will be."

The continuation of the debate led to the statement by Mr. Foster, that tenders would be called for as to the cost of the cable, if no promise of survey were forthcoming.

Scarcely had the Conference closed—in fact, it was on the very day of closing—than Mr. Siemens, then in Ottawa, communicated to Lord Jersey and the Canadian Government a memorandum which had a great influence in shaping the course of the Canadian Government, upon whom, by resolution, the Conference had imposed the duty of carrying out the purposes of the Australasian and Canadian representatives. Mr. Siemens was well known as a member of one of the most distinguished firms of electricians in the world, a firm which had just before successfully laid one of the cables between Great Britain and America.

In his memorandum Mr. Siemens said:—

"With regard to the technical difficulties raised in 1887, it may not be out of place to consider that the necessity for a close survey of a cable route arises principally from the requirements of the engineer laying the cable, who has to know at every moment the exact depth of water into which the cable passes. The brake power with which the cable is held slack, and by which the percentage of slack is regulated, has to be adjusted according to the depth of water, in order to ensure an even distribution of the slack along the whole route of the cable. Such a distribution prevents accidents, economizes cable, facilitates repairs; hence, the usual practice is to lay cables only on routes where very frequent soundings have been taken, and in 1887, the experts consulted by the Imperial Government were not satisfied that the Pacific Ocean was sufficiently well explored for this purpose.

"During the last seven years the work of survey has steadily progressed, and at present it may be asserted

that the route proposed at the Wellington Conference passes nowhere through water more than 3,500 fathoms deep.

"If the adjustment of the brake power depended entirely on the knowledge required by soundings taken previously on the selected route of the cable, grave doubts might still exist whether the laying of the Pacific Cable could be proceeded with without further information being obtained by carefully taking soundings over the exact route. Fortunately, means have been devised to indicate to the brakesman continuously the percentage of slack with which the cable is paid out, and thus it is possible to lay a cable over a route of which only the general features are known.

"This contrivance has been used with perfect success in the laying of six Atlantic cables, so that there is no doubt as to its performance realizing its theoretical advantages. The depth of water met with in the Atlantic reaches 3,000 fathoms in several places, where the cables have been laid, so that there is no doubt about the possibility of laying the cable in 3,000 fathoms, or even more.

"To be sure it will be necessary to select a type of cable which combines great strength with light weight, but there is no difficulty in this either, as it has been possible to construct cables for the Atlantic which will carry 7,000 fathoms of their own length before they break.

"It may, therefore, be taken for granted that any technical obstacles which were apprehended in 1887 have now been overcome, and that the cable can be laid as soon as the financial question has been settled."

As we have seen, it was not many weeks before the advertisement was published by Canada, and tenders asked.

Mr. Fleming had seen from the first the value of Mr. Lee Smith's movement, had suggested an addition to the resolutions, and had spoken in favour of it.

It is more than likely that he had a hand in the introduction of the motion made by Mr. Thynne.

However that may be, the Government of Canada laid upon Mr. Fleming the burden of preparing the plans and specifications that the tenderers would want to see before submitting their estimates.

The document upon which the tenderers based their tenders is to be found in Documents relating to the proposed Pacific Cable, Sessional Papers, House of Commons (Canada), No. 51 of 1899.

The result of the experiment must have been very gratifying to those who, both in Australia and Canada, had taken an active part in the prosecution of the plan for bringing the two parts of the Empire closer together.

A perusal of these interesting documents brings out these facts: 1st. that the cable-making companies saw no difficulty in the way caused by the very partial character of the surveys; 2nd, that there was no serious obstacle in the way of establishing direct telegraphic communication between the colonies of the southern hemisphere, those of the northern, and Great Britain, all the landings being on British soil; 3rd, that the cost of such telegraphic communication was well within the limit of prudent business calculation, and that, therefore, 4th, the project was an eminently practical one, based upon paying qualities.

The tenders received by the Dominion Government, and letters connected therewith, are:—

1. Letter from Sir John Pender, October 19th, 1894.
2. Letter from Mr. W. Sharpley Seaton, October 19th, 1894.
3. Letter from the Chairman of Telegraph Construction and Maintenance Company, October 19th, 1894.
4. And tender of Mr. Francis A. Bower, October 20th, 1894.
5. Tender of Siemens Bros. & Co, October 20th, 1894.
6. Tender of Fowler-Waring Cable Co., October 19th, 1894.
7. Tender of W. T. Henley Telegraph Works Co., October 19th, 1894.

8. Tender of India Rubber, Gutta Percha and Telegraph Works Co., October 19th, 1894.

9. Tender of I.R.G.P. Telegraph Works Co., November 22nd, 1894.

10. Tender of I.R.G.P. Telegraph Works Co., December 24th, 1894.

The call for tenders was, therefore, a move of the greatest value. It completely headed off the antagonism which had been offered by or through the Admiralty.

It resulted in establishing Mr. Fleming's idea more firmly than ever in the minds and hearts of the people of Canada and Australasia.

It completely delivered the public mind from the slavery of the survey, which was so prominent in the Conference of 1887, and had a strong hold upon many members of the Conference of 1894. It was an act of emancipation; and Mr. Lee Smith and Mr. Fleming by their words at the Ottawa Conference, deserve special mention in this connection. Mr. A. Siemens is also deserving of mention.

Time and the advance of telegraphic knowledge have solved the difficulties which seemed so formidable to the men of 1887, and even for a time to the Conference of 1894.

CHAPTER VII.

THE IMPERIAL COMMITTEE.

The Imperial Pacific Cable Committee met, and was constituted in June, 1896, in London. The instrument of appointment was signed by Mr. Chamberlain on the 2nd June, and the first formal meeting of the Committee took place three days later. Delays ensued, and it was the 12th of November before examination of witnesses began. Once started the work was pushed on with energy, evidence being taken steadily until the 7th of December. The deliberations of the Committee followed, and its report—the momentous document which ensured the bridging of the great Pacific by the electric flash—was signed on the 5th of January, 1897. Eight weeks had been spent in careful work, and already the results have shown what an admixture of shrewdness, caution and enterprise the committee brought to bear in the drawing up of its report.

Six men composed the little group on whom devolved the great responsibility of pronouncing upon the enterprise. Two sat on behalf of the Home Government, two represented Canada, two were Australasians. The British members of the Committee were men of the administrative class. The Earl of Selborne was, at that time, the Under Secretary of State for the Colonies, has since been promoted, and is now the First Lord of the Admiralty. Comparatively young, belonging to one of the great governing houses of England, this rising member of the younger group of British publicists stood in the committee for the public man, the parliamentarian; to him not inappropriately fell the duty of presiding over it. Mr. George Herbert Murray, C.B., Principal Clerk in the Treasury, represented the permanent service. A change took place in the Canadian membership. At first there were nominated by the Dominion Government, Sir Donald A. Smith, G.C.M.G., now Lord Strathcona, Sir Mackenzie Bowell, K.C.M.G., and Mr. Sandford Flem-

ing, C.M.G., C.E. Before the Committee began to take evidence, Sir Mackenzie Bowell desired to withdraw, and the Canadian Government nominated the Hon. Alfred G. Jones to replace him. Upon arrival in London, the discovery was made that only two seats had been allotted to Canada, and Mr. Fleming at once waived his claims, thinking it desirable that Canada should be represented by her High Commissioner and a former Minister of the Crown. He himself assumed the position of expert adviser, and the freedom afforded to him by that position proved of great service in the collection of facts bearing upon the deliberations of the Committee. He might not incorrectly be styled the counsel for the cable. Of the great business ability represented by the Canadian members it is unnecessary to speak. Sir Donald Smith's sheer capacity for affairs had forced him to the front from a lonely Hudson Bay Company's fort in Labrador, and he had, for over a quarter of a century, played an active and effective part in the financial, political and diplomatic affairs of his country, in her internal and Imperial relations. Mr. Jones was a man of great business ability, and of long political and administrative experience, and is now Lieut.-Governor of Nova Scotia.

The Australasian members were the Agents-General of the two largest of the Australasian colonies; it was understood also that they were in close touch throughout these deliberations with the Agents-General of the other Australasian colonies. Sir Saul Samuel, K.C.M.G., C.B., was the senior.

Twenty-seven witnesses were examined, the proceeding taking the form of close questioning by the members of the committee in turn. Statements and documents of various descriptions were submitted by witnesses, but all of these were strictly supplementary to the careful examination of every view advanced by the gentlemen who appeared before it.

The first witness examined was Mr. Fleming, the father and champion of the project. In his evidence he summarized the case as it appeared to him after his fif-

teen years of assiduous study. In addition, he submitted his "Statement No. 1," the form in which he had digested and set forth the practical results of the Ottawa Conference. This completed his evidence, but it may be noted here, that later Mr. Fleming compiled his "Statement No. 2," embodying his comments upon the evidence which had been submitted. This was not printed in the blue-book in which the Committee published the result of its work, but indirect allusion is made to it. It was embodied in the separate report made by the Canadian members to their Government, and this fact, and the further circumstance that the report of the Committee is in substantial harmony with its principal contentions, give colour to the surmise that it was before the Committee and had its proportion of influence in its final deliberations. Another step taken by Mr. Fleming was, to obtain the opinions of a number of firms engaged in the Australasian trade upon certain points upon which the views of merchants and financiers should carry weight. The results of this investigation also were laid before the Committee, in the same informal manner as "Statement No. 2."

"Statement No. 1," and its appendices, constituted a summary of the situation as effected by the developments of the last two years. In the statement and the two documents, the memorandum of 1st December, 1894, and the letter to the Canadian Minister of Trade and Commerce of 28th December, 1894, supplemented by the letter of January 5th, 1895, to the same Minister, and the letter of January 7th, 1895, to the Premiers of the Australasian colonies, Mr. Fleming pointed out, with force and clearness, the conclusive advance in the project brought about by the reception of the tenders. The replies elicited by the advertisement, he showed, had brought the whole project to solid earth, had set at rest all questions as to possibility, had shown that the cost would be moderate, indeed, well within his own previous estimates, and had placed the question in a position where all that needed to be treated of was the details. These

replies further had gone far to confirm his arguments in favour of State ownership and operation of the line. This constituted the most important part of the statement. In addition, a consideration of ways and means for the carrying out of the project found a place in the statement. For instance, Mr. Fleming suggested an expedient whereby he was inclined to think the expenses might be kept down during the three first years. By stipulating that the contractor should keep the cable in repair for three years, a heavy source of expenditure would be avoided in the critical years, when the new route was struggling for a foothold. In this way, he estimated, operating expenses could, during the first three years, be kept as low as £75,000; when the cable was taken over from the contractor the cost would rise to £125,000. As regards revenue, Mr. Fleming argued vigorously that the new route might be expected to secure half of the total cabling trade between Australasia and Europe, and he submitted calculations as to the volume of traffic which might be expected. If 1898 were the first full year of operation, a revenue of £110,000 might be expected, and he hoped for a steady increase, at the rate of 14 per cent. or 15 per cent. a year. His calculations indicated a future of great prosperity for the route, and they possessed one great element of strength in the fact that for years past every estimate as to the growth of the cabling traffic to which Mr. Fleming had committed himself had fallen far short of actual results, as shown by the lapse of time, and the appearance of the statistics year after year.

Another detail with which Mr. Fleming dealt in his statement was, the question of the practicability of telegraphing over a cable of such length as that over the Fanning Island section. At his request, Mr. Frederick Ward, manager in England of the Commercial Cable Company, had arranged to have two of the cables of that Company joined at Canso, N.S., so that a continuous cable was secured from Waterville, Ireland, to Canso and back. Over this cable, more than 4,700 miles long, sig-

nals were sent with perfect success. Mr. Ward, during his evidence, gave further particulars as to this experiment.

The documents which accompanied Mr. Fleming's statement included his analyses of the tenders of 1894, and much information as to the existing traffic, and other matters of interest.

The first subject which the Committee was directed to consider was the fundamental one as to whether the laying of an all-British Pacific Cable was practical from a technical point of view. The witnesses first examined accordingly were engineers intimately concerned with the actual laying of cables. Six such witnesses gave testimony; four were the chief engineers of great cable-laying companies, one was a consulting engineer of great experience in this species of work, and one was a seaman who for many years had commanded a cable ship. The four engineers first named were: Mr. Matthew H. Gray, engineer in charge of submarine telegraph engineering department of the India-Rubber, Gutta-Percha and Telegraph Works Co., briefly known as the Silverton Company, which, in 1894, had made the lowest tender for the cable; Mr. Alexander Siemens, of the firm of Siemens Bros.; Mr. Theophilus Smith, chief marine cable engineer of the Henley Telegraph Company; and Mr. F. R. Lucas, engineer-in-chief to the Telegraph Construction and Maintenance Company. Mr. Gray had been exclusively employed in the laying of cables since 1882, and had been present at the laying of about 16,000 miles of submarine cables. Mr. Siemens had been engaged in the laying of cables since 1869, and the list of cables with which he was connected included seven across the Atlantic, and a number across the coast of Brazil, and in China. Mr. Smith's experience likewise went back to 1869, and included the laying of cables in the Eastern and West Indian Seas, in the Mediterranean, and in the South Atlantic. Mr. Lucas had been engaged in the work since 1865, when the first unsuccessful effort had been made to cross the Atlantic; he had been at the lay-

ing of over 50,000 miles of submarine cables, and in the case of 30,000 miles, had been in charge. Mr. Taylor was a consulting engineer, who, in the course of a quarter of a century, had supervised the laying of about 25,000 miles of cable. Captain Walter Goodsall had been the commander of the Eastern Telegraph Company's ship, "Chiltern," and gave evidence as to the actual laying and recovering of cables.

The next group of witnesses may be described as experts in the management of a cable when once laid and in operation. Prominent among these was Dr. Alexander Muirhead, an inventor of electrical apparatus, including the duplex method, and certain automatic appliances. Dr. Muirhead gave evidence as to the amount of work which could be expected from a cable of the length and dimensions which it was expected to lay across the Pacific. A letter bearing upon the same subject was received from Lord Kelvin, and was printed in the report of the Committee. Evidence upon the practical working of the cables was given by Mr. Frederick Ward, manager in England of the Commercial Cable Company, Mr. J. H. Carson, manager of the Anglo-American Cable Company, and Mr. R. K. Gray, the managing director of the Silverton Company.

The evidence of a group of officials comes next. Mr. W. H. Preece, engineer-in-chief and electrician to the General Post Office, and Mr. J. C. Lamb, C. B., C.M.G., third secretary of the General Post Office, were the principal witnesses who may thus be classified; in addition, Rear Admiral W. J. L. Wharton, Hydrographer to the Admiralty, gave evidence on technical points; and Mr. H. Buxton Forman, assistant secretary and controller of the Packet Services of the General Post Office, explained the principles upon which mail subsidies are given. Mr. Preece and Mr. Lamb were the important witnesses in this group, and it is a noteworthy fact that they were the only witnesses, exclusive of the representatives of the Eastern Extension Telegraph Company, who opposed the project.

“Strictly interested parties” is the phrase which may be used to describe the next group of witnesses. The Eastern Extension Telegraph Company was represented by its chairman, the Marquess of Tweeddale, and two prominent officials, Mr. H. A. C. Saunders and Mr. F. E. Hesse; these gentlemen appeared together. Their testimony, as was to be expected, was strongly adverse to the Pacific Cable. Mr. Thomas Playford, the Agent-General for South Australia, gave evidence as to the interest which his colony possessed in the project through her heavy commitment through the long land line to Port Darwin. Mr. W. P. Reeves gave the views taken of the Pacific Cable project by New Zealand, and Mr. B. T. Finch, who appeared on behalf of the India Office, explained the attitude assumed by the Indo-European Telegraph Department, whose lines constitute a portion of the route used by the Eastern Extension Telegraph Company.

Finally, a number of men active in mercantile and financial matters, gave evidence as to the extent to which they would be affected by the opening of an alternative route. These witnesses included Mr. Nathaniel Cork, managing director of the Commercial Bank of Sydney, Mr. C. V. Kingston, secretary of the Australian Mortgage Land and Finance Company, Limited, Col. Hozier, secretary of Lloyd's, and Mr. E. T. Doxat, chairman of Dalgety & Company, Limited. Mr. W. Hepworth Mercer, the secretary of the Committee, gave evidence in order to submit certain documents; he also explained the position of affairs with reference to the proposed cable between the United States and China and Japan, *via* Honolulu.

The fundamental question was, the practicability of the laying of a cable over the Vancouver Island and Fanning Island section. This was speedily settled. Every witness who alluded to the subject agreed that the cable could be laid and maintained. Mr. Lucas put the matter picturesquely. “I do not think myself,” said he, “there is any difficulty or danger in laying the cable in 3,000

fathoms or over. I should enter upon that with a light heart. This day last week I was laying a cable in 2,700 fathoms, across the Bay of Biscay, and if it had been 3,000, I do not think that it would have made much difference." It was pointed out by these expert witnesses, that it was highly advisable to survey the route in advance, but it was agreed that this could be done while the cable was being manufactured. The evidence further brought out the fact that, so far as was known, the great depth might be expected to prove advantageous to the life of the cable. In the profound gulfs into which the cable must descend, none of the insects which are destructive in shallower water, find place; in them no current runs to chafe the cable against sharp rock edges; on their floor the soft ooze, which is the best possible bed for a cable, would be likely to be found. One other favourable circumstance was surmised to exist, and the conjecture has been verified. Perhaps the greatest danger to cables lies in inequalities of the ocean floor. The cliffs and ravines of submarine mountains are so many traps, for if the cable rests upon the edge of a precipice, or if a stretch is suspended over a depression, it is sure, sooner or later, to part. It was believed that the bottom of the Pacific, along the route proposed, was unusually level, and the event has shown that this is the case. The slack necessary had been estimated at 10 per cent.—it proved to be $6\frac{1}{2}$ and 7 per cent. The length of the cable which would be needed between Vancouver Island and Fanning Island had been estimated at 3,560 nautical miles; it proved to be 3,455 miles.

All of the four companies, whose engineers gave evidence, had replied to the advertisement for tenders in 1894. Three of them had made formal tenders, and their representatives assured the Committee that these tenders had been "firm," had been seriously intended. Mr. Siemens, indeed, showed positive eagerness to get the contract, and explicitly stated, that if given an opportunity his firm would submit a tender much lower than the one it had laid before the Canadian Government in

1894. Much interesting information was given by these gentlemen as to the laying of cables, and their liability to accident, and the methods of repairing them.

The practicability of the cable was conceded by all witnesses. The opponents of the project—as the representatives of the Eastern Extension Telegraph Company, and the officials of the General Post Office, may not unjustly be described—made their attack upon the further point of capability of the line when laid. The main conflict lay around the fact that a cable so long, and lying in such deep water as the section between Vancouver and Fanning Island, must necessarily be slow. It would be too slow to be of practical use, said the Eastern Extension officials and the civil servants. It would be able to do the work needed, said all the other witnesses, who were questioned on the point. The longer a cable is, the heavier it must be, to permit the transmission of signals with sufficient rapidity. The Fanning Island section would be extremely long, and, therefore, should be extremely thick. But the depth on this section is great, and a very massive cable, once laid, could not be raised to the surface for repairs; it would break of its own weight before it could be hoisted to the bow of the cable steamer. A compromise was necessary, and it was upon this compromise that the main issue lay. "Speed," said Mr. Lucas, "is a very elastic word, and people may make what they like of it. It is very much like selling feathers by a quart measure." The Committee possibly thought often of this simile as the conflicting testimony was elicited, and as "theoretical" and "practical" speeds, "paying" and "non-paying" words, five-letter "words" and eight-letter "words," duplex and simplex working, and numberless other technicalities rolled upon them.

The advertisement of 1894 had called for a cable with a capacity of twelve "words" a minute. The form of cable which the companies had put forward as answering to this description, contained rather over 500 pounds of copper and between 300 and 400 pounds of

gutta-percha to the nautical mile. The exact weight suggested by Lord Kelvin, which the Silverton Company ultimately agreed to lay as a "12-word" cable, was 552.7 pounds of copper and 368.5 pounds of gutta-percha to the nautical mile. Another form of cable which was discussed contained 650 pounds of copper and 400 pounds of gutta-percha to the mile, and this was understood to have a capacity of 16 "words" per minute. A "word" is a conventional term in cabling, and from an early period in the history of telegraphy has been taken to consist of five letters. The first cable will transmit 60 letters, and the second 80 letters, in a minute.

First of all, the critics of the project drew attention to the fact that the actual average of the words sent in cable messages is far more than 5 letters. The use of codes has greatly increased, and code words, as a rule, are long; in addition, the small words now are generally omitted. As a matter of fact, the average word transmitted by the cable contains eight or nine letters. Accepting for the moment 60 letters per minute as the speed of the cable, Mr. Preece, by assuming the actual "word" to average 8 letters, reduced the number of "words" per minute to 7.5. Upon this deduction, other calculations were brought to bear. It was held, for instance, that 60 letters was the "theoretical" speed at which the cable could be worked, but that the "practical" speed would be much lower. Attention was drawn to the fact that every message is accompanied by certain non-paying words, such as the place from which it was sent, the time, the date, the route, and a number of other particulars necessary for the account-keeping of the company. Quite late in the taking of the evidence, it was brought out, in the examination of a cable manager, that these "words" are very short. Five such indications accompany a message over the Eastern lines, and they require only nine or ten letters. Further, in the Atlantic traffic, these indications are used much more sparingly, the Eastern lines using (partly because of certain international

obligations), a much more cumbrous system. These facts were elicited late in the day, and for a while the free "words" seemed greatly to reduce the number of paying "words" which the cable would transmit. Then, the fact that the Government and press messages are sent at lower rates was brought up, and ingenious calculations were made to reduce the total number of "words" to the number of "paying" words. Remarkable results were attained by these expedients. Mr. Preece made it appear that only 28 paying letters, or 3.5 words, could be sent per minute. Mr. Hesse succeeded in calculating the number of paying letters at 17.5 a minute, or less than 2 words. Mr. Lamb estimated the number of paid words which would be transmitted at 45 per cent. of the "theoretical" speed of the cable.

Side by side with these calculations others were worked. Taking the total tariff to be charged upon messages at 3 shillings per word, it is assumed that the Atlantic cables and the C. P. R. land line would get 1s. 6d., and that the Pacific Cable would get only 1s. 6d. per word. Then, the number of hours during which the cable could be worked was reduced to 10, 13, 15 or 17, according to the witness. It was held that little opportunity would arise for duplex working, the system whereby messages are sent from each end of the cable simultaneously. Mr. Preece was of opinion that the "12-word" cable would transmit only 540,000 words per year. Mr. Lamb calculated that if the Pacific Cable had been in operation in 1896, it could not have attracted more than 620,000 words, which, at 1s. 6d., which he insisted was all that the cable could get from a tariff of 3s., would give £46,500, as against an expenditure of £150,000.

This was a formidable onslaught. The fact that in practice a "word" means 8 letters instead of 5, was accepted by all witnesses. Upon the question of "theoretical" and "practical" speed, issue was joined, and the weight of evidence was against the opponents. Dr. Alexander Muirhead, whose evidence was received with great respect by the other technical witnesses, testified

that the "12-word" cable would in reality give a higher speed, and that 80 letters per minute could be obtained from it, by using the automatic curved method of transmission. Through the heavier cable 95 letters a minute could be obtained. The lighter cable, he estimated, could transmit nine paying words per minute. He further estimated the possible working day at 18 hours, and working on a basis of only four paying words a minute, estimated the capacity of the "12-word" cable at nearly 2,700,000 paying words a year. Lord Kelvin, upon being consulted, wrote that 60 letters per minute was a practical speed to be reckoned upon. The Committee evidently preferred to accept the calculations of Lord Kelvin and Dr. Muirhead as being the recognized highest authorities. It also attached weight to the statements made by the managers of cable lines other than the Eastern Extension, as to the number of non-paying words which would be necessary. Its report stated, that upon a cautious estimate, not more than one-third of the letters transferred need be "dead," and that accordingly the smaller cable could be relied upon to transmit forty paying letters, or five words of eight letters each, per minute; the larger cable, it estimated, could transmit six paying words per minute. In a year the lighter cable could, on this basis, transmit 1,620,000, and the heavier, 1,944,000, words. The main assault thus failed.

A further conflict was waged over the question of the proportion of the traffic which the Pacific Cable would capture. The opponents of the scheme placed the proportion at about one-third. The Marquess of Tweeddale furnished an estimate as follows:—The Eastern Extension Company would retain the whole of the traffic in West and South Australia; it would retain one-half of the traffic to and from Victoria and Tasmania, and one-quarter of the traffic to and from New Zealand; in New South Wales it would keep one-fourth of the homeward and one-half of the outward traffic; in Queensland, it would lose all of the homeward and would get one-quarter of the outward. By this calculation, in 1895, when

the total traffic was about 1,950,000 words, the Pacific Cable, if in operation, would have got 672,000 words. It was pointed out, however, that nearly all of the Atlantic cable companies would be able to share in the Pacific Cable traffic, and so would be likely to canvas for business for it; for such work their numerous offices would give them a great advantage. Mr. Fleming collected evidence to show that a much larger proportion of the traffic would go to the competing route. The assumption that the Pacific Cable would get only 1s. 6d. per word was used in connection with these calculations; it was laid by a positive assurance from the C. P. R. Telegraph Company that the transmission of the cable from England to Vancouver would cost only one shilling, so that two shillings would remain for the Pacific Cable. The Committee concluded by assuming that the new cable would divert a proportion between one-third and one-half of the total. Instead of 672,000 words, as the Eastern Extension people calculated, or 620,000 words, as Mr. Lamb made it out, they made, what they described as an extremely cautious estimate, that the proportion would be 750,000 words. The Canadian members, in their special report, argued that the proportion was more likely to mean between one-half and one-third, or 811,000 words.

Yet another aspect of the prospects for the new cable which we discussed, was the probable increase in the total business to be expected between Europe and Australasia. Here again some conflict of evidence ensued. The Eastern Extension Telegraph Company representative placed the average annual increase of business during the ten years between 1886 and 1896 at 10 per cent. The sudden increase in the West Australian traffic they regarded as abnormal, and due to the gold excitement. So far, they admitted, the traffic had doubled every ten years; they declined, however, to admit that they expected the traffic to double in the next ten years. Mr. Lamb expressed the opinion that it would not be safe to estimate the average annual increase from 1896 on-

wards at more than 7 per cent. One feature of the case to which he drew attention, was the great increase in the use of codes; for more business was being done by the cable, and yet the number of words actually transmitted might not increase. On the other hand, evidence was adduced as to the growing use of telegraphy in business. Mr. Cork, for instance, stated that the number of messages sent by his bank in 1896 was 63 per cent, greater than the number sent before the reduction of rates in 1891; the business of the bank had not increased in the same proportion. "You see," he remarked, "it very frequently happens that people wish to telegraph small sums to relatives on the other side, or on this side, who are in need of a little money, they want to send out £20, £30, £40 or £50, as the case may be, and they would do that if the message could be sent for £1 or £2, but if it cost them £5 they would not think of doing it. That is where the increase comes in." And a moment later he said: "The cable is being more and more used for commercial transactions; every year it is becoming more used; the merchants in Australia depend entirely now on the cable for their remittances. The use of bills is much discarded, and traders trust to the cable for their remittances. Even the best houses do that."

"And that tendency is increasing?"

"That tendency is increasing day by day."

"In fact, for the transaction of commerce, the cable is replacing the post?"

"It is replacing bills; bills of exchange."

"Which have to be forwarded by post?"

"Which have to be forwarded by post, and involve a double stamp duty."

Mr. Kingston and Mr. Doxat expressed a similar opinion, the latter saying, "in fact, all business of any importance is conducted by telegraph; letters only confirm the business which is done."

The Committee declined to accept Mr. Lamb's opinion as to the increase, and accepted 10 per cent. as the yearly increase of total business which could be expected.

The actual returns, it may be interjected, showed an increase in 1896, notwithstanding the abnormal conditions which, in 1895, had prevailed in West Australia, of 8.2 per cent. and in 1887 an increase of slightly over 10 per cent. The returns for the years subsequent to 1897 do not lend themselves easily to comparison, the Eastern Extension Telegraph Company having ceased to publish the number of words transmitted. The returns for 1898, 1899 and 1900 give only the number of messages, and the revenue derived. Taking these returns, we find:—

Year.	No. of Messages.	Revenue.
1898	150,213	£466,075
1899	176,863	542,686
1900	191,874	583,016

Taking this new standard of comparison, 1899 shows an increase over 1898 of 17.7 per cent. in the number of messages, and of 16.4 per cent. in the revenue. In 1900 the increase in the number of messages was 8.6 per cent., in revenue, 7.4 per cent.

Allied with and dependent on this division of the subject, was the question of the finances of the new cable. Mr. Lamb, as has been remarked, placed its revenue in 1895—had it been in operation then— at £46,500; by successive increases of 7 per cent. per year, he placed its revenue, in 1905, at £85,480. As for the expenditure, he was of opinion that money could not be got for less than 3 per cent., and that the total yearly expenditure would be £154,860, made up of:—

Interest (3 per cent. on £2,000,000) ..	£60,000
Sinking Fund (3 per cent. for 25 years)	54,860
Maintenance and working	40,000

In ten years, by this calculation, the deficiency would be rather over £900,000. The Eastern Extension Company's representatives insisted upon the necessity for the provision of a fund for amortisation, and were inclined to place the cost of maintenance and working at £50,000 per year. Mr. Sandford Fleming's estimate was for

£125,000 per year, made up of £45,000 for interest, £50,000 for maintenance and repairs, and £30,000 for working expenses; he was disposed to dispute the need for making provision for amortisation from the start, and to hold that the surplus which might be expected from time to time from the very large allowance for repairs would make sufficient provision for the sinking fund. As for revenue, his estimate, as already noted, held that if 1898 were the first full year of operation for the Pacific Cable, it might expect about 1,100,000 words, yielding a revenue of £110,000. In 1898 he estimated that the revenue, on a basis of 15 per cent. increase, would be £126,500; in 1900, £143,000; in 1901, £159,500; and so on, until by 1907 a revenue of over a quarter of a million would be realized.

Between these two views the Committee had to decide. It held that capital could be got for $2\frac{3}{4}$ per cent., and possibly for $2\frac{1}{2}$ per cent. It held that a sinking fund was necessary, remarking that this would place the cable in an excellent financial position. It recommended that the guarantee of three years, for which the Canadian Government had stipulated in 1894, be abandoned, as all the expert witnesses held that six months would be quite enough to test the working of the cable; thus, the cost of maintenance and repairs would have to be faced from the very start. Assuming that with a "12-word" cable, the capital needed would be £1,500,000, and that with a "16-word" cable, £1,800,000 would be needed, the Committee arrived at the following estimate:—

	With a Capital of £1,500,000		With a Capital of £1,800,000	
	Interest at $2\frac{3}{4}$ %	Interest at $2\frac{1}{2}$ %	Interest at $2\frac{3}{4}$ %	Interest at $2\frac{1}{2}$ %
Interest	41,250	37,500	49,500	45,000
Sinking fund	14,311	15,387	17,173	18,464
Working exp	22,000	22,000	22,000	22,000
Maintenance	70,000	70,000	70,000	70,000
Total	147,561	144,887	158,673	155,464

As for revenue, the Committee took as a basis of calculation, that in 1896 the Pacific Cable, if constructed, might have expected 750,000 words; this estimate they described as extremely cautious. They further assumed an annual increase of 10 per cent., so that by 1904 the traffic to be expected would realize about £160,000, or in excess of the highest estimate for the total expenses.

Much attention was paid to the question of duplicating the line. The opponents of the cable insisted upon the need for duplication at the earliest moment, and the experts were all of one mind as to the value of having a second cable to fall back upon in case of an interruption; it was shown, however, that in the case of many existing lines duplication had not been resorted to with the haste urged upon the promoters of the Pacific Cable project. The Committee took the ground that duplication should be effected at the earliest convenient opportunity; it further adopted the suggestion which Mr. Fleming had made, and recommended that for the second line the Honolulu route be adopted. Submarine disturbances in this way could not affect both of the cables, and at Honolulu valuable commercial connections might be secured. The second cable would entail an annual expenditure fully £37,000 less than that of the first, as there would be no need of additional repairing ships, and the cable following the Honolulu route would cost less.

Mr. Fleming's "Statement No. 2" was a review of the evidence which had been submitted. The decisions of the Committee upon the points under debate have already been indicated, but it may be remarked that Mr. Fleming subjected the arguments of the opposing witnesses to a damaging analysis. The contrast between their views and those of the great cable-laying engineers, and of men of the eminence of Lord Kelvin and Dr. Muirhead was effectively stated, and Mr. Fleming also pointed out how hopelessly in the past these gentlemen, more especially the officials of the General Post Office, had gone astray. Mr. Lamb and Mr. Preece, in 1893, had stated that a cable between Vancouver Island and New

Zealand would cost three and a quarter millions; a cable firm of long experience, in 1894, had offered to lay a cable over a longer route for little over a million and a half. "What can be said of such a discrepancy as this?" Mr. Fleming asked. And he added a reminiscence of the statement by Mr. Lamb's predecessor at the Colonial Conference of 1887, that depths of 12,000 fathoms existed on the route of the cable.

As regards the question of compensation for the Eastern Extension Company, Mr. Fleming, with grave irony, suggested that the company might possibly be willing to surrender the branch connecting Australasia with its line between Europe and China for adequate compensation. He touched on the question of duplication, citing cases in which cables in eastern seas had been allowed to remain single for ten, eleven, eighteen and twenty years. He made the suggestion that duplication when it proved necessary for commercial purposes, should be by the Honolulu route.

Mr. Fleming's questioning of merchants and financiers interested in Australasian trade yielded interesting results. His questions asked the views of these men most closely interested, as to (a) the probable development of cable business, (b) the amount of that traffic which the Pacific Cable might be expected to divert. Twenty-seven firms answered the questions under the first division. All agreed that there would be a great increase of business were the rate to be lowered to 3s. a word. Twenty-six thought that 15 per cent. per year was not an unreasonable estimate of the increase. Twenty-four firms answered the questions under the second division. Thirteen replied in unqualified terms that the Pacific Cable would obtain a fair share of the trade, and nine gave a qualified affirmative: "Yes, if as efficiently worked as the Eastern Extension Company," was the way one house put it. Twelve out of the twenty-four held that the Pacific Cable would secure a full half of the business. In addition, several answers were substantially: "Yes, in time," and others attached to their affirm-

ative the condition that efficiency be maintained. As equal efficiency will assuredly be aimed at, Mr. Fleming's questions may be taken to establish the fact of the popularity of the project in mercantile circles, and the widespread expectation that it would secure a full proportion of the business transacted.

The conclusions of the Committee have been indicated. It may be as well, however, to summarize them. The report began with an assertion of the practicability of the project, from the technical point of view; it also urged the need of a survey, which it stated could be made while the cable was being manufactured. The route by Vancouver, Fanning Island, Fiji, Norfolk Island and New Zealand and Queensland was recommended. It was noted that for connections in North America, and across the Atlantic, the choice of routes would lie between (a) an American cable company, the Commercial Cable Company having its stations exclusively on British soil, and in connection with a land system passing over British territory, and controlled by a British company (the C. P. R.), and (b) cable companies which, whether British or American, are in connection with a land system controlled by an American company (the Western Union), and possibly passing through the greater part of its length over American territory.

Under the general heading of cost fell several important questions, such as the type of cable to be used, the speed which would be necessary, the number of hours in the day during which the cable could be worked, the total amount of business which could be handled, and the cost of laying, maintenance and working. As regards type of cable, the Committee stated that the choice lay between either the "12-word" cable, with a core of 552 pounds of copper and 368 pounds of gutta-percha to the nautical mile, or the "16-word" cable, with a core of 650 and 400 pounds respectively. Its recommendation was in favour of a lighter cable. That cable it estimated after a careful balancing of evidence, might reasonably be expected to give 40 paying letters, or five words of

eight letters, per minute; the heavier cable could give 48 paying letters, or six paying words per minute. To arrive at this conclusion, the Committee estimated the deductions due to "dead" traffic, unavoidable pauses, &c., at 33 per cent. It placed the number of working hours in the day at 18, and estimated the cabling capacity of the lighter wire at 1,620,000 words, and of the heavier wire at 1,944,000. The three-year guarantee period, the Committee reported, should be abandoned; this would reduce the immediate expense, but render necessary an immediate outlay for maintenance and repairs. A sinking fund should be provided from the start. For the "12-word" cable, a capital of £1,500,000 would be necessary, and the annual expenditure would be either £144,887 or £147,561, according to the rate of interest; for the "16-word" cable, the capital necessary would be £1,800,000, and the annual expenditure either £155,464 or £158,673. The Committee declined to make any recommendations as to compensation regarding this subject as outside the scope of its instructions.

Under the heading of revenue to be expected, the Committee based its calculation upon the assumption of 750,000 words being secured by the Pacific Cable in 1896, and upon the further assumption of a 10 per cent. annual increase. Thus, if the cable came into actual working on the 1st of January, 1900, its revenue in its first year, at the rate of 2s. per word, would be £109,807; in 1901, £120,788; in 1902, £132,867, and in 1903, £146,153. "It would thus become a paying concern during the fourth year of operation."

The Committee recommended State-ownership. It was of opinion that the general direction should be in the hands of a manager in London, under the control of a small Board, on which the associated Governments would be represented. The only other matter of importance in the report was the recommendation, that while the cable could be laid singly, duplication should be effected at the earliest convenient opportunity. The annual expenditure resulting from the second cable would be £37,000 less

than that caused by the first, as there would be no additional standing charges for repairing ships. It might be advantageous to follow the Honolulu route for the second cable.

The special report made by the Canadian members to their Government expressed the opinion that the "12-word" cable would be able to send far greater number of words per minute than the Committee had estimated. In their opinion ten, and probably twelve, paying words of eight letters could be transmitted per minute. They also thought that the annual increase of business was more likely to be 15 per cent. than 10 per cent., as estimated by the Committee. Again, the Canadian members thought that the Committee had been over-cautious in choosing 750,000 words, in 1896, as the starting point of the calculation of probable business. They were of opinion that a full half of the total business might be expected, but in order to be cautious, took a mean between one-half and one-third of the total business. This would give the starting point in 1896 as 811,820 words. Worked out on this basis, allowing an annual increase of but 10 per cent., the cable, if in operation in 1900, would get £130,744, in 1901, £143,818, and in 1902, £158,200, or would become paying in the third year; by 1905 it would have accumulated a net surplus of nearly £140,000. If the annual increase were estimated at 12½ per cent., the cable would pay from the first year, and in five years would have a surplus of nearly £350,000.

Mr. Fleming addressed to the Canadian Government a note discussing the proceedings of the Committee, and pointing out the solid form which the project had assumed. To a considerable extent it traversed the same ground as that covered by Sir Donald Smith and Mr. Jones, but it included an additional estimate of the total business to be expected. Mr. Fleming quoted the estimate of the Committee, which he characterized as having been taken with excessive caution, and the estimate of the Canadian members of the Committee, which he described as extremely moderate. He added an estimate,

based on the assumption that the cable would secure half of the total business, and that the total business would increase at the rate of 15 per cent. a year. That estimate may well conclude the chapter which records the triumph of Mr. Fleming's long agitation, which tells how the counsel for the cable won his case:—

Year.	Gross Earnings.	Annual Charges.	Surplus.
1900	£195,960	£145,000	£ 50,960
1901	225,354	145,000	80,354
1902	259,157	145,000	114,157
1903	298,031	145,000	153,031
1904	342,735	145,000	197,735
1905	394,144	145,000	249,144
Net surplus by end of 1905.....			£845,381

CHAPTER VIII.

THE JUBILEE CONFERENCE OF 1897.

The Premiers of the self-governing colonies were assembled in London, on the occasion of Queen Victoria's Jubilee. The Secretary of State for the Colonies, the Rt.-Hon. Joseph Chamberlain, invited them to meet in conference. In opening the proceedings, he referred, among other things, to two matters intimately relating to the outer Empire—the proposed Pacific Cable and Imperial penny postage. In his remarks, as they appear in the return to Parliament, he said:—"That in any matter in which our colonies are themselves deeply interested they may count on the support and assistance of the Mother Country," * * * and "I think that one of the very first things to bind together the sister nations is, to have the readiest and the easiest possible connection between the several units."

The discussions at the Conference were not made public, and in the documents relating to the proceedings, laid before Parliament, the only reference to the Pacific Cable is in these words (p. 18):—

"The question of the proposed Pacific Cable was brought up, but the majority of the provinces desired that the subject should be deferred until they had had time to consider the report of the Committee appointed to consider the question last year. It was, however, pointed out to the members of the Conference that the matter was not one in which the United Kingdom was taking the initiative, although Her Majesty's Government were ready to consider any proposal for working with and assisting the colonies, if they attached great importance to the project; and that they would now wait definite proposals from the colonies interested before proceeding further in the matter."

Although the proceedings were not published, immediately after the Conference rose an article, purport-

ing to be official or semi-official, appeared in the *London Standard* of July 25th, beginning as follows:—

“The Conference left the Pacific Cable scheme in mid-air.”

Some months afterwards it looked, indeed, as if the scheme had found a refuge with Mahomed's coffin, when Sir Sandford Fleming reviewed the situation in a letter to Sir Wilfrid Laurier, December 28th, 1897, and submitted facts and explanations which he considered it important that the Government of Canada should understand. The greater part of this letter may now be read as a portion of the annals of the project.

“Everywhere it is apparent that the British Empire is being formed by a process of growth and development, and there are many forces actively in operation, all tending to give it shape and strength and distinctive character. Lofty ideals are entertained by men of thought, experience and patriotism; but the future is veiled from us, and we cannot foretell the precise form of relationship which will eventually be assumed by members of the British family of nations in so many meridians of longitude.

If the form of development to be attained is not clearly foreseen, it can at least be said that the entire British people in all parts of the globe are inspired by a unity of sentiment, and that they are simultaneously moving onwards in one general direction. Progress is the watchword in all quarters. It is impossible not to recognize the advancement perceptible in the colonies of the southern seas, and equally, the amazing vitality in British Africa. The Dominion of Canada plays an important part in moulding the destiny of her own people, and in promoting more intimate relationships between the motherland and the colonies.

It is but thirty years since the scattered provinces of British North America became federated in one Government. The Dominion thus created inherited many remarkable advantages. It can lay claim to the most important geographical position, owing to its extension between the two great oceans; a position which confers the

only means of establishing, under the British flag, communications between the eastern and western territories of the globe. It enjoys the possession of vast fields of the richest virgin soil, with still unexplored mineral regions of immense extent, and presumably of immense value. The population retains the high qualities of the foremost nations of western Europe from which it has sprung, and the wide expanse of unoccupied areas leaves ample room for a large accession to its number. These rich possessions of the Dominion give promise, under wise guidance, of a splendid future.

It soon became evident that the development of a country, continental in its extent, exacted public works of corresponding magnitude. Lines of railway and telegraph were projected from ocean to ocean, and immediately after Confederation, both were proceeded with. In 1874 the policy of establishing the telegraph in advance of the railway was determined upon, and as a corollary to the transcontinental telegraph, the proposal to extend the electric wire across the Pacific naturally followed. It can be said that ever since the telegraph reached the coast of British Columbia, the Pacific Cable has engaged public attention, and that the necessity of this undertaking has been repeatedly affirmed. It received recognition in the conference of representative colonial statesmen in London in 1887, in that of Ottawa in 1894, at telegraph and postal conferences in Australasia almost annually, and at various times by chambers of commerce at home and abroad.

The dominant idea with those who have most strongly advocated the establishment of a Pacific Cable has been the unity of the Empire. They foresaw the difficulty of effecting any practical union between communities separated by distance, so long as they remained without the means of direct and cheap communication. At the same time it was plain to them that a telegraph across the ocean would foster trade and commerce—the life of an Empire such as ours.

Among the memorable gatherings of representative men, not the least important was the Conference of Premiers in London, on the occasion of Her Majesty's Diamond Jubilee. Before these statesmen met, hopes had been entertained that some definite action would be determined for the inauguration of the scheme. Preparations had long been made for joint action. It was one of the chief objects set apart for special consideration at the Conference of the Imperial and Australasian Governments held at Ottawa in 1894. With this view, the Canadian Government, agreeably to a resolution of the Conference, obtained much information on the subject, and transmitted it to all the Governments interested in the projected work. Soon afterwards the Secretary of State for the Colonies (Mr. Chamberlain) invited the Canadian and Australasian Governments to send representatives to London for the purpose of taking part in an Imperial Committee, to be appointed specially to receive evidence and consider the project in every detail. The Committee first met on June 5th, 1896, and on January 5th, 1897, they reported the results of an exhaustive enquiry.

The proceedings of the Committee, and the conclusions which have been formed, have not been made public. They have been repeatedly asked for, but as nothing transpired respecting the labours of the Committee up to the Jubilee week, the opinion gained ground that when the Conference was concluded full information would be given to the public, with the decision arrived at by the Imperial authorities and the colonial Premiers. In many quarters it was expected that action would on that account be taken, and that the inauguration of the cable would result as a practical outcome of the Queen's Jubilee.

The old proverb tells us that it is often the unexpected which comes to pass. The proceedings of the Conference of Premiers were first made known by an article purporting to be published by authority in the

London *Standard* of July 25th, and the subject of the Pacific Cable is thus alluded to:—

“The Conference left the Pacific Cable in mid-air, and it is very unlikely that anything more will be heard of it for a considerable time. The position was entirely changed by a proposal by the Eastern Extension Telegraph Company to lay an all-British line from Western Australia across the Indian Ocean to Mauritius, thence connecting with the Cape and St. Helena and Ascension. * * * * * The Eastern Extension Company, it is understood, does not ask for a direct subsidy for the new lines, but seeks other concessions from the Australasian Governments, which, if made, will justify them in proceeding with the work.”

In the account of the Conference of Premiers laid before the British Parliament, there is a reference, in two sentences, to the cable; no mention, however, is made of any proposal having been submitted by the Eastern Extension Company. But the Premier of New South Wales (Mr. Reid) returned home from England through Canada, and being interviewed by reporters in Montreal, Toronto and Vancouver, confirmed the statement with respect to the proposal of the Eastern Extension Company. The character of the concessions asked by the company has not been made public, but it has been stated that they desire to obtain exclusive rights for Australia on condition that they connect the colonies with the Cape, and lay a cable from the Cape to England *via* St. Helena, Ascension Island, Sierra Leone or Bathurst and Gibraltar. This scheme is put forward by the company as a substitute for the Pacific Cable.

Owing to the fact that telegraphic connection with the Cape is at present extremely defective, the proposal of the company is undoubtedly of great importance to South Africa.

There are two telegraphic routes from England to Cape Colony. Both have landing stations at Lisbon, one passes through the Mediterranean to Alexandria, through Egypt to Suez, through the Red Sea to Aden, and from

Aden the cable follows the east coast of Africa, touching among other points at Mozambique and Delagoa Bay, in foreign territory. The other route leaves the first at Lisbon and follows the west coast of Africa, touching at some fourteen points; eight of which are under foreign flags, those of Portugal, France and Spain.

Interruptions are frequent on both routes. There is evidence to establish that during the past four years communication between England and the Cape has been broken many times, and that the aggregate interruptions have averaged in each year 75 days on the west coast route, and 87 days on the east coast route; showing that each cable is unavailable from six to seven days per month. While this refers to the average period that the cables have been thrown out of use, the durations of single interruptions have varied from one to 30 or 40 days. As both lines are liable to be broken at the same time, serious inconveniences have not seldom resulted. Every one will remember this contingency when the Transvaal difficulty was at its height. Intense anxiety was then caused during the cable interruption of eleven days, when South Africa was passing through an acute crisis in her history.

Obviously a new cable to the Cape is much required, and as the frequent interruptions to traffic by the two present routes is to a large extent owing to the fact that the cables are laid in the shallow water which prevails along the African coasts, they are in consequence exposed to accidents to which cables in deep waters are not subjected. That part of the proposal, to touch at St. Helena and Ascension, where the water is of ample depth, would give to the cable the necessary security, and avoid the difficulties experienced on the present routes. It is, however, not so clear that the northern half of the new cable would be so fortunate. By landing at Sierra Leone or Bathurst and Gibraltar and terminating in Cornwall, the cable, of necessity, would be laid for some distance in shallow seas, where it would be exposed to injury from various causes, and where, too, the agent of an unfriendly

nation, or, indeed, an evil-disposed fisherman, would have it in his power to destroy the cable with ease, totally unobserved. For hundreds of miles it would be exposed to such risks.

The question may be asked, would not this proposed new cable from England to the Cape, with an extension to Australia, be of general advantage? To such a question there is but one answer. It certainly would be of general as well as special advantage, for the reason that we cannot have too many lines of communication. They are needed in the every-day business of trade and shipping, and, moreover, we must come to recognize that a complete telegraph system, ramifying wherever Her Majesty's wide domain extends, is an essential condition of the life and integrity of the British Empire. It is on this and on other grounds impossible to admit the claim of the Eastern Extension Company, that the proposal submitted by them is preferable to a trans-Pacific cable, and that it will render it unnecessary.

At the Colonial Conference of 1894, the outline of a telegraph system for the Empire was submitted. It was not confined to one side of the globe; the system projected, embraced and encircled its whole extent. The scheme was illustrated by a map of the world, with the chief cable lines laid down upon it. If the proceedings of the Conference be referred to, it will be seen that a trunk line of telegraph was projected from London through Canada to Australasia, with extensions to South Africa, India and China. It was shown that by the Canadian route all the chief British possessions on the four continents would be brought into electric touch with each other, and with the Imperial centre in London. It was demonstrated, moreover, that this result could be accomplished without touching a single acre of foreign soil, and without traversing shallow seas, where cables are most liable to injury from ship's anchors and other causes, and where they can be so easily fished up and destroyed. No fact can with greater confidence be affirmed than that the cables by the Canadian route would be

far less vulnerable than the existing cables, or those now projected by the Eastern Extension Company. But even if no advantage in this respect could be claimed, it requires no argument to prove that telegraphic connection between England and Australasia would be infinitely less subject to interruption from accident or wilful injury, by having the Canadian line established, in addition to the Eastern Extension lines, especially as the former would be on the opposite side of the globe, and far removed from the immediate theatre of European complications.

It is not possible to believe that any one disassociated from, and uninfluenced by, the Eastern Extension Company, can view the proposed Canadian Pacific Cable with disfavour. If it be important to strengthen the connection between the United Kingdom and the outlying portions of the Empire, no one can question its necessity. But the Eastern Extension Company has never taken a friendly view of the Pacific Cable. From the first it has been its determined opponent. The proceedings of the Colonial Conferences of 1887 and of 1894 give evidence of this fact. The report on the mission to Australia by the Canadian delegates gives some indication of the intense and persistent antagonism displayed by the company, and the manner in which its powerful influence has been employed to thwart the enterprise. It may not be an unwarranted surmise that the immediate purpose of the company in submitting to the Conference of Premiers their new proposal was to divert attention from the Pacific Cable.

The Eastern Extension Company represents a combination of associated companies engaged in telegraph transmission between England and Australasia. The lines of the company comprise those of three amalgamated companies:—

1. The "British Indian Extension," from Madras to Singapore, with a share capital of £460,000.
2. The "British Australian," from Singapore to Australia, with a share capital of £540,000.

3. The "China Submarine," from Singapore to Hong Kong and Shanghai, with a share capital of £525,000.

The combined share capital of these three companies amounted to £1,525,000. On their amalgamation, the united share capital, by a well-known process of "watering" to the extent of £472,500, was increased nominally to £1,997,500. The united company, since known as the Eastern Extension Australasia and China Telegraph Company (Limited), has been exceedingly prosperous; it has paid 7 per cent. on the enlarged capital, equal to 9 per cent. on the original capital. An examination of the published statements establishes that it has, in addition, expended out of the profits earned, no less a sum than £1,571,540 on extensions and other productive works, and there remains unexpended and undivided to-day a reserve of surplus profits amounting to £804,193.

These figures establish that the Eastern Extension Company has become a remarkably profitable investment. It regularly pays good dividends, but the dividends are no guides to the profits made. It holds in reserve undivided profits far exceeding in amount the whole value of its cables between Asia and Australia. The accounts of the company for 1896 and the first half of 1897 show that the net profits actually earned during these periods amounted to 13 per cent. on the present capital, and 17 per cent. on the capital prior to its being watered.

The company is unwilling to have this state of affairs changed. They know perfectly well that the telegraphic traffic is steadily increasing, and that as the traffic grows the profits will become still greater. It is easy, therefore, to understand why the company has never viewed with friendly feeling the proposed Pacific Cable. Its managers are not willing to divide the business with the new line. They must retain it entirely in their possession. They have secured a rich monopoly, and their desire is to make it even more profitable, and to strengthen and perpetuate it.

The Pacific Cable has been projected in no spirit of hostility to any company or to any country. It has been advocated as a means of extending to the whole Empire the advantages derivable from the geographical position of the Dominion. Canada offers the connecting link in an Imperial chain of telegraphs encircling the globe. When the project is completed, it will bring the Mother Country into direct electrical connection with every one of the great possessions of the Crown in both hemispheres, without touching the soil of any foreign power. Thus, it cannot fail in a high degree to promote Imperial unity. Indeed, it is difficult to conceive how a perfect union, or any union of the whole, is possible without union between the parts. The whole Empire is in strong sympathy with the aims and aspirations which, a few years back, were limited to a few men of advanced thought. The historical event of last June has shown to the world that "the British people are one people animated by one spirit." It is recognized that we are approaching the period when new relations may be established between the United Kingdom and those younger British communities beyond the seas, known in past history as colonies, but which are passing from colonial tutelage to a higher national status. In order to promote these closer relations, what is more desirable, what more necessary, than that each and all be connected by the appliances which art and science have devised? Canada stands first among the British communities of the outer Empire. Scarcely second to Canada we look forward, in no long period, to welcome the kindred Dominion of Australia, comprising, under one federal Government, half a dozen colonies, each possessing great potentialities. What more in harmony with the spirit of the British people than that Canada and Australia be brought in close communion? Is it not indispensable to vital public interests that those two great units of the Empire—the island continent in the South Pacific and British North America—should possess the means of instantaneous communication, one with the other?

The proposition of the Eastern Extension Company submitted to the Conference of Premiers has no such purpose in view. Its object is, indeed, the very opposite. While the consolidation of the Empire demands that the Queen's subjects in Canada and Australia should possess all the advantages which the closest telegraphic connection can affect, the policy which animates that company would cause these communities to remain severed. Is such a policy to be commended? Does not the Eastern Extension Company, when persistently exercising its manifold and widely ramified influence to keep Canada and Australia disunited, assume an attitude of hostility to both countries and to Imperial unity?

In the interests of the Eastern Extension Company the Pacific Cable has been declared to be impracticable; its cost has been greatly exaggerated; it has been denounced as a work which could not be maintained without burdensome subsidies; it has been stigmatized as inimical to telegraphy and trade; and it has been decried and misrepresented in every possible manner. The explanation is to be found in the fact that the company is unwilling to relinquish its monopoly, and to rest satisfied in the future with a reasonable return for capital invested. On this point the writer is tempted to quote a single paragraph from his address at the Colonial Conference of 1894, as given in the proceedings (page 85):—

'The progress and well-being of Canada, Australasia and the Empire cannot be retarded in order that the lucrative business of a private company may remain without change. Even if the chairman of the Eastern Extension Company succeeded in converting us to his commercial ethics, that the profits of the monopoly he represents must be maintained inviolate, it does not follow that the project of a Pacific Cable would not be carried out in some form, even if Canada and Australia abandon it. There are, indeed, unmistakable signs that a Pacific Cable may shortly be carried out by France and the United States. We all know that France has already completed a section of 800 miles at the southern end, and the United

States has recently expended \$25,000 in making an elaborate survey of about one-third the whole distance from San Francisco (to the Hawaiian Islands). With a rival line in foreign hands, it is easy to see that the Eastern Extension would gain nothing, while the Empire would lose much.'

With respect to the objections raised by the Eastern Extension Company, they have been completely refuted. The very best evidence shows beyond all question that the project is perfectly feasible, that the cable should be established as a State work, that so established the revenue from business obtainable will be ample to meet every charge, including working expenses, maintenance, renewal, interest on cost and sinking fund to replace capital; that, in fact, the cable can be established in the most satisfactory manner, and that all its advantages can be attained without any cost whatever to the tax-payer. That the prospects are of this character is attributable to these facts, viz. :—

1. As a State work the capital employed would be obtained at the lowest possible rate of interest.
 2. The capital would be limited to the necessities of actual expenditure in establishing the work; there would be no possibility of enlarging the capital account by adding "promotion expenses" or by "watering stock" in any form.
 3. No dividend would require to be declared, or bonus paid. Revenue would only have to meet ordinary charges, including interest on the actual cost at a low rate, possibly $2\frac{1}{2}$ per cent.
 4. Remunerative traffic, which would be controlled by the Australasian Government, already exists.
 5. Such traffic is continually growing, and it is difficult to assign a limit to its growth.
 6. The facilities created and the reduced charges would open up a new and profitable business across the Pacific which would be subject to the new line.
- Such being the case, the question may be asked, is there any reason other than the opposition of the Eastern

Extension Company why the establishment of this important national work should be farther delayed? It must be admitted that the Pacific Cable in operation would put an end to the monopoly of the Eastern Extension Company, and diminish the immense profits it enjoys. As, however, less than half the whole traffic would prove remunerative to the Pacific Cable, there would remain ample business to the company to yield a good return for the capital invested.

In the memorandum laid before the House of Commons last July by the Secretary of State for the Colonies, it is distinctly indicated that, while the Home Government is willing to co-operate with Canada and the Australian colonies, the Imperial authorities are unable to see the way to take the initiative, and that they "now await definite proposals from the colonies interested before proceeding further in the matter." It unfortunately happens that the Australasian colonies remain under the disadvantage of being disunited politically, and they are not all equally in favour of the Pacific Cable, Western Australia and South Australia being somewhat in sympathy with the Eastern Extension Company. New Zealand, New South Wales, Queensland and Victoria desire to have the cable laid on the Canadian route. As the traffic to make it a profitable undertaking would have its source chiefly in these colonies, and, moreover, the land lines within each colony are owned by each respective Government, they have it in their power to control the trans-Pacific telegraphic traffic to the extent required to make the cable a profitable undertaking.

At this distance it is not easy to understand why these four colonies do not agree to take some definite line of action. It is now close on six months since the Premiers met in London, and as far as known they have not seen their way to agree on any joint proposal, owing doubtless to unexplained local difficulties.

Under these circumstances it is not improper to consider if there be any duty or obligation resting on us in Canada. The Dominion is now looked up to as the elder

brother in the British family of kindred nationalities. If as Canadians we have faith in our destiny as no inconsiderable element of the great Empire, are we not called upon again to take the initiative? The Mother Country awaits a proposal. It cannot well come from disunited Australasia. If we are to be brought within speaking distance of the kindred communities in the southern seas, the first impulse must come from ourselves. Shall the opportunity which circumstances have presented be seized and another proof given to the world that "the Canadian Government and people are determined, in all ways, to promote Imperial unity?"

CHAPTER IX.

IMPERIAL PARTNERSHIP IN A CABLE SYSTEM.

The State may increase to any size which is consistent with unity; that, I think, is the limit. PLATO: *Republic*, II, 243.

It is the supreme truth of such sociological ideas, tested in the light of experience, that goes far to justify Emerson's estimate of the great Athenian—"He contains the future as he came out of the past. In Plato, you explore modern Europe in its causes and seed,—all that in thought which the history of Europe embodies or has yet to embody. The well-informed man finds himself anticipated—Plato is up with him, too. Nothing has escaped him. Every new crop in the harvest of reform, every fresh suggestion of modern humanity is there."

How wisely the philosopher spoke in this particular instance is apparent upon a very slight examination of the history of the two dominant nations of ancient Europe. In the annals of Greece there never was a time when the Athenian could fire the soul of the citizen of Sparta or Corinth by such a splendid appeal to patriotism as that which Cicero addressed to the Roman people, gathered as they were from the four corners of the earth, yet politically one—*Patria est communis omnium parens!* There was no Hellenic State in the strict sense of the term—a united body of people, occupying a definite territory, and acknowledging one supreme political head. Ancient Hellas, even at the periods of greatest solidarity, was never more than a league of independent communities, owing its origin solely to military exigencies. Strangely enough, in view of the experience of earlier empires, the Greek statesman looked upon a centralized dominion over scattered territories as an abstraction, appalled by remoteness and difficulties of communication. He found in the city (*polis*) the highest political unit,

and his conceptions of a commonwealth never transcended urban limitations. When he launches upon enterprises of colonization, instead of extending the Imperial sphere of his native *polis*, we find him creating a new and autonomous community, which reproduces all the constitutional features of the parent city, but confesses no bond towards it save that of a common religion.

In Sir George Cornwall Lewis' "Essay on the Government of Dependencies," written over sixty years ago, but so well stored with political learning as to make it indispensable to the present day constitutional student, we are told that non-interference by the chief Greek cities with the government of their colonial off-shoots was not attributable to any humane regard for the rights of a weak community, or to a deliberate colonial policy of any kind. The abstention from control was solely due, in the opinion of that eminent writer, to the inability of the parent city to cope with the physical difficulties of communication incidental to the exercise of sovereignty over distant and isolated groups of people.

When Sparta, in the days of its greatest prosperity and power, sought to effect a thorough nationalization of the Greek peoples by convening a congress for that purpose, at the Isthmus of Corinth, it was with the greatest difficulty that Themistocles dissuaded the Athenians from disputing the right of Sparta to take the initiative, and the cities of Argos, Archaia and Thebes refused point blank to be represented at the congress. No attempt was ever again made to form a body-politic of all the race.

And so the political history of ancient Greece appears to us as one long and jealous struggle for hegemony between independent communities. Beyond a doubt that history justifies Plato's opinion that a State may not expand beyond its power of cohesion.

But when we turn to the case of the Roman Empire, we see the very reverse of the Greek experiment in nation-building. Where the Greek set up a petty autonomous State upon the soil which became his by the arbitrament

of arms, the Roman organized a true colony. Within dominions embracing some sixteen hundred thousand square miles, and extending, in one direction, from the wall of Antoninus to Mount Atlas, and, in the other, from the Western Ocean to the Euphrates, there were, naturally, many cities and provinces, and much racial diversity; yet, the area of the seat of supreme authority was compassed by a small chain of hills along the Tiber, and the proudest boast of any man among the millions born outside the walls of the imperial city was: "*Civis Romanus sum!*" Instead of Roman acquisitiveness being daunted, it was, on the contrary, stimulated by difficulties incidental to the building of remote countries into the fabric of the empire. If some transmontane territory had succumbed to the prowess of the legions, and it was sought to draw its wealth into the imperial coffers, the construction of a highway thereto was immediately entered upon, no matter what the cost, and howsoever great the engineering difficulties to be overcome. When seas intervened between the Roman frontier and some rich island province, communication and ascendancy were maintained by the squadrons of the navy. Speaking of the vigilance with which communication between Rome and her tributary provinces was preserved, Gibbon says: "They united the subjects of the most distant provinces by an easy and familiar intercourse; but their primary object had been to facilitate the marches of the legions: nor was any country considered as subdued till it had been rendered, in all its parts, pervious to the arms and authority of the conqueror. The advantage of receiving the earliest intelligence, and of conveying their orders with celerity, induced the emperors to establish, throughout their extensive dominions, the regular institution of posts. Houses were everywhere erected, at the distance only of five or six miles; each of them was constantly provided with forty horses, and by the help of these relays, it was easy to travel a hundred miles in a day along the Roman roads. The use of the posts was allowed to those who claimed it by an Imperial mandate; but though

originally for the public service, it was sometimes indulged to the business or convenience of private citizens. Nor was the communication of the Roman Empire less free and open by sea than it was by land. The provinces surrounded and enclosed by the Mediterranean; and Italy, in the shape of an immense promontory, advanced into the midst of that great lake. The coasts of Italy are, in general, destitute of safe harbors; but human industry had corrected the deficiencies of nature; and the artificial port of Ostia, in particular, situate at the mouth of the Tiber, and formed by the Emperor Claudius, was a useful monument of Roman greatness. From this port, which was only sixteen miles from the capital, a favorable breeze frequently carried vessels in seven days to the columns of Hercules, and in nine or ten, to Alexandria in Egypt."—("Decline and Fall of the Roman Empire," vol. I, cap. ii.)

Thus did the most highly organized empire of the past demonstrate the truth of the Platonic axiom, that the growth of a State is commensurate with its potentialities for unity.

It was reserved for Sir Sandford Fleming, in our own day, to approve, quite unconsciously it would seem, both the wisdom of the Athenian philosopher and the imperial policy of the Romans as here outlined, in the arguments he has put forth on behalf of his cherished scheme of a State-owned Imperial cable system. In the course of a lucid and forcible letter to the Right Honourable Joseph Chamberlain, Secretary of State for the Colonies, in October, 1898, after stating the fact that the British Government had, in 1870, assumed the control and maintenance of the electric telegraph systems of the United Kingdom, he proceeds to say: "It was early discovered by every country in Europe that so efficient a servant to trade and commerce, so important an aid to the State itself, should become a national institution. France, Austria, Prussia, Russia, Sardinia, Italy, Spain, Portugal and Belgium each established a State telegraph system; and, as in Great Britain, experience has shown that

they have done this, not only with advantage to the various administrative necessities, but with benefit to the public at large.

“Such being the unanimous conclusion, is not the application of the principle of State ownership on a larger scale than hitherto attempted a fit subject for inquiry? Is it not desirable and expedient that the whole British Empire should have a State-controlled cable system?”

After presenting the geographical and financial details of his scheme, Sir Sandford points out its strategic value as follows:—

“One advantage peculiar to a globe-encircling system of cable will be apparent—each point touched would be in connection with every other point, by two routes extending in opposite directions. This feature is of special value, as it practically constitutes a double connection in each case. The projected system of all-British cables, with its branches, would thus doubly connect the following fortified and garrisoned coaling stations, viz.:—Hong Kong, Singapore, Trincomalee, Colombo, Aden, Capetown, Simon’s Bay, St. Helena, Ascension, St. Lucia, Jamaica, Bermuda, Halifax, Esquimalt, King George’s Sound, and Thursday Island. The following “defended ports” would likewise be connected, viz.:—Durban, Karachi, Bombay, Madras, Calcutta, Rangoon, Adelaide, Melbourne, Hobart, Sydney, Newcastle, Brisbane, Townsville, Auckland, Wellington, Lyttleton and Dunedin.”

And then he suggests the advantage accruing to pan-Britannic commerce, with the proposed cable system *un fait accompli*, in these pregnant questions:—

“Would it not be in the interest of a great commercial people to have all these, and all such points in the outer Empire connected by a means of communication so perfect as the electric telegraph? Is it not a matter which vitally concerns every British community around the globe? Is it not in their common interest that they

all should be placed in possession of the speediest means of conveying intelligence the one to the other, free from the burden of high charges?"

Referring to the Pacific Cable, which owes its inception to Sir Sandford's tireless advocacy, he observes: "That the final outcome of the laying of this cable would be an Imperial telegraph service there can be little doubt. I am satisfied that the Pacific Cable would prove to be the entering wedge to remove forever all monopoly in ocean telegraphy, and free the public from excessive charges; that it would be the initial link in a chain of State cables encircling the globe, with branches ramifying wherever the British Empire extends, and that it would be the means of bringing into momentary electric touch every possession of Her Majesty."

Obviously Sir Sandford Fleming is a Platonist in respect of the theory that unity and expansion must go hand in hand in the development of the State.

The details of Sir Sandford Fleming's scheme for a pan-Britannic State-owned electric cable system being explicitly set forth in another section of this volume, our undertaking here is limited to the discussion of the following questions:—

- I. Is the Cable a proper subject of State ownership?
- II. Is a Joint Undertaking between the United Kingdom and the Colonies for the construction and maintenance of an all-British cable practicable and expedient?

I. The Cable as a subject of State ownership.

We cannot do better, in the interests of clear reasoning, than to make a brief survey, at the outset, of the subject of State Ownership in general.

Deferring for a moment this preliminary inquiry, let us refresh our memories as to the exact meaning of the term *ownership*.

Everyone acquainted with the early history of the English system of land tenures, is aware that "ownership" is a larger word than "property." In the nomenclature of that system, *allodium* (Latinized from the Old High German *all* and *od*—the "all-wealth") stood for ownership, absolute and untrammelled; while the last-mentioned term could not have been properly used to denote the right of a holder of a "feud." But it was always correct to apply the term *property* to that right.

Bearing this in mind, and turning to the more highly refined phraseology of the Roman Law, we find in *dominium* a true synonym for *ownership* as above defined. Austin (*Jurisprudence*, 1, 817) tells us that the jurists used *dominium* to denote "a right—indefinite in point of user, unrestricted in power of disposition, and unlimited in point of duration—over a determinate thing."

Having thus convinced ourselves of our exact meaning when we use the word, let us go to the lawyers and economists, and learn whether the State is in any way incapacitated for the exercise of true ownership.

Ethnographical research in the nineteenth century has laid us under many obligations in respect of exact knowledge of the laws and customs of mankind in the primitive stages of society. Among the erroneous theories it has exploded for us is that of Blackstone and his school with respect to the origin of property. The view that ownership began when men first recognized the right of the individual occupier of something previously unappropriated, is curiously opposed to the truth of the record. And it may be incidentally remarked that such a view presupposes a degree of unselfishness and *savoir-vivre* not disclosed by history until many stages later in the process of social evolution. The truth is that ownership was in its origin common, and not individual. Sir Henry Maine's theory that the movement of civilization as a whole has been from common to private ownership, although persistently combatted, has never been overthrown. Individual property came into

existence when the ancient communal group—the family, or village or clan—became disintegrated, and the common wealth distributed among the single members of the group. This process of group-disintegration was, as we would expect, largely brought about by wars; and, although the beginning of individual holdings in respect of both lands and goods dates back into the remotest past, Dr. Hunter, in his *Introduction to Roman Law* (c. iii) points out that even in such a highly-developed civilization as that of the Romans, the spear was the chief symbol of property.

The origin of property, then, inheres in primitive communism. But it may be objected that, men and conditions being changed, the old order cannot be conveniently revived. To this the answer would suggest itself. If common ownership was possible before there was any conscious creation of a body politic, or any conception whatsoever of the operation of economic laws, *a fortiori* the principle is feasible to its fullest extent, today when the organized State is recognized in law as an artificial "person," capable of holding and disposing of property of every kind.

To say that the promotion of the true and best interests of the common weal is the chief object of Political Economy, is but to state a truism. From this point of view, the commercial enterprise of the individual is to be considered only in so far as it contributes to the common weal. If in the exploitation of individual interests those of the community suffer retardation or prejudice, then so much the worse for the individual interests.

Upon this principle of the subordination of private to public interest is based the right of Eminent Domain, which is inherent in the constitution of every State, and is well defined by Lewis (*Eminent Domain*, 2nd ed., ch. I, sec. iii) as: "Simply a power to appropriate individual property as the public necessities require, and which pertains to sovereignty as a necessary, constant, and inextinguishable attribute."

Speaking in this connection, the distinguished French economist, Paul Leroy-Beaulieu, says: "One of its (the State's) characteristic features is to represent the universality of the territory and its inhabitants, to have a thought and action which can everywhere make itself obeyed, by the aid of force if need be. From this it follows that the State is charged to provide for the common wants of the nation; for those, that is, which cannot be suitably provided for under the *régime* of private initiative." * * * * "Among the common wants of the nation I include also some degree of intervention in the preparation, if not in the execution of public works. I refer to the exercise of the right of expropriation, which can only devolve upon the State." (*The Modern State*, iii, cap I.)

Another eminent French economist, M. Gide, affirms that "the State should guard the collective and social interests against the constant encroachments of individual interests." (*Political Economy*, Heath's American ed., p. 556). But the intervention of the State in commercial and industrial affairs is not limited to the expropriation of going concerns in private hands; as Gambetta said in his famous Belleville speech, in 1878, with even more truth than rhetoric: "A Government should be an initiator of all the energies which constitute the genius of the nation."

One or two more quotations from English and American sources of authority, and we have done with this branch of our subject.

After explaining that his use of the phrase "natural monopolies" embraces, among other things, canals, docks, harbours, railways, and telegraphs, Professor Richard T. Ely says: "It was long ago said, by a shrewd English engineer, that when combination is possible competition is impossible. Combination is always possible in the case of undertakings which are natural monopolies. * * * * * What shall be our policy? Monopoly is inevitable. Private monopoly is odious. The

test of experience approves public monopoly." (*Introduction to Political Economy*, cap. ix, pp. 262, 263.)

Laurence Gronlund, whom so important a critic as W. H. Mallock hails as the "fairest minded of all our socialists," declares: "Our modern civilization mainly consists in this, that the State—that is, society in its organized form—has been constantly expanding its jurisdiction, and has more and more contracted the sphere of individual ownership and control. * * * Nearly everything the State now manages for us was once intrusted to private individuals." (*The Co-operative Commonwealth*, p. 95.)

Sir Frederick Pollock, whom one has but to name to command attention from lawyers and sociological scholars the world over, affords us, in a few words, the best recapitulation of our whole argument on this head. "The State," he says, "is and must be, in every civilized community, a great owner of almost every kind of subject. Now, the rights attaching to the State in this respect need not differ from those of any private owner, and in English-speaking countries they do not." (*First Book of Jurisprudence*, p. 95.)

It is submitted that a fair reading of authority, both in law and political economy, will lead to the conviction that the electric cable is a proper subject of State ownership.

II. *Imperial Partnership in a Cable System; Its Practicability and Expediency.*

We feel that in the foregoing subdivision of this paper we have sufficiently demonstrated the abstract propriety of a State-owned Cable system. The first question we have to determine under the present head is, as to whether the Government of the United Kingdom may, as a matter of constitutional law, enter into a scheme of joint construction and maintenance of a cable system with the self-governing colonies.

Looked at from one point of view, the side which presents itself chiefly to the "Man in the Street," there would seem to be little or no difficulty in this question. Granting that the autonomous colonies have the right to construct and operate cable systems within their several territorial jurisdictions—is it not *res ipsa loquitur*, it may be asked, that such colonies could, jointly with the Mother Country, construct and operate a system girdling the whole Empire? But, of course, the point of view of the "Man in the Street" does not focus every angle of observation. The constitutional student might meet the proposal with some such disconcerting argument as this,— "Partnership is a contract; capacity is one of the foundations of contract; a State has capacity to contract in matters of a national character, but any organized body of people less than a State has not. A self-governing colony is not a State; therefore, no such contract is possible between the United Kingdom and its autonomous colonies." Now, for a moment this would seem to be logic of the most infrangible sort, but that this reasoning does not apply to the circumstances of the proposal under consideration, will, we think, be obvious upon reflection.

We are free to admit that a self-governing colony is not a State. Indeed, we will go further and say, that when a publicist uses the term "colony," the conception he employs it to express is the very antithesis of that of a State. To leave no loophole of escape from acquiescence in this view, we will quote Burgess as uttering the ultimate word in the matter (*Political Science*, pp. 77, 78): "A colony is, at the outset, no State. It is local government, with, perhaps, more or less of local autonomy. It may grow to contain in itself the elements to form a State, and may become a State by revolution, or by peaceable severance from the Motherland; but, before this, there is one simple State, and after it, there are two simple States; but at no time is there a compound State."

All this is very true, but it is submitted that, in the

language of comic opera, it "has nothing to do with the case."

The hypothetical argument which we have above formulated has its real concern with question arising out of matters external to the State, and wholly within the domain of international law. It has no bearing upon a purely domestic and intermural matter such as Sir Sandford Fleming's scheme. While foreign nations would undoubtedly look upon the proposed cable system, if constructed, as nothing more or less than the property of the United Kingdom of Great Britain and Ireland, there is no constitutional principle that might be evoked against the right of the self-governing colonies to come to assist the mother country with their money in this behalf. The greater colonies have recognized no constitutional embargo upon their liberty to actively assist the Mother Country in its enterprises of foreign war; much more undoubted, then, must be their freedom to co-operate in an undertaking which would directly conduce to the best interests of local commerce and mutual defence. Again, if precedent is wanted to countenance the proposal under discussion, it is only necessary to refer to the statute-books of Canada, New Zealand, and the Australasian colonies, where the sanction of the several legislatures is recorded for the expenditure of colonial moneys to aid in the construction of the Pacific Cable, now rapidly approaching completion.

True, such a joint undertaking as here advocated might not amount to a partnership in the strict legal sense of the term, but, nevertheless, it would be a very real and effectual union between the principal and subordinate constituents of the Empire, as it exists to-day, in furtherance of a common benefit.

And so we have failed to find any constitutional objection to the opinion we have ascribed to the "Man in the Street," that the United Kingdom and the self-governing colonies may jointly undertake to construct and maintain an Empire-girdling system of electric cables.

We have now to consider the expediency of the proposed cable system from the standpoints of (a) Imperial Commerce, (b) Imperial Defence. In order to guide our readers to a just conclusion in this matter, we conceive it the better course to present a catena of authority rather than to labour the question on such logical bases as might commend themselves to our personal judgment.

Dealing, then, with the question of Imperial Defence, we would remind our readers that in an earlier part of this paper we have quoted at some length from Sir Sandford Fleming—the father of the scheme—to show the strategic value of the proposed cable system in establishing practically instantaneous communication between distant *points d'appui*. In a book, entitled "Imperial Defence," published in 1897, by Sir Charles Dilke and Spenser Wilkinson, we find such a striking confirmation of the correctness of Sir Sandford's views, that we feel justified in quoting the pertinent passage at length. The authors, after commending the wisdom of preventing the escape of a naval enemy from a masked port, proceed as follows:—

"It is possible, however, that under any circumstances the enemy's detachment may go to sea unobserved. The object of the British admiral would then be to ascertain, as soon as possible, the direction of its movements. For this purpose the telegraph may render services undreamed of in the days of Nelson. But if the telegraph in war is to render valuable assistance with regard to any enemy's movements, and to be employed for the purpose of assisting the combinations of the British Commander-in-Chief, it must be at the mercy of possible enemies, or even of possibly unfriendly neutrals."

"There appears to be no cable communicating directly between Great Britain and any point south of the line from British Guiana to Cape St. Vincent. Even the cables to Gibraltar touch the land at Lisbon. Nothing would be easier in time of war than to cut off telegraphic communication between England and the South Atlantic.

including all the west coast of Africa. Again, all our telegraphic communication with the East, except that which depends upon Russia, passes either through Egypt or through the district of Asia between Diarbekr and Erzeroum. It is evident, therefore, that our telegraphic communications would, in time of war, be precarious. But their interruption would be an embarrassment of the gravest nature."

Then, in the following paragraph, the authors express a conviction so entirely in harmony with Sir Sandford Fleming's view, that we italicize it for the purpose of comparison:—

"It is imperatively required, for the safety of the Empire, in order to insure, in time of war, the communication between its various portions, that they should be connected by a series of purely British cables, having no shore ends upon foreign territory."

The authors conclude their observations upon the subject as follows:—

"An enemy's fleet which had escaped might conceivably attempt the capture of some British secondary naval base or coaling station. * * * * If the telegraph service has been properly organized, in peace, the English Admiralty would be promptly informed of the enemy's appearance. A very few days would elapse before the arrival of a relieving naval force. Against such a hurried attack, however, the more important coaling stations would be placed in a position of defence. *The telegraph is, in our judgment, even more important than the fortifications,* for it would greatly facilitate the discovery and consequent defeat of a hostile naval force, which would more than compensate for temporary loss at any exposed station."

In his "Defence of Great and Greater Britain," published in 1879, Admiral Sir John Colomb has this to say (pp. 31, 32):—

"The extraordinary commercial development, progressing by 'leaps and bounds,' must, sooner or later, force upon all Englishmen's attention the question of

mutual responsibility and mutual effort in the really imperial matter of sea-defence. * * * * It is earnestly to be hoped that when the question receives the popular attention it merits, that no ill-considered efforts will be made to settle it off-hand by any simple 'pounds, shillings and pence' arrangement. There are other grave questions behind which forbid such a simple mode of dealing with so complex a problem. The strength of the English race does not rest on money-bags—it lies deep in the hearts of a great and free people, who, above all things, love fair play. * * * * We must not ask our colonies simply for cash, we must enlist their active sympathy and practical help in a common effort for a common good."

Reference might also be usefully had in the matter of rapid communication between distant strategic centres, to Lt.-Colonel Sir George Clarke's *Imperial Defences* (1897) pp. 226, 227.

During the Colonial Conference at Ottawa, in the year 1894, some question was raised by Hon. Mr. Playford, representing the Government of South Australia, as to the strategic value of the Pacific Cable, the general expediency of the construction of which was then under discussion. Upon this point Sir Sandford Fleming sought the expert opinion of General Herbert, at that time holding the position of General Officer Commanding the Canadian Forces. General Herbert thereupon furnished the Conference with a written expression of his views, in which, after indicating the specific features of strategic value possessed by the Pacific Cable scheme, he offered the following general observations:—

"In military, as in commercial affairs, the importance of a rapid and secure interchange of intelligence, between distant points, cannot be overestimated. The proposed trans-Pacific cable will doubtless find many advocates upon purely commercial grounds, but I will venture to report that, viewed solely as a military line of intelligence, its value is so great that it should secure the

unhesitating support of all the Governments whose interests, and very existence, demand the fullest development of an organized system of Imperial defence."

It is, perhaps, hardly necessary to point out that General Herbert's remarks, although directed to a part only of the project advocated here, will apply with much greater force to the whole.

It might be mentioned further, that Sir Sandford Fleming, in tendering General Herbert's opinion to the Conference, declared that "so high an authority as Field Marshal Lord Wolseley years ago expressed the opinion publicly, that it would be unwise and suicidal to depend on the existing telegraphic system as a means of communication between England and India, as well as Australia."

In view of the eminence of the authorities we have already quoted, we deem it unprofitable to burden our readers with any further testimony in support of the utility of the proposed cable system in the direction of Imperial defence.

Coming now to a consideration of the commercial features of the project, it may be said, *in limine*, that State intervention in economic affairs is not the monster of frightful mien it used to be, at a time not very far removed from our own day. At the beginning of the last quarter of the nineteenth century, the very mention of it conjured up in the minds of even easy-going people dreadful visions of Saint Simonism, and a mad reign of faddists. They looked upon government, from the point of view of every-day life, as more or less of an abstraction—something that had no greater reason to enter into their industrial and commercial concerns than the policeman had to insist upon a daily surveillance of their well-ordered factories and counting-houses. But, aroused by the ever-increasing clamor of conflict between labor and capital, and the insolent shouldering of private monopolies, the ordinary well-to-do citizen has now come to doubt the wisdom of the policy of *laissez faire* that satisfied his forbears, and is inclined to see in the machin-

ery of the State the only possible remedy for existing economic evils. More and more is it being brought home to us that Lincoln's fine phrase, "government of the people, by the people, for the people," is not to be limited in its application to the political genius of the American Republic, but that it is a true characterization of the constitutional practice, if not always the theory, of English-speaking peoples the world over. In proportion to the deepening of the conviction in the minds of our kinsmen in the Motherland, that democracy is the *ethos* of their political life, we see an increase of governmental action in the economic domain. When Englishmen feel that the Administration they have created by means of the ballot to-day may be unmade by the same process to-morrow, it is not surprising that they will complacently entrust to government control a monopoly which made for tyranny in private hands. Consequently, at the present time, we find in the United Kingdom a number of what Professor Ely has termed "the natural monopolies," being exploited by the State, and a much larger number by municipal corporations, which are simply creatures of the State, with delegated functions for the more convenient carrying on of purely local government—constituting a sort of *imperium in imperio*, a microcosm of the State macrocosm.

With the experiment of municipal ownership, although germane to the question in hand, lack of space forbids us dealing at any length. Suffice it to say, that the experiment has been more largely made in Great Britain than in the United States, and that it has, generally speaking, been attended with better results in the former than in the latter country—a matter which speaks well for the ability of the Briton to live up to the maxim: *tempora mutantur, et nos mutamur in illis*. Before leaving the subject, however, we are constrained to notice the fact that a lively controversy had been going on in London of late, between the *Times* and the *Chronicle*, upon the expediency of municipal ownership in general; and as the former newspaper—with curious unreason,

considering its title—ignores the philosophy of change as embodied in the maxim just quoted, we are not surprised to find it getting the worst of the argument. The *Times*, then, disliking municipal ownership on principle, did not hesitate to evoke the bogey of "socialism" to scare the timid from furtherance of the movement. The *Chronicle* declared, that to attempt to stop the progress of the movement by any such alarm, would be repeating Mrs. Partington's experiment of sweeping back the Atlantic with a broom. The following observations by the *Chronicle* are not without their bearing upon the larger question of State ownership:—

"It appears to be inevitable that public services should be in the nature of a monopoly. The supply of water, of gas, of tramways and telephones, cannot be left open to ordinary competition. The local authorities are bound by their duty to the community to control such monopolies, and to see that they are worked with proper regard to the public interest. It has been found easier and more satisfactory for the local authorities to keep the ownership and management of these services in their own hands, since the granting of the monopoly to an individual or company renders the task of watching over the public interest in these services exceedingly difficult. The principle that services which are essential to the community, as affecting equally all classes of it, should be kept under direct public control, is one, we should have thought, that would commend itself to any careful observer. A great outcry has been raised against the injury done to private trading by municipal enterprise. The *Times* quotes a case, which it seems to consider a great injustice, of a line of omnibuses at Leeds which was driven off the road by the new electric tramways. The question to be considered is, not whether private trading has been injured, but whether the enterprise undertaken by the municipal authorities was one which, in the interest of the community, should be left open to competition. But the attacks which are being made on municipal activity for the most part ignore the needs and

interests of the community. They are directed solely from the point of view of the individual capitalist."

In connection with the attitude of the *Times* in this controversy, one is inclined to say that it is carrying conservatism a little far to shout "Socialism" against the promoters of public ownership at this late day. Not forgetting that the State Governments in various countries now own, with the very best economic results, the post office, the telegraph lines, canals and railways, if it be "socialism" to advocate an extension of the principle to the municipalities in respect of gas, telephones and tramways, and like local monopolies, we see nothing in it to affright us. Socialism is a word that has been the sport of contending doctrinaires for a considerable period of time. Moreover, it is a word that has, like Oliver Twist, been in very bad company in the eyes of the police, through no fault of its own. But, in so far as it expresses the policy above alluded to, it must necessarily number among its adherents the whole body of enlightened citizens in every community. Not to be a socialist in this sense is to concede that individualism may proceed to tyranny if it wills. And unbridled individualism in the future would scourge the State like a plague. It would be an economic recrudescence of the conditions of primitive barbarism, so graphically described by Lord Avebury (Sir John Lubbock) in his book on *Prehistoric Times*; or, at least, it would be a transportation into the domain of civilization of the commercial ethics of some of the black races, as described by Professor Drummond in his work on *Tropical Africa*, where we are told that in some districts it is not safe to entrust three natives with a message, for in such a case two of them would combine and sell the third before their errand was accomplished.

Proceeding now with the argument for the commercial expediency of the proposed cable system, we would remind our readers that our undertaking in this regard is rendered comparatively easy for us by two great and salient economic facts: the first being the nationalization

of all the telegraph systems of the United Kingdom in the year 1870, as we have before pointed out; the second, being the construction of the Pacific Cable as a piece of State property, at the joint expense of the Governments of Great Britain, Canada and Australia. What we argue for here is simply an extension of that policy to a unified system of telegraphic communication for the Empire as it exists to-day.

So far as the advantages to trade and commerce within the Empire accruing from the operation of the Pacific Cable, we are, of course, confined as yet to the estimates of its promoters, based wholly on theory; but, that such estimates will be realized when the cable gets down to business we have every reason to believe. When, however, we turn to the financial history of the British telegraphs, since their nationalization thirty odd years ago, we have the logic of facts to support us. In his extremely valuable paper on "Post Office Reforms in the Victorian Era," read before the Royal Society of Canada, on the 22nd of May, 1901, Sir Sandford Fleming states the results of this experiment in State ownership as follows:—

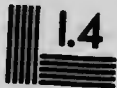
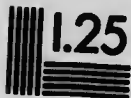
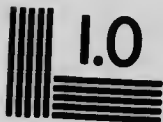
"The Queen had been on the throne ten years when a new agency of marvellous capabilities presented itself as a means of human intercourse. * * * * *

"The electric telegraph had no practical existence before 1847, when, through the enterprise of private companies, it began to be introduced as a means of communication. Telegraph lines were soon afterwards established between many of the principal cities of the United Kingdom by joint stock companies. These ventures proved most profitable to the promoters, but in course of time complaints were made of exorbitant charges, of vexatious delays in the transmission of messages, and likewise that only important cities enjoyed the advantages of telegraphic communications. After a number of years, the conclusion was arrived at that the control of the electric telegraph lines by the Government would be attended with advantages to the State and the



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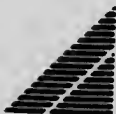
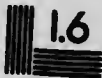
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general public; accordingly, it was proposed to expropriate all the private lines, and give to the country postal telegraph service under State control.

“As early as 1852, suggestions were made that the Post Office should manage the telegraph system. Among others, Captain Galton prepared a paper on the subject. A few years later Mr. Frederick Baines drew up an elaborate memorandum, in which he advocated the schemes of a Government system of telegraphs, the wires to extend to every post office in England, Ireland and Scotland, and the management to be controlled by the Post Office Department. He laid his views before the Duke of Argyle, then Postmaster General, and afterwards before Lord Stanley of Alderley, who strongly favoured the idea. The names of Mr. Ricardo and Mr. Scudamore also appear in the record as taking a prominent part in the introduction of the scheme, although Mr. Scudamore disclaimed any originality for the proposal so far as the British Post Office was concerned; government telegraphs being already in operation in several other countries.

“To the Chamber of Commerce of Edinburgh belongs, very largely, the credit of creating public demand for the transfer of the services from private companies to the State, and Sir George Harrison, the convener of that body, was the moving spirit.

“It was shown conclusively that the telegraph service, as managed by the companies, maintained excessive charges, was dilatory, and otherwise unsatisfactory in its operation, left many towns and districts wholly unprovided for, and placed special difficulties in the way of the newspaper press, which had, in the interests of the public, so strong a claim to special facilities. The Edinburgh Chamber of Commerce unanimously insisted upon a great reduction in charges, and suggested a uniform six penny rate, and their proposal was endorsed by other Chambers of Commerce throughout the United Kingdom.

“Parliament was memorialized, and laborious Parliamentary enquiries were instituted; until at length it was decided to proceed with a scheme of Government postal telegraphs attached to the Post Office. In 1868, an Act was passed to enable the Postmaster General to acquire and work all the electric telegraph lines then existing, or thereafter to be established, and two years later, the Postal Telegraph Service came into operation.

“Under State ownership great benefits have resulted. The exorbitant charges on messages, previously exacted by the companies, were at once greatly reduced, and the lines have been extended to towns and even small villages, which, until the transfer, had no telegraph service. Moreover, the charges were no longer according to mileage, but were reduced to uniform rate of one half-penny a word, and for that small charge, a telegram may be sent from any post office to any other within the limits of the United Kingdom. The Government administration has proved in the highest degree satisfactory, and the business has increased enormously.”

The remarkable success of this venture in the nationalization of monopolies, from the point of view of finance as well as from that of public convenience, enabled Sir Sandford to conclude the paper from which we just quoted with the following strong plea for the construction of an all-British cable as a public undertaking:—

“A State-owned trans-marine cable service, encircling the globe, may be regarded as the complement of the three preceding reforms (i.e., (1) British penny postage; (2) postal telegraphs; (3) Imperial penny postage). Not only is it rendered necessary by the evolution of the Empire and the enormous expansion of British interests during the Victorian Era, but it is made possible by a number of contributing circumstances which have arisen during the same period.

“In the tenth year of Her Majesty’s reign, electricity was first employed as a means of telegraphing. The London “Journal of Botany” for that year, 1847,

refers to the gum of a new plant from the Malay Peninsula, which had found its way to England, and states that the plant itself had been named by Sir Joseph Hooker, the famous director of the Royal Gardens at Kew. The new found gum, gutta-percha, was soon afterwards discovered to have an extraordinary degree of electrical non-conductivity, and on that account it has proved indispensable in the manufacture of submarine telegraph cables. Since its introduction and the laying of the first Atlantic cable, about 30,000 tons of this gum have been used for electrical purposes. As every effort to find a substitute for gutta-percha has so far failed, it is clear that, but for the discovery of this substance, the immense progress that has taken place in ocean telegraphy would have been impossible. The development of ocean steamships may be instanced as another contributing cause. Before the Queen ascended the throne, there were no steamships which could have been employed in cable laying. Even if it had been possible to manufacture cables, it would have been impossible without steamships to stretch them across the ocean. A sailing ship, tacking in adverse winds, or driven out of her course by storms, would have been ill-suited for cable laying.

“As in the case of the land telegraphs of the United Kingdom, we are indebted, in the first place, to the enterprise of private companies for the establishment of ocean cables. Some of the cable companies have been assisted in their enterprises by liberal Government subsidies, and the companies so assisted, such as those connecting Great Britain with Australia, have met with rich returns. Having regard solely to the public interests, it has long been in contemplation to establish a cable across the Pacific, so as to connect Australia with the Mother Country by way of Canada, and to retain the new cable under the direct control of the State, so as to render it in the highest degree serviceable. This proposal was strongly advocated at the Colonial Conferences of 1887 and 1894, and on other occasions. It has, how-

ever, been persistently opposed by the allied cable companies, who have left nothing undone during the fourteen intervening years to prevent its realization.

"It is not to be regretted that private enterprise should have been richly rewarded as in this instance, but other considerations present themselves. The great object of companies is to earn large profits, and pay to shareholders high dividends; but the policy of maintaining a profitable monopoly is not always compatible with great public needs. In the present case, the progress of the Empire and the requirements of the British people have far outstripped the narrow policy which best suits private companies, and precisely as in 1870, when it became necessary for the Government to assume possession of the land lines of the United Kingdom, it has now become a matter of general expediency for the State to own and control the telegraph cables between all its possessions. There has been a prolonged struggle between public and private interests, but at length the public interests have triumphed. The principle of State ownership and State control of submarine cables was formally confirmed on December 31st, 1900, when the contract for laying the Pacific Cable was signed.

"This act, the signing of the Pacific Cable contract, simple and unpretending as it may seem, was really a greater step towards the unity of the Empire than the most splendid conquest. As an act of partnership between six Governments, it is far reaching in its effects, and may be regarded as the forging of the key to the solution of the great Imperial problem which the new century presents to us. It is important that we should grasp the magnitude of this problem. We must fully realize that the Empire is no longer limited to a group of comparatively small islands on the western fringe of Europe, which daughter nations are proud to designate their Mother Country. The Empire of the twentieth century is to be found in five continents; it comprises vast territories in both hemispheres; and its people everywhere cherish common sentiments, sympathies and as-

pirations. Being separated by wide seas, they require the best means of mutual intercourse. For general security and purposes of State, no less than for the operations of trade, and for social requirements, they demand the freest use of the most perfect means of communication known.

“The improvement of the mail service by the adoption of universal penny postage was a wise Imperial measure, but in view of geographical conditions the mail service alone is inadequate. The electric telegraph can meet the conditions, and it is the only agency that can do so; but it must not be restricted by the limitations imposed by companies, whose main object is private profit. This great agency of civilization has been given to man for nobler purposes. A little reflection will show that, brought under State control, it is destined to revolutionize the world's correspondence. By carrying the postal telegraph service to every post office in every British possession around the globe, our people, so widely sundered geographically, will, telegraphically and practically, be drawn into near neighbourhood.

“This marvellous result is rendered certain by two remarkable facts. First, the fact that telegraph messages are instantaneously transmitted, gives them an immense advantage over the post. Take a single illustration. If a correspondent in Canada writes to a friend in New Zealand, he could not receive an answer for eight or ten weeks, while with the telegraph an answer would be due in a few hours. Secondly, distance does not appreciably add to the cost of sending a message by telegraph. It has been elsewhere pointed out that there is practically no greater outlay incurred in transmitting long distance than short distance messages. In the case of postal matter, the expenditure is constant for every hour, and continuous for every mile; whereas in telegraphy, there is an entire absence of such expenditure. With a telegraph properly established and equipped, messages may be transmitted 100 or 1,000 miles at no greater cost than one mile.

"These striking facts give the strongest possible grounds for the belief that, with the cable and telegraph service nationalized and extended, an extremely low uniform charge,—a parallel to penny postage—by Imperial telegraphy, will be found possible. Would anything else tend to develop in so high a degree a common feeling of kinship among our people? Statesmen desirous of taking practical steps towards consolidating the Empire, will now find the way open for their efforts by furthering this, the crowning development of the British Post Office."

How just Sir Sandford Fleming's deductions are from the premises stated is borne out by the subjoined extracts from Professor Ely's book, from which we have already quoted—a book commended by Professor Emile de Laveleye, of the University of Liege, Belgium, as the best elementary economic treatise he had read.

Speaking directly of the increase of public prosperity derivable from the control of monopolies such as the one under discussion—and it will be noticed that he mentions the English telegraph system, he says:—

"How profitable natural monopolies are may be seen from the fact that they are the source of most of the enormous fortunes of our country (the United States). When they are taken under public ownership and management, the income from them may be diffused in either of two distinct ways: charges may be placed so low that price will simply cover cost—the method pursued by our Post Office and by the English telegraph; or a profit may be derived from these pursuits, and this used to lower taxes or to do things of benefit to the people as a whole." p. 264). * * * * It is only a popular superstition that private enterprise is uniformly superior to public enterprise. Each should be superior in its own field. This superiority of public enterprise is not exceptional. During the last fifteen years the writer has had considerable experience in the use of the post office and the express companies, and has yet to find one instance in which, when a mail and express package

were sent at the same time from the same place to the same destination, the express package reached its destination as soon as the mail. Anyone may try the experiment for himself. The author has found the post office incomparably more obliging and desirous of doing all that he asked. * * * * Nor is it true that private enterprise always excels public enterprise in initiating improvements. English municipalities have gone ahead of private gas companies in improvements. The English Government has introduced improvements in the telegraph services which our American telegraph companies have strenuously resisted. The burial of wires in cities is only one of these improvements. The American Post Office went ahead of American express companies in developing the money order business. Private savings banks have followed the lead of the English postal savings bank in the establishment of branches, and in the use of stamps pasted on cards for small savings. Government has gone ahead of private corporations in the matter of publicity of financial accounts, and has shown many of the pecuniary advantages of such publicity." pp. 266, 267.)

Perhaps one of the strongest examples that might anywhere be discovered of the extortion and inconvenience suffered by the public, when private ownership of a monopoly fears neither competition nor the sentiment of the community, was disclosed in the course of the debate in the Canadian House of Commons, in March, 1901, on the Postmaster General's motion to amend the Pacific Cable Act of 1899, by authorizing the Governor in Council to guarantee payment of 5-18 parts of a principal sum of £2,000,000 sterling, to be advanced by the Government of the United Kingdom for the purposes of the cable, instead of on £17,000,000 sterling, as fixed by the original terms of the Act. Mr. Hackett, the member for Prince West, P.E.I., made the disclosure we refer to in the following words:—

"In these days of steam and electricity, I am in favour of our keeping pace with the progress of other

countries in these lines, and am therefore not opposed to the building of this Pacific cable telegraph line. But we ought to guard ourselves against anything in the shape of a monopoly. In Prince Edward Island we are suffering because of a monopoly established there some fifty years ago, when a small cable, nine miles in length, was laid between Cape Tormentine, N.B., and Cape Traverse, P.E.I. On every message which we send to any part of Canada outside of the island we have to pay twenty-five cents extra to this cable company for the transmission of the message over that short line. * * What we object to is not so much the twenty-five cents we have to pay for the use of this cable, as to the fact that these people close their doors at eight o'clock in the evening and only open them at eight in the morning, so that there is no telegraphic communication with the mainland during the night time whatever. And last year, when our young men were away fighting in South Africa for the old Empire, their friends in Prince Edward Island were unable to hear from them unless they got the news over this cable. I would press the necessity, therefore, on the hon. minister (the Postmaster General) of guarding against anything in the shape of a monopoly in connection with this new cable scheme. I would ask also the hon. the Minister of Marine to tell us what has been done in the way of remedying this great evil in Prince Edward Island of which I have complained, and under which the people there are labouring to-day. The people of Canada are paying this company a subsidy of \$2,000 a year for this telegraphic communication, and you will understand that deprived, as we have been the present session, during some eight or ten days, of a mail service from Prince Edward Island, we should at least have the advantage of cheap telegraphic communication with that province (New Brunswick). But, instead, we are taxed twenty-five cents each message for the use of that short cable. I would ask the hon. the Minister of Marine what he is doing to relieve the people from this great monopoly and unjust tax."

The Minister of Marine informed Mr. Hackett that the Government was then negotiating with another company to extend a competitive line between the two provinces.

With further reference to this debate in the Canadian House of Commons, Mr. W. F. Maclean (East York), a strong advocate of the policy of public ownership of natural monopolies, and one who has given much careful thought to the subject, advanced an ardent plea for the nationalization of the telegraph systems of Canada, and their consolidation with a system of sea cables, so as to give a continuous circuit of telegraphy over the British world, owned and operated by the State. Mr. Maclean's remarks are so apposite to our purpose, that we are constrained to quote them at length:—

“I am quite prepared, and I know my constituents are quite prepared, to vote our portion of the money, but while we are doing that, I think the announcement ought to be made, that in order to realize the benefit of that cable system, we should have a nationalized telegraph system in Canada, and make one the complement of the other. A very important deliverance on that line was contained in a letter which Sir Sandford Fleming read the other day in this city, at the meeting of the British Empire League. Sir Sandford Fleming, after a most careful study of the question, and no man, either in the old land or in America, has given more consideration to this question, makes this statement:

“In my open letters, which have been published in England, Canada and Australia, addressed to the Rt.-Hon. Joseph Chamberlain, the Hon. Wm. Mulock, and the Rt.-Hon. Lord Hopetoun, it is pointed out that by nationalizing our telegraph service by land and sea, the charges on messages to and from the most distant parts of the Empire can be reduced to one-eighth or one-tenth the rates at present exacted.”

“Now, there is a most important statement, and I wish to call the attention of this House to the fact that a gentleman, who is an expert in regard to telegraphic

service, says that if you nationalize the cables and nationalize the land service, by telegraph, you will cut down the cost of cabling and telegraphing to one-tenth of the rates we pay now. Just think of it! It is practically saying, that if you pay 25 cents for a message now, you will get a similar message transmitted for 2½ cents. I do not know that we will come to such a low point as that, but we will get a much better service than we have to-day, at very much less money, if the cable and telegraph lines are nationalized. Sir Sandford Fleming has said it, and reports have been presented in Congress of the United States, and they all go to show that to be the fact. The land lines are nationalized in Great Britain and all over Europe; we ought to be prepared to go at least as far as they have gone, and the Postmaster General ought to tell the country now that he has under consideration a proposition to nationalize the telegraph system of this country. What will be the cost of nationalizing the telegraph system of Canada, and running it in connection with the Post Office, as is the case in Great Britain and in the Australian colonies? It will cost a comparatively small amount of money, and what will be the result of it? Cheap telegraphy removes a great deal of the trouble and inconvenience that are experienced by trade, by reason of distance and other conditions of that character, and if you have a national telegraph system in connection with the Post Office, you can run it cheaper than in any other way. In every little village you will be in a position to establish a post office, and pay a decent wage to a man who will conduct the post office, who will be an operator, and who will, if necessary, take charge of the telephone lines in that village. That will form a grand service, namely, the public will have the telephone, the telegraph and the post office, all in one building, and combining all these services under one man, to whom you will be able to pay a good salary, and who will give good service. What can the telegraph lines do in the way of supplementing the service of the post office? Trade will be

largely increased, and men will be able to do business in a country like Canada by telegraph instead of through the mails. If you transmit twenty-five words for ten cents, look at the impetus that will be given to trade, when a man can do all his correspondence, for instance, between Montreal and Vancouver, by telegraph. * * * The telegraph service of this country is the easiest thing of all to nationalize. We have heard a great deal about nationalizing the railways. That is a very expensive proposition, I have been told, but it is not such an expensive proposition to nationalize the telegraph lines. There are two ways in which you could do it. You could do it by duplicating the lines we have in Canada at probably less than \$5,000,000—I am not speaking exactly as to that—or you could take over the lines that are in existence to-day, and there is a special provision in the Telegraph Act for that purpose.

“There is another thing which I wish to urge as one of the great benefits that a national land and sea telegraph service renders to the public. We in this country, and all over the British Empire, are trying to build up an Imperial public opinion. We wish in Canada to think on all great public questions the same as they think in England or in Australia. There is only one way to create that great Imperial public opinion, from one end of the Empire to the other, and that is, to have a national telegraph and cable system, which will enable us to have the freest exchange of public opinion from one end of the British dominions to the other. The news that we get in Canada from England comes to-day through American channels. The Canadian press at this moment is hardly able to pay the present toll rates, and to give that quality of news to the Canadian public which they desire, and which the Canadian public ought to get. But, if we had a national cable system, with a nominal rate for press messages at night, when the cable is not busy, our people would know in the morning exactly what they think in England, exactly what they think in Australasia and South Africa, and that news

would be transmitted daily at almost a nominal cost. At all events, it would come to us independent of the United States. I have watched this thing very closely. I have seen the class of news that comes to the Canadian papers by way of New York. It is not British opinion, it is not Imperial opinion, but it is British opinion changed, modified and distorted in order to suit the people of the United States. The Postmaster General proposes to do what the other colonies have done; he proposes to supplement what they have done, but he fails to do what they have done by nationalizing our land telegraph service in connection with this cable system. * * * * I am in favour of this Pacific Cable scheme, but I cannot help thinking that if we wanted to strike a first-class business proposition, it would be for Canada and Great Britain to lay down an Atlantic cable. There is any amount of business there, not for one but for five cables owned by Great Britain and Canada; a cable that would pay a big dividend, and probably cut the present rates down to one-quarter. That is the cable I would like to see first laid and operated by the Mother Country and Canada."

On March 14th, 1900, at the annual meeting of the Canadian branch of the British Empire League, then in session at Ottawa, the following resolution, proposed by Sir Sandford Fleming, and seconded by Sir Charles Tupper, was adopted:—

"That the British Empire League in Canada is of opinion that a complete system of State-owned ocean cables, touching British possessions only, and extending to all Her Majesty's colonies throughout the globe, is a project of the first importance. This League, in annual meeting assembled, recommends:—

"(1) That the Home and Colonial Governments should, as a matter of policy, recognize the principle of State control of all British cables, and apply the principle as opportunity offers, and as speedily as circumstances will admit."

"(2) That the Pacific Cable should be at once com-

pleted as the initial undertaking in such an Imperial system of cables as that indicated."

"(3) That in all arrangements for connecting by telegraph cable any part of the globe, provision be made for ultimate State ownership."

"(4) That in permitting a private company to lay a cable to or from any British possession, landing privileges be granted only on the condition that Her Majesty may, at any time, assume possession of the cable, on specified terms."

In the course of his remarks, in introducing this resolution, Sir Sandford Fleming called attention to the hostility of the Eastern Extension Company—that *fons et origo malorum* of electric telegraph monopoly at the present day—to the Pacific Cable, and their persistent endeavors to alienate the Australian colonies from participation in the scheme. Although delayed by this, and some legitimate causes, the cable, as we have said, has been completed within a few months—and not the least of the great things for which it will stand will be the beginning of Imperial concert in the new economic reform which seems destined to bring civilization a long way on to that stage of ethical development which Tennyson visualized for us in his passionate cry to the men of his youth:—

—“ Ah! when shall all men's good
Be each man's rule, and universal Peace
Lie like a shaft of light across the land,
And like a lane of beams athwart the sea,
Thro' all the circle of the golden year?

In further reference to the foregoing resolution of the Canadian branch of the British Empire League, it may be observed that while the provisions in respect of expropriation, which it suggests should be inserted in all future instruments granting concessions to private cable enterprises, may very properly be so inserted *ex majore cautela*, it must not be forgotten that, in the absence of any such reservations, the State has the undoubted right to expropriate private property in the

public interest at all times. We have already expressed this view in dealing with the abstract question of State ownership.

At a subsequent annual meeting of the League, held at Ottawa, on the 12th February, 1901, the question of an all-British State-owned cable system came up for further discussion. On this occasion the following resolution was adopted, on motion of Sir Mackenzie Bowell, seconded by Mr. T. B. Flint, M.P. (Yarmouth, N.S.) :—

“This meeting of the British Empire League in Canada re-affirms the resolutions unanimously passed at the last annual meeting respecting State-owned cables, and is strongly of opinion that as a further step towards consolidating the Empire, means should be taken without delay to nationalize all cables between British possessions and all land lines necessary to complete a pan-Britannic telegraphic service.

“Resolve” that it be an instruction to the Executive Committee, in the name of the League, to memorialize Parliament on the subject of the resolution, and take such other means as may be expedient to bring the proposal to a successful issue.”

Sir Mackenzie Bowell, in introducing the resolution, said: “I think it would be to the advantage of Canada to take possession of the telegraph lines in this country, as well as the telephones. England has done that, and the Australian colonies own not only the telegraphs, but the railways. I am sure that State ownership is a very great advantage.”

Mr. Flint, in seconding the resolution, spoke in glowing terms of the commercial expansion within the Empire which would result from the construction of the cable, to say nothing of the strategical advantages.

On the 20th June, 1901, the Ottawa Board of Trade addressed the following circular letter to various bodies representing trade and commerce throughout the Empire :—

“On behalf of the Ottawa Board of Trade, the President and Council have the honour to submit the following remarks, together with the appendices thereto, on the movement to secure the cheapest, the speediest, the freest, and the most effective means of intercourse between all the King’s subjects throughout his vast Empire.

“Representing trade and commerce in the capital of Canada, the Ottawa Board of Trade feel it a public duty incumbent on them to take this means of expressing the conviction they have reached that all the British possessions throughout the world should be directly connected by State-owned telegraph cables under the control of the Post Office.

“Such a scheme is regarded by members of the Board as an effective means of fostering trade and stimulating commercial activity, at the same time constituting a bond of Imperial unity of inestimable value.

“The proposal requires not only that the connecting transmarine cables should be under Government control, but likewise that the land telegraphs of the several British possessions should be State-owned. The land telegraphs of the United Kingdom, New Zealand, the Australian States, India and South Africa, are already nationalized and administered by the Post Office. Canada is the only exception; but the transfer of the Canadian telegraph lines to the Post Office, together with the laying of a State-owned cable across the Atlantic, is, we are informed, under the consideration of the Government, and it may be assumed that Canada will not long remain the only country within the Empire where the telegraph system is not, in the public interests, controlled by the State.

“More than a year ago the scheme of world-encircling telegraphs was earnestly considered by this Board, and resolutions were then passed pointing out the necessity for establishing the Pacific Cable as the initial link in such a system of State-owned cables.

"It is a matter of great gratification to the Board to know that the Pacific Cable is now being established, under a joint agreement between the Home Government and the Governments of Canada, New South Wales, Victoria, Queensland, and New Zealand, and that there is every prospect of Canada being connected with the United Kingdom at an early date by a State-owned trans-Atlantic cable. With these works completed, and the Canadian land lines nationalized, the whole distance from England to the shores of the Indian Ocean, say at Perth, the capital of Western Australia, will be covered by a series of cables and land telegraphs under State control. Perth is near the 116th meridian east, while it is 244 degrees of longitude westerly from London. Reckoning by meridians of longitude, therefore, two-thirds of the globe will be girdled by a State-owned telegraph service, so soon as the Pacific Cable and Canadian lines associated therewith are established as national works.

"The necessity for connecting India and other British possessions in Asia with the Imperial system of telegraphy must, however, be recognized. On reference to the papers appended, it will be found that the Imperial scheme of cables to traverse the Indian and Atlantic Oceans between Perth and London, embraces the following works, viz. :—

1. Cable from Western Australia *via* Cocos Island and Mauritius to South Africa, with branches to India and Singapore—9,100 miles.

2. Cable from South Africa *via* Ascension and Barbadoes to Bermuda, thence to Canada and the United Kingdom—6,600 miles.

"These two sections together make 15,700 nautical miles, while the distance from London to Perth by the Canadian route is about the same, the actual distance being a few hundred miles less. Thus, it will be seen that taking into account branch cables to connect all the British possessions, half the work is already, or will shortly be, accomplished.

"Since the projected Imperial postal cable service was formally submitted to the Secretary of State for the Colonies in 1898, certain telegraph companies have been permitted to lay private cables on the sections east and west of South Africa; it may, however, be assumed that in a matter which has been correctly described as of transcendent importance to the British people everywhere, care has been taken by those acting for the State to reserve the right to expropriate these cables, whenever in the public interests they may be required.

"The papers appended set forth the scheme in detail and furnish ample explanations on all essential points. These documents contain the matured judgment of Sir Sandford Fleming, a member of the Board, who has given more attention to the subject than any other man, and in whose views this Board entirely concurs. In one of these appendices it is pointed out that it was largely owing to the action and influence of the Chambers of Commerce of the United Kingdom that the Postal Telegraph Service was introduced thirty years ago in the Mother Country. Similarly we believe it to be in the power of the various bodies representing trade and Commerce throughout the Empire to influence the universal adoption of the Imperial Postal Cable Service. It is with that object in view that this appeal is made. We respectfully and earnestly invite the aid and cooperation of all such bodies in bringing to completion "the crowning development of the British Post Office."

"In the name and by the authority of the Board of Trade of the Dominion of Canada, we ask all concerned in this Imperial movement to take such action as may tend most speedily to nationalize the telegraph system, by land and sea, of the whole Empire."

We have the honour to be,

Your obedient servants,

JOHN COATES,
President.

CECIL BETHUNE,
Secretary.

[L.S.]

That the Ottawa Board of Trade, in the above pronouncement, only gave expression to views held by similar representative bodies in all quarters of the Empire is apparent from a passage in an open letter addressed by Sir Sandford Fleming to the Hon. Mr. Mulock (now Sir William Mulock), Postmaster General of Canada, on January 1st, 1902, under the caption: "Postal Telegraph Service by Sea and Land." This passage is as follows:—

"Since the beginning of the year (1901) various public bodies throughout the Empire, and more particularly the General Council of the Australian Chamber of Commerce, have affirmed 'the unspeakable importance of a system of State-owned telegraph cable lines connecting all the severed portions of His Majesty's Dominions.'"

In the letter from which the above extract was taken, Sir Sandford makes a minute and exhaustive survey of economic advantages resulting from the nationalization of the telegraph lines now being operated in the country, and the construction of a State-owned Atlantic cable, to be used in conjunction with the land telegraphs. He advised an Atlantic route to the northward of the zone in which the existing trans-Atlantic cables are laid. He estimated the cost of the proposed cable, in round figures, at \$2,000,000; and expressed the opinion that the charges for interest and sinking fund to replace capital, together with the cost of operating and of maintenance, calculated on the basis adopted by the Imperial Committee for the new Pacific Cable, would reach a total of \$166,000 per annum. By employing the latest improved methods in telegraphy, Sir Sandford thought that "the State-owned Atlantic cable, with a twenty-word per minute service, would be capable of transmitting a maximum of ten million paying words per annum. This volume of traffic, reckoned at the exceedingly small rate for transmission of two cents per word, would give a gross return of \$200,000; a sum in excess of the total annual charges (estimated at \$166,000) for establishing, maintaining and operating the line."

Sir Sandford further stated that on the low estimate of 400,000 words per annum, five cents a word would yield a sufficient revenue.

"Comparisons," says Dogberry, "are odorous"; and the possible two, or even five, cent rate of Sir Sandford's proposed State-owned Atlantic cable, when compared with the actual twenty-five cent rate now charged, makes the latter abundantly "smell to heaven."

With reference to his proposal to nationalize the land telegraphs in Canada, and have them placed under the administration of the Post Office Department, thus following the example of Great Britain and other countries in the old world, Sir Sandford pointed out in this letter that private companies now graduate the telegraph charges according to mileage, for revenue purposes, but that, in his opinion, the working expense of the telegraph is not governed by distance; that a message may be sent a thousand miles at no greater working outlay than one mile; and that it does not add to the current expense to transmit many messages instead of a few. Hence, he argues, that it is possible to have a fair uniform tariff throughout the Dominion for the transmission of telegraph messages, instead of the varying scale of high rates prevailing under the present system of private ownership.

A copy of this open letter to the Postmaster General of Canada having been communicated to Sir John Ward, K. C. M. G., Minister of Railways, Telegraphs, Industries and Commerce for New Zealand, Sir Sandford Fleming received from him the following communication:—

New Zealand, Premier's Office,

Wellington, 21st June, 1902.

"Sir,—I have the honour to acknowledge the receipt of your letters of the 7th January last, enclosing copy of one addressed by you to the Hon. Mr. Mulock, Postmaster General of Canada, with reference to (1) the establishing of a State-owned cable across the At-

lantic, and (2) the transfer of the land telegraphs of the Dominion to the Postal Department.

"I have read the letter to Mr. Mulock with much interest, and share the views you have so clearly expressed therein. Bearing in mind the many advantages which there is every reason to believe would accrue, I am strongly of opinion that the Atlantic Cable should be State-owned, and the overland lines in the Dominion brought under the control of the Canadian Post Office. With these connected to the Pacific Cable, I feel assured that the effect would be such an object lesson to the world, that ere long the Government of every country with cable communication would take steps to bring the cable under its management, and a service cheaper even than that contemplated by many who take some little interest in such matters would unquestionably result."

I have the honour to be, sir,

Your obedient servant,

J. G. WARD,

Acting Premier.

Sir Sandford Fleming, K.C.M.G.,
Ottawa, Canada.

At a meeting of the Canadian Press Association, held at Ottawa, on the 28th February, 1902, Sir Sandford Fleming, by request, addressed the members assembled on the subject of "Cheap Telegraph Rates." In the course of this paper, he referred to the probable effect of the Marconi system, if brought into operation, upon the project of a pan-Britannic cable system, in the advocacy of which he has spent a large portion of his time for many years past:—

"While it is greatly to be wished that the highest expectations will be realized, we must recognize that doubts have been raised, and notwithstanding the splendid results already achieved by the inventor of wireless telegraphy, some of the leading English authorities on electrical science, such as Professor Oliver Lodge, Sir William Preece, Dr. Muirhead, Lord Kelvin, and others,

are of opinion that the system will be found to have its limitations, and that the greatest success possible for it will not suffice to render submarine cables unnecessary.

"Marconi himself, when on this side of the Atlantic, entertained no fear of failure; he was full of hope that he would prove his invention to be a complete commercial success, and he expressed the belief that he would be able to transmit messages across the Atlantic, with ample profit at one or two cents per word. The impression formed in my own mind, was that of admiration for the great inventor, who had already done marvellous things in wireless telegraphy, and whose hoped-for success in spanning the ocean, if realized, would pass his name on to future generations as that of a world benefactor.

"It appears, however, that there is a Marconi Company to be reckoned with, and that in financial matters the distinguished inventor has not, I fear, all his own way. I would infer, from what has come to light, that the over-ruling company in this case—like other companies—is more bent on dividends and profits than on benefiting the public, and that it has adopted the policy of charging rates very much higher than Marconi himself seemed at one time to consider necessary. * * * Instead of the very low rate expected, the Marconi Company claims ten cents per word for the transmission of ordinary messages.

Taken by itself, a reduction from twenty-five cents to ten cents per word is a great step in the right direction, and the arrangement entered into by the Government, to effect, if possible, the desired end, may be regarded as, to a large extent, satisfactory and wise. A reduction of sixty per cent. on present charges, assuming that the experiments and trials, soon to be undertaken, succeed, will prove a great public benefit, and its influence for good will be felt in many ways.

"I confess, however, to a feeling of disappointment that the Marconi Company had not seen its way to make the rate considerably lower. In my letter to the Post-

master General, of January last, I pointed out that by establishing a direct State-owned cable, ordinary trans-Atlantic messages could be transmitted for five cents a word, and that there would be the prospect of a further reduction as traffic increased. Under these circumstances, it seems to me more than likely that unless the Marconi Company can perform the same service for half, or less than half, the rate stipulated, it will not be possible for it to give to the Canadian public permanent satisfaction. Our requirements demand the speediest and cheapest means of communication, such as a self-supporting State-owned cable could give.

In the course of this address, Sir Sandford stated that, with the all-British State cable in operation, the charge for transmitting messages between London and Vancouver need not exceed six or eight cents a word, and that the total charges between the United Kingdom and Australasia ought to be from fourteen to eighteen cents per word. He further remarked:—

“A shilling rate will be immensely appreciated in New Zealand and Australia, where they have been always accustomed to excessively high telegraph charges. When I visited Australia eight years ago, I desired to telegraph friends in Canada, and receive replies about once a week. On arriving at Sydney, I sent my first message, but it cost so much—the charge being *ten shillings and four pence per word*—that I did not again indulge in the luxury of cabling to any extent.”

In connection with the above, and apropos of the beneficial effect of competition in general, we found the appended extract from the agreement of February 1st, 1901, between the Eastern Extension, Australasia and China Telegraph Company, Limited, and the Australasian colonies, concerning the transmission of Australasian traffic, a very interesting bit of reading:—

“From and after the opening for traffic of the Pacific, or any other competing line, nothing in this agreement contained shall prejudice the right of the Eastern Extension Company and the Cis-Indian Administrations

to at any time reduce the rates for the Australasian traffic, including Government and press telegrams, and at pleasure to raise them, subject to the maximum limits in each case fixed by this agreement."

This instructive exhibit of economic literature may be found, without the italics—which are ours—in volume 13 of the Sessional Papers of Canada for 1901, numbered 59.

We have now reached the end of our review of some of the authorities, and a portion of the evidence, which are available in support of the commercial value of State-owned cables. If criticism be evoked by the preponderance of quotations from Sir Sandford Fleming on this branch of our subject, we have no apology to offer. Assuredly he is the man best qualified to instruct us in the premises, seeing that he has certainly been the most ardent and indefatigable advocate of its utility and profit in Imperial matters. Being a civil engineer and a man of affairs, no practical difficulty in the project has escaped him. He is no visionary; and his arguments disclose, beyond all manner of doubt, a mind that would affirm to the uttermost Lord Acton's keen saying: "The worst use of theory is to make men insensible to fact." He has shown that his idea is truly Imperial, because it subserves the interests of defence as well as of commerce. At the Canada Club dinner, in March, 1896, the Right Hon. Joseph Chamberlain said: "What is the greatest of our common obligations? *It is Imperial defence.* What is the greatest of our common interests? *It is Imperial trade.* And these two are very closely connected."

It has afforded us the very greatest pleasure, in the course of this paper, to be able to demonstrate the abundant support which the project of an all-British State-owned cable system finds in the authoritative works of economists, in the views of military experts, and in the action of statesmen and public bodies throughout the

Empire. But the sentimental side of the project has not been touched upon. While it ought not to be overlooked, we feel it is not necessary to labour this consideration at any length. It is patent to every thoughtfu' mind that the closer you bring home to a man's understanding the conviction that the State, instead of being an abstraction conceived in the brain of the weaver of Utopian fancies, and never leaving that habitat, is really a living totality of units, of which he is one, the more you fan the latent fires of national sentiment in his breast. Where, we ask, is there a surer way of inculcating patriotic interest in the concerns of the nation than by widening the domain of State property? By this means every member of the commonwealth is made to feel, in a most intimate way, the responsibilities of citizenship. They are then symbolized for him on every hand; the railway, the telegraph, the ocean greyhound, bespeak his vigilant interest on behalf of his co-owners. Such things will lend him the zest of possession, be he, personally, never so poor. Thus, he will be persuaded to be more careful in his selection of those he entrusts with the administration of Government; he will become more and more intolerant of political corruption. In a word, the growth of State ownership means the growth of the principle of nationality. It is true that those good souls who are yearning for that larger empire—"the Federation of the World"—may not see in the extension of that which we have termed "the principle of nationality" the final goal of right public living. But they may be disposed to assist in the lesser work of social development when they are reminded that scientists like Carl Bucher (*Die Entstehung der Volkswirtschaft*) see in communal ownership and co-operation the parallel roads upon which mankind has travelled on its journey from primitive clanship to modern society. Clearly, those roads do not end at the present stage of progress, although blocked for a time by individualism. Hence, there is much to assure us that whatever makes for the

best all-British State leads on toward that all-world State to which the centuries are tending, and of which the literature of sociology is full of noble dreams.

CHAPTER X. THE ENEMIES.

Mention has been made here and there in preceding pages of the men whose pecuniary interests were in danger of being adversely affected by the successful inauguration of the pan-Britannic Pacific Cable, and incidental references have been made to the plans they laid, and the counter movements they projected.

It may be well to focus in one chapter the antagonisms which started into life and activity in consequence of the growing interest taken by the British peoples in the Pacific Cable project.

Till the Canadian Pacific Railway and its attendant electric telegraph lines were actually in operation, no sufficient motive for the development of cables along the Canadian-United States side of the Pacific Ocean disclosed itself.

As far as this continent was concerned, the bulk of the telegraphic business moved in the channels provided across the North Atlantic. There, line after line of cable had been laid from time to time, after the initial successful laying in the midsummer of 1866, till now no less than eleven or twelve successfully operate between North America and Europe, two others lying useless in the bottom of the ocean between Ireland and Newfoundland, while three others connect South America and the African and South European coast lines. The travel was that way. Business was largely in that direction. The trans-north Atlantic route was followed by steamship lines with passengers and freight. The great operations of finance moved to and fro between the countries bordering on the east and west shores of the North Atlantic.

While there was business to be done and money made, and dividends to be received, in undertaking the work of transmitting messages of the household, the counting room, and the warehouse, across the North

Atlantic, the capitalists of this side of the Atlantic did not look further afield. Year after year new cables were stretched from land to land, from Ireland and Cornwall to Newfoundland and Nova Scotia. In a few years the Anglo-American Company had four cables from the west of Ireland to Newfoundland, the Commercial had three from Ireland to Nova Scotia, the Direct United States had one from Nova Scotia to Ireland, the Western Union two from Cornwall to Nova Scotia, the Fougier Quartier (French) one from Brest to St. Pierre, General (French) one from Brest to Cape Cod. They were all busy, day and night.

Keen business men in England, however, were looking after the cable business of the Asiatic side of the Pacific Ocean. Great as were the possibilities of the Atlantic cables in the way of money getters, the eastern business in its vast bulk suggested still greater possibilities. The millions of people in North America could be counted by the score, four score or five at the outside. The swarming populations of the east demanded hundreds and thousands to convey an adequate idea of the number of millions of people there were to be looked after and traded with. In 1868, the first successful cable was laid between Malta and Alexandria, Egypt. Then, the Great Northern Telegraph Co., in 1871, began its work of cable laying along the eastern shores of the Pacific, followed in the same year by the Eastern Extension, Australasian and China Telegraph and Cable Co. This latter soon found its way, like the sailors of Europe before the time of Columbus, from headland to headland, till it needed but a comparatively short spring to land its cables on Australia, which it did in November, 1872. With fine subsidies and large charges (9s. 4d. a word), and a monopoly of the business, it proceeded to entrench itself so as to be in a position to drive off any competitor that threatened.

It provided amalgamations and working agreements till, between the Eastern Extension, Australasian and China Telegraph and Cable Co. and the Eastern Tele-

graph Co., no less than 127 distinct cables, with an aggregate of 57,626 nautical miles of submarine cable, are owned. What that means is apparent when comparison is made with the Atlantic cables. Giving the fourteen which have been laid, a length of 2,500 miles each, the total length of the North Atlantic cables would be between 22 and 23 thousand miles shorter than the lines which the shrewd Englishmen and Scotchmen captured while the American was pottering over the Atlantic portion.

Naturally, these two companies, with their enormous business and close affiliation, sought to strengthen themselves in every direction.

When the Colonial Conference of 1887 met, Mr. John Pender, Chairman of this group of cable companies, addressed the following letter to Sir Henry Holland, then Colonial Secretary:—

“Our system is now very much in touch with Her Majesty’s Government, and we have letters from the Foreign Office to the effect that whenever discussions take place in regard to submarine telegraphs, we shall have full information on the subject, and representation during such discussions. I, therefore, hope that the Colonial Office, looking to the vast interests involved in the submarine telegraphic system, will grant to my companies similar recognition on the present occasion.” (Proceedings of the Colonial Conference, 1887, page 124.)

Mr. Pender made no suggestion of reciprocity. His idea was of the kind so familiar to Canadians under the term “jug-handled reciprocity.” He was watching and guarding his own companies in every possible way.

When the Colonial Conference of 1887 met in London, the antagonism of this great company, with its ally, the Eastern Telegraph Company, was aroused. Mr. John Pender, the President, was on hand to begin that long struggle with Mr. Sandford Fleming which lasted till his death, and has been continued to the present by

Mr. Pender's successors, with plans and schemes even deeper laid and more crafty than those of the early antagonist of Mr. Fleming.

Mr. Pender was the moving spirit of opposition to Sir Alexander Campbell and Mr. Fleming, the Canadian representatives.

Fifteen of the twenty-two members of the Conference were Australians, and Mr. Pender knew the value of the telegraphic frank when the charge was 9s. 4d. a word. He is described by an eye witness as "in constant attendance, button-holing the delegates, and exerting his influence both inside and outside of the Conference."

Previous to the meeting of the Conference, but subsequent to the issuance and publication of the circular of the Colonial Secretary calling it together, Mr. Pender had taken alarm, and had sent communications to the Postmasters General of the several Australian colonies. In these he offered to reduce the tariff from 9s. 4d. to 4s. per word, provided the average receipts during the preceding three years were guaranteed to his companies by the several Australian Governments. He declared that the routes followed by his company and its allied company were incomparably the most secure in time of peace, and most easily protected in time of war, and that these lines were in many places duplicated, and in some triplicated, in shallow water, and consequently easily repaired.

From that time onward, "Delay it" was the watchword and reply of the formidable antagonist.

At the Colonial Conference of 1887, resolutions were passed in favour of undertaking the Pacific Cable project, and of having an immediate and extensive survey of the whole route. The Imperial Government was memorialized immediately on the conclusion of the Conference, by all the delegates present at the Conference, to have this survey accomplished. After a year a surveying ship was directed to make cursory soundings—if she came within the sphere of the proposed cable-path

—and a good deal was made of the fact. But, in a year or two, the surveying ship was quietly withdrawn, the survey discontinued, and Canada and Australia knew nothing about it till four years after the withdrawal.

What had led to this curious mode of procedure; this that looked almost like a breach of faith on the part of the Colonial Office?

Another move to the desired end was to declare the scheme impracticable, and for many a long year the "unfathomable depths" of the Pacific Ocean were dinned into every ear whose tympanum could be reached by public and private utterance, through official and non-official means. "Insuperable physical difficulties," cried the cable companies. "Insuperable difficulties," echoed their sympathizers in the public departments of the Imperial Government. "Who ever heard of such an important work being even advocated without the preliminary of an extensive survey." Such a survey, it was asserted, with painful iteration, to be at all useful, required soundings, not here and there, after the slipshod method in vogue in other oceans, twenty miles apart, but two miles apart.* There were deep holes in the bottom of the Pacific Ocean, corresponding, apparently, in the vivid imagination of one witness, to the deep holes in the skies near the Southern Cross, called by sailors the "Coal Sacks." This witness, indeed, from his perfervid inner consciousness, evolved a depth in fathoms which, being recast into the more easily appreciated standard of miles, meant a depth of thirteen miles, and those nautical. There were precipices with jagged edges as tortuous as

*Capt. Goodsall, Commander of the Eastern Telegraph Company's ship "Chiltern," giving evidence before the Imperial Cable Committee of Nov., 1896, in answer to questions said he considered an accurate survey absolutely necessary; that soundings "in that part of the world" should be not more than five miles apart and that it would be far better and more satisfactory in every way that the soundings should be but one or two miles apart. The number of soundings actually required of the contractor who laid the cable was 20 for the whole distance between Vancouver and Fanning Islands.

the path of a man "with a jag on," and a ten-acre field to perform his gyrations in. These would wear away the cable by the constant motion of the water. There were tremendous seismic disturbances that would lift and shatter to little bits the heaviest cable ever made. That terrible Pacific Ocean! How many enemies it hid in its deceptive depths! What singular freaks of nature were borne and developed there! The teredo, that can only play its destructive pranks in comparatively shallow water in other oceans, in the Pacific took its life into its syphons (having no hands), and plunged recklessly after the swiftly sinking cable, and in the vast depths carried on its borings, to the speedy destruction of the insulating coating. The coral would successfully imitate the teredo and go down to depths far below those at which it ever attempted to work in the Caribbean Sea. The coral, the deep holes, the jagged precipices, the subterranean fires bursting through the Pacific's bottom and consuming the cable as a straw in a gas flame, the earthquakes, the bold, bad, venturesome teredo, the deep waters in constant agitation, at depths where, in other oceans, there would be a profound calm, these were all pressed into the service of the conjurers, whose aim was, by their manipulations, to impress upon the various Conferences and Committees the utter folly of the scheme that Sir Sandford advocated, viz., the pan-Britannic cable circling the globe, under the management of the several members of the inner and outer British Empire, free from danger of trusts, free from danger of rivals and enemies, and free to bestow upon South African, Australian, Canadian, Englishman, Scotchman and Irishman, West Indian and East Indian, the great boon of cheap cable telegraphy, or, to coin a word, cheap thalagrams—sea-words.

When the early navigators of Spain and Portugal thought of pushing their oceanic discoveries southward, and applied to the Governments of these countries for assistance, they were solemnly warned by the Penders and Pateys of the day, that as in the far north the ice-

king ruled with a hand of ice, so in the far south there was a burning zone in which the waters fairly boiled; there was a point beyond which no man could go without danger from the fiery atmosphere, or of being engulfed in steaming whirlpools. On the maps of those days there were marked "unexplored regions," and over these were drawings of uncouth shapes of "gorgons and hydras and chimeras dire." The land, if land there was and all was not "a shoreless ocean tumbling round the globe," was represented as inhabited by gnomes and salamanders, to whom extreme heat was life itself. The unknown ocean to the west of Europe was known generally by the name of Sea of Darkness. The scientists of the day declared that in these unknown oceans there were mountains of lode-stone possessed of such marvellous magnetic force of attraction that they would draw the nails out of ships, which would then suddenly collapse, to cast the hapless sailor into a superheated bath of destruction. There were others, possibly corresponding to the officials who gave such damning evidence before the Committees and Conferences, who averred that as many ships disappeared in the offing, they must have gone down hill, and, therefore, if they descended too far, they could never climb up again, but would be condemned to rot and sink far from their native ports.

Thus discovery and progress were impeded in those days. The opponents of the Pacific Cable seem to have taken those fearful ones of the past (or are they better described as interested ones?) as their examples.

They certainly resembled them in this respect, that both were very positive about the accuracy of their knowledge without having any means whatever of acquiring that knowledge. The latter day witnesses excelled their prototypes in absurdity by insisting that a survey every two miles was necessary, because nobody, so they said, knew anything definite about the bed of the ocean. If there were not gorgons there were deep holes. If there was not a boiling hot ocean, there were jagged precipitous Himalayan heights, inequalities to which the

profile of the Canadian Pacific Railway through the worst part of the British Columbian mountains was as smooth as a hypocrite's face. If there were no mountains of lode-stone of exceptional strength, there were coral rocks, needle-pointed like the *aiguilles* of the Alps, and teredos with a hundred horse-power of boring stored within their skins, and globigerinae ooze in whose depths the cable would sink fathoms deep, never to be found again. For "chimeras dire," the Pender people substituted earthquakes and upheavals, and ocean bottoms dropping out—a concentration of cataclysms—of extensive stratigraphic catastrophes—of Ossians of disasters upon Pelions of dangers piled, such as the world never experienced in any one place at the same time.

Not content with thus viewing the natural obstacles of the Pacific Ocean through convex glasses of great strength, they presented other objections.

It was desirable to have some midway landing place, and yet have it British territory, and for that purpose Mr. Fleming, searching among the islands of the equatorial regions of the Pacific, found an unappropriated island that would suit admirably for the purpose. He urged, through regular channels, the speedy acquisition of the island (Necker Island). Canada and Australia were moved to move the Imperial Government, all, of course, secretly and confidentially, to send a vessel to take possession. Somehow or other, as is told more fully in Chapter IV, the secret got out, though it should have been guarded as the apple of an eye, seeing that three of the Australian Governments cabled the Colonial Office to secure the island. The Hawaiian Government sent a Minister and a swift steamer and got possession first.

Hong Kong had been thought of as one of the points to which a pan-Britannic cable would be extended. The Penders secured a monopoly for 25 years of landing cables there, and they secured it immediately after Mr. Bowell started on his mission to Australia. A remarkable circumstance connected with this transaction is that—to quote Sir Sandford Fleming's letter to Hon. Joseph

Chamberlain, of October 28th, 1898—"under agreement dated 28th October, 1893, the Eastern Extension Telegraph Company strengthened its monopoly by having Canada and the Australasian colonies telegraphically excluded from Hong Kong, and forbidden to lay or assist in laying any new cable to that port for a period which does not expire until twenty years from the present date."

While the Colonial Office did not see its way to take Necker Island, regarded as indispensable by Canada and Australia, it had showed no hesitation, in the very same month, in barring the way to Hong Kong by the practical monopoly it gave to the Eastern Extension Cable Co. This was not done in ignorance, for when Sir M. Bowell started for Australia, the fact was made known by Sir John Thompson to the Colonial Office, in anticipation of aid in the mission being extended. It was; but to the wrong parties. It seemed to us in Canada that John Pender's statement that "his system was very much in touch with important Departments of the British Government" was too true.

Another instance of inimical action is mentioned in Sir Sandford Fleming's letter to Hon. J. Israel Tarte, dated July 1st, 1899. Sir Sandford says:—

"In 1893, the Parliaments of Canada and New South Wales, having voted each a subsidy towards establishing a steamship service between British Columbia and the Australasian Colonies, the Government of Canada, deeming it important to take prompt and effective steps for the stimulation of closer trade relations between Canada and Australasia, on September 7th, 1893, an Order in Council was passed requesting the Minister of Trade and Commerce (Hon. M. Bowell) to proceed to Australia to confer with the several Governments with a view to promote the extension of trade and the establishment of the Pacific Cable. On September 11th, the Colonial Office, London, was informed of the intended mission of the Canadian Minister, and requested to promote the object of his mission. The Minister sailed

from British Columbia on September 17th. Two days before he sailed, that is to say, on September 15th, despatches were sent from the Colonial Office to each of the Australian Governments, containing only documents adverse to the Pacific Cable. These consisted of a letter from the General Post Office, London, dated July 5th, 1893, and a report by the Hydrographer, dated February 28th, 1887." (These are given in full in Chapter III, and need not be reproduced here.)

Their effect is stated in Mr. Bowell's report, in which he says, "from the copies which I append, it will be seen that the documents which confronted us (Mr. Bowell and Mr. Fleming) raised difficulties to the establishment of a Pacific Cable of various kinds, difficulties as to cost, traffic, revenue, and technical difficulties arising out of the physical condition of the ocean."

It is only necessary here to direct attention to the fact that the Hydrographer's report was ancient history. It was seven years old, and during those seven years ocean telegraphy had made great progress, and yet the archives of the Colonial Office had to be ransacked to find it.

Another question fiercely discussed was, the capacity of the cable to transmit a sufficient number of words to be a paying concern. This discussion took final form in the course of the Imperial Committee's investigation. One man managed, by a process peculiar to himself, to prove that the Vancouver-Fanning section of the Pacific Cable would not be able to transmit more than two words a minute. The Cable Committee wisely referred the question to Lord Kelvin and Dr. Alexander Muirhead, and took their view of the speed that could be obtained; and now Mr. Dearlove, who superintended the laying of part of the cable from New Zealand, has recently expressed his belief that from the perfect construction of the cable a speed of 100 letters a minute will be attained, or 12½ words per minute, thus showing the animus of the man who struck a two-word-a-minute gait as the best the Pacific Cable could do.

The commencement of a cable from Australia to San Francisco, via New Caledonia, was an alarming counter movement. It was aided by two of the Australian colonies, New South Wales and Queensland. So serious did it seem to Sir Sandford Fleming, that he packed his trunk and went to Australia, via British Columbia, without delay, and immediately set to work to counteract the dangerous move. While, probably, no direct evidence could be adduced to connect the Eastern Extension Company with this movement, it was strongly suspected that the company was behind, willing to defeat the all-British scheme by substituting a line which, in part, would be under the control of a foreign Government, thus destroying that particular feature in the Fleming scheme which created the public interest in it that had been so constantly and so strongly manifested.

The report and evidence of the Imperial Cable Committee of 1896 was not published till April, 1899. Why the delay? Why the delay in providing this Committee? Canada urged it immediately after the Ottawa Conference of 1894. New South Wales, Victoria, New Zealand, Queensland had agreed to joint action, and had instructed their Agents-General in London to co-operate with Canada in pressing upon the Imperial Government the need of cable communication across the Pacific, and the appointment of a Committee to inquire and report on the best mode of carrying it out. At last Mr. Chamberlain took the matter up, and formed a Committee to meet in the spring of 1896. Delegates met in May. But they did nothing. Some of them posted off to Budapest to attend a postal congress. Further delay was caused by a general election in Canada, one effect of which was the retirement of Sir M. Bowell from the Committee, and further delay till the autumn, when Lord Strathcona and Hon. Mr. Jones were appointed. Practically, it took from January, 1895, to April, 1899, to put the Imperial Cable Committee idea in motion, to get it into good working order, and to obtain the evidence collected by it.

Is it any wonder that many persons repeated John Pender's opening sentence to Sir Henry Holland in 1887, "our system is very much in touch with Her Majesty's Government"?

At different times, through various means, the several colonies of Australasia have been approached with a view to alienate them from Canada. At one time, indeed, so successful did the efforts appear that several of the Australian Agents-General in London told Hon. (now Sir William) Mulock that the Pacific Cable was "dead as Julius Caesar." Sir William, not accepting such a representation of the condition of the cable, set to work and revived it, much to the astonishment of several interested parties, whose wish was father to the thought. At a critical moment he dashed their hopes to the ground.

Thus, on a general review, it is seen that in every possible way the great cable companies have been the persistent antagonists of the Canadian idea of which Sir Sandford Fleming has stood forth the champion through evil and through good report, never weakening, always presenting a more and more comprehensive scheme as his knowledge increased, and as he found his opponents offering strong objections to different features in the original plan.

Nothing better illustrates this last remark than the way he has met the objection that a single cable is useless, that a duplicate cable must be provided, and that the cost of a duplicate cable would practically preclude the possibility of having a cable at all.

He has pointed out that the Eastern Cable Companies did not duplicate their cables till the business done warranted an addition to the lines of communication; that a cable in the Pacific Ocean was safer from injury, owing to its depth, than it would be in the shallower seas in which the Eastern cables were laid; that if a duplicate cable was deemed to be necessary, there was a better way than laying another along side of the first Pacific Cable. The enlarged plan was to lay a cable

from Western Australia to the Cape of Good Hope, thence to Barbadoes, and from that island of the West Indian group, a fourth cable to Nova Scotia or direct to England. From the presentation of the duplicate cable objection, either sprung or received increased force the idea of a pan-Britannic, globe-girdling cable, an alternative route which would be earning money, instead of a duplicated cable the cost of which would burden, if it did not weigh down and destroy, the working Pacific Cable from Australia to Canada.

To counteract that condition, the Eastern Cable Companies proceeded to lay a cable across the Indian Ocean, between Australia and the Cape, and to do it without subsidy, though previously they had sought to secure £100,000 a year. This called forth a letter from Sir Sandford Fleming to Sir Wilfrid Laurier, dated November, 1899, in which Sir Sandford proposed, as a protection to the State-owned principle, the very guard adopted in 1902 by President Roosevelt, in his agreement with the Commercial Pacific Cable, and by the Conference of Premiers, of June, 1902, viz., reservation of right, on behalf of the Government, to take possession of the Cable, as was done in the agreement respecting the Singapore and Hong Kong Cable.

CHAPTER XI.

"A PAN-BRITANNIC SYSTEM."

The fight for the Pacific Cable was long—it has issued in victory. To-day that mighty line spans the last of the oceans. No longer do the silent miles and the cavernous gulfs of the vast Pacific interpose their barrier to the swift flash across of the thoughts which are the weapons of their conqueror, Man.

The wish for Imperial organization lay close to the heart of the man who launched the project to the world, and fought it through to triumph. It was not an enterprise for personal gain. He regarded it as a means of advancing the civilization which comes of the human sympathy born of mutual knowledge and close communication. He regarded it also as a means of knitting together the parts of the British Empire.

It is the uniting ocean, the heritage of Britons, which binds together the wide-flung daughter nations and their Imperial mother. To the ocean why not add the electric spark? To the highway of the sea, the pathway for commerce, why not add the instantaneous communication of the mind? Cables now gird the globe, but their use is restricted to the few whose need for instant communication is imperious. Why not, by cheapness, fling the opportunity before whole nations? Why not, by wise arrangement, make this ease of instantaneous communication help in the work of safeguarding the sea-borne Empire?

"All-British" was a potent watchword in the long struggle for the Pacific Cable.

Experts may hold that hostile ships would find their task of cable-cutting in no way incommoded by the ownership of the landing-places. Publicists may argue that it is advantageous to have other nations interested in the preservation of the lines of communication. It is doubtful whether the general public greatly likes such arguments. The general public loves simplicity and

hates uncertainty. If the cable is all-British, the British and no person else will maintain it in the face of foe. Moreover, the British navy will know that it has that work to do, and will arrange to do it. The reasoning may be that of a dogged self-confident and imperious people, but it is clear. It is a line of reasoning which was adopted by the Mother Country and by her two daughter nations. For the future the position of the Pacific Cable, in the event of war, will be absolutely definite, and it will be worked to assist the British cause by every possible means. It will be aimed at by the foe. If the principle is good for the Pacific, why not for the other oceans? If it is good to link the line of Britain, Canada and Australia, why not link the line of Britain, South Africa, Australia, or the line of Canada, Australia, South Africa?

Two great advantages seem to be bound up for us in the future of world-wide telegraphy. The greater of these is the solidarity of our kin and kind brought about by the swift and easy communication. The other is, that in the task of keeping together and knitting together that great and portentous community, the British Empire, this swift and easy communication may have a specific, a military, advantage. Let telegraphy be cheap, and a volume of messages will develop which, year by year, will quicken interest, increase knowledge, add to understanding, and engender liking—the elements upon which solidarity is founded. Let telegraphy follow certain routes, and the cables, over which, in peace-time pour the communications of the commerce of millions, in war-time will add to the armed strength of the Empire, by making it possible for that armed strength to be placed where it is needed.

But, first of all, telegraphy must be cheap. The history of this movement has been a history of cheapness assisting progress, of high prices retarding it. How vivid is the side light thrown upon human affairs by Mr. Nathaniel Cork's remark before the Imperial Committee. The wish constantly arises, he said, on the part of per-

sons on the one side of the ocean or the other to send with speed a small sum of money to aid the relatives in some domestic difficulty. If to remit by cable will cost £1 or £2, they will use it, and by the following day the necessities of brother, son or father will be relieved. If it will cost £5, the price will be too great, and the tedious channel of the post will replace the flash of the cable; the help will come in six weeks, instead of in one day. No reason exists in the nature of things why telegraphy should be dear. The story of the anxious calculations as to the chances of the Pacific Cable throws this into bold relief. The enterprise was hazardous, the distance to be spanned unprecedented, the depth greater than had ever been essayed. Local traffic is non-existent now, and an unknown factor in the calculations for the future. Yet, the calculations are based upon a tariff which, from the outset, will be 36 per cent. lower than the tariff now charged by the company which has a monopoly of the traffic, of which the Pacific Cable hopes to obtain a moiety, and these calculations show that at this lower tariff the cable will assuredly pay, will possibly pay so well that a further reduction of the tariff may be necessary. Our minds turn to the company which so long has held the channel of telegraphy between Australia and the Motherland. Cheapness was so possible—high prices have prevailed so obstinately.

But the anxious calculations, the weighing of chances, the investigation of expenses, the consideration of possible revenues, have shown the public with what possibilities the future is charged. Abundant examples have been furnished in the experience of the public with land lines. In the United Kingdom it once cost six shillings to telegraph from London to Scotland or Ireland. The rate was reduced to a shilling a message, and in ten years the traffic had quadrupled; had risen from seven million messages to twenty-nine million. During the next ten years the rate was reduced to sixpence a message, and in that ten years the traffic rose to ninety-four millions. To-day, the readiness of the Englishman

to telegraph is one of the things that arrests the attention of the Canadian or American who goes to Great Britain. The American continent is huge. The British Isles are small; yet, upon the American continent the use of the telegraph is restricted to business operations, and occasions of emergency, and in Britain the telegram is used for innumerable messages which, in America, would be sent through the post. Hitherto mystery has surrounded the cable. The enormous distances to be traversed, the romantic difficulties to be overcome, have caused the public to acquiesce in the high charges against which, in the case of the land lines, they long ago rebelled. The mystery has lifted, and more is known of the exact cost of construction and maintenance. The fact is becoming known that distance adds practically nothing to the expense of telegraphing. When the capital expense—the cost of placing in position wires and establishing the stations—has once been met, it costs little, if anything, more to telegraph a thousand miles than to telegraph ten miles. The day of the old, expensive cablegram has gone. It has been a pioneer, and has done valuable service. But it is time for the cheap cablegram to come upon the scene.

Close telegraphic communication has become so important in modern warfare, that in the world-wide struggles which we may expect if the millennium does not dawn, the cable will become, if not the brain, at all events, the nerves of the opposing forces. The military position of the British Empire is altogether singular. At a hasty glance it sprawls disconnectedly over the world. Upon examination, we see strength in the variety and richness of resource in that widespread of territories, that outlook upon every sea. Can we easily forget the deftness with which, in 1899, the weak Natal garrison was reinforced from India? The danger was pressing—the weakness was great—the Boer masses were threatening—Great Britain was far away—and the reinforcements came from the east instead of from the west. To an Empire so spread upon the face of the globe, so rich in

unexpected sources of strength, so resolute to keep formal armament at the lowest point possible, organization is essential. The basis of organization is information, and the means of getting and sending that information. There is where the cable is of value. It is useful already; it can be made far more useful.

The Pacific Cable gives an all-British and quite secure route from Canada to Australasia, and greatly increases the safety of communications; compared with it the Eastern Extension line, passing in part through shallow seas adjacent to foreign shores, and touching at foreign ports, is open to interruption. Great Britain's cable communications to India and the east are at the mercy of certain foreign powers, should they choose to quarrel with her. All are, in any event, unsatisfactory, and are exposed to interruption in a maritime war.

The pan-Britannic electric girdle is designed, among other things, to meet these evils as far as it is possible so to do, and produce a higher degree of security. The Pacific Cable is the initial step. Extend the State-owned system first of all across the Atlantic, from Canada to Great Britain, and nationalize the land lines of the Dominion. Adopt the same principle from Australia to India and South Africa, and from South Africa to England, following the deep water of the Indian and Atlantic oceans, and avoiding the shallow seas along the west coasts of Africa, Spain, Portugal and France. The route is obvious on a study of the map. The cable would proceed from Western Australia to Cocos Island in the Indian Ocean, where it would bifurcate, one branch extending to India, the other to South Africa, by way of the Mauritius to Durban. From Capetown, the cable would follow a deep-water route to England, by way of St. Helena, Ascension, Barbadoes and Bermuda, nowhere touching land not British.

Such a system of lines would bring about close internal communication throughout virtually the whole Empire. Each point touched would have communications in two directions, and often in three or four. There

would be no termini, such as Australia long was, such as India virtually is. It is worth while to note how many of the fortresses, coaling places and "defended ports" embraced in the Imperial scheme of defence, would thus be given double cable communications. The list is:—
Coaling stations: Hong Kong, Singapore, Trincomalee, Colombo, Aden, Capetown, Simon's Bay, St. Helena, Ascension, St. Lucia, Jamaica, Bermuda, Halifax, Esquimalt, King George's Sound and Thursday Island. "Defended ports": Durban, Karachi, Bombay, Madras, Calcutta, Rangoon, Adelaide, Melbourne, Hobart, Sydney, Newcastle, Brisbane, Townsville, Auckland, Wellington, Lyttleton and Dunedin.

The great needs of the future are, reliable routes and cheapness of transmission. The first may be had as pointed out, and the second is certain to follow under State-ownership. It must have been borne in upon the reader that the brilliant prospects of the Pacific Cable, its promised union of low tariff and good revenue, are due to the elimination of the dividend. From the year's receipts will come the operating expenses, certain fixed charges, including interest on the capital, at the minimum rate; that is all. The Eastern Extension Company has been paying 7 per cent. dividend on capital, a portion of which was watered.

The difference is striking enough, because the Pacific Cable is State-owned; no seven per cent. dividend will be looked for, and rates for transmission may be lowered; but that is not the only reason why State-ownership will result in greatly reduced rates. The Eastern Extension Company has not divided among shareholders all its profits. According to the latest statement, the directors have, from time to time, carried to a reserve fund, undivided profits exceeding its whole share capital.

The net revenue derived by the Eastern Extension Cable Company last year (1901), from its line to Australasia, would be ample to pay the operating expenses, the maintenance of, and the interest on the capital required for the whole of the pan-Britannic girdle. The

advantages of the State ownership of telegraphs does not, at this hour of the day, need elaborate argument. It was under private ownership that telegraphic communication between London and Scotland cost six shillings a message; it was under State ownership that the price was reduced to a shilling, and the traffic rose fourfold, that the price was further reduced to six pence, and the traffic rose to thirteen times what it was under private ownership. The battle has not yet been won for State ownership in cables, the associated British Governments are making the experiment, they have laid a cable, they are operating it, and rates have been reduced to one-third what they were a few years ago. If the Pacific Cable pays, and a further reduction of the tariff becomes advisable, with what patience will the public bear the high rates of private companies, when they have before them an ever-present example of how small the cost of cabling needs to be.

CHAPTER XII.
GIRDLING THE GLOBE.

Iron-welded, oh my people ; Saxon, Celt ;
Victorious Northmen ; strenuous, masterful ;
Not to be strangled in time's ocean flood,
Sucked down in vortex of old ruin dire :—
But to remain, contend, depose and rule,
Till earth's white morn out-flames her latest night,
And freedom breaks in gold about the world.

The subject of this article, as indicated by its title, "Girdling the Globe," is one not alone fascinating in theme, but one which, by its suggestiveness, is pregnant with greatness.

That man, in the achievement of nation-building, progress, and human conquest, should penetrate to all corners of the planet has been the chief, if unconscious, aim of human history.

Since the days of the great Roman Empire, the only power which, in its time, was designated as world-wide in its influence and sway, no nation has ever had such a marvellous development, growth and rule as that of the British people ; which has extended its borders, keeping pace with the wonderful earth-circling expansion of discovery and conquest, until to-day, so wide are its ramifications of colonization, conquest and patronage, that in comparison with its vastness and power, the once-famed Empire of the Romans dwindles into ignominious insignificance ; and for once in the history of the earth, a nation, sceptred in small islands of the Northern Seas, has virtually, it may be said, girdled the earth with its colonies and Imperial power.

In dealing with this subject, a vast one in its significance and potentialities, it were well at the outset to consider the reasons for this wonderful blossoming or outflow of the scattering children and dominating rule of so small a people unto the furthest corners of the civilized and uncivilized world.

In considering the question there is no doubt that, aside from all other influences which have governed the determination and development of nations, the one great explanation of this marvellous expansion is, that it is due to the almost preternatural tenacity and developing spirit of the British races. It is, therefore, this spirit, earth-conquering, and time and space-defying, tempered by wisdom and love of freedom, which has succeeded in dominating the world.

The history of the British spirit or racial impulse is coeval with the history of the race itself. Originally from the north, flowing south to the more temperate zones, the ancient people or stock of the Northmen conquered and dominated the British Isles. Since the earliest period of the growth, gradual but sure, of British civilization, has this development been controlled and influenced by the spirit of her people, which benignly guided by a conservative yet progressive impulse, has led her from barbarism to refinement by evolutions of human advancement, more ethical in their significance than those which have attended the upward development of any other peoples of the human race.

It is this spirit or influence, wiser and more human, and, therefore, deeper and more lasting, than that of any similar racial impulse, which has dominated the growth and development of the British races during the last thousand years.

To examine this spirit or impulse, with its underlying virtues of human naturalness and individuality, step by step, during all the periods or epochs which make up the long chain of British advancement, would be altogether beyond the limits of this short article; but, it were well to realize at the start, if we, as Britons, are to really appreciate and understand the underlying principles of our advancement, and our present world-wide greatness, that we must discover whence this greatness has sprung. its ethical foundations, and the conditions of its continuance.

Nations there have been, like the Greek, supreme in intellect and ideal of beauty; like the Romans, in military renown and nation-conquest; or like the Spaniards, for a brief time rulers of the ocean, in adventure and discovery; but none like the British, which alone stands in the history of the world combining all of these elements of individual greatness, and containing, with these, those essential elements of stability, tenacity and ethical ideal which have made her supreme intellectually, commercially and imperially in the modern world; and it is this spirit which she shall have to maintain so long as she expects to develop and expand, carrying out the highest dream of her racial existence.

In studying this matter from the philosophical standpoint, perhaps the most remarkable feature, and the most suggestive, of the British spirit of progress and domination, has been that, through all those periods of war and bloodshed common to the history of all nations, more than any other people has her national impulse been on the side of peace, and those peaceful arts of commerce, invention and agriculture, which have done so much in the direction of refinement and upward development of the human race.

It is herein where lies her true glory, and the secret of her marvellous success, in the face of the fact that her history is replete with victories of the sword equal to the greatest martial achievement; and that to-day, as mistress of the seas, she commands at her disposal the most powerful armament ever known in the history of mankind.

Great as has been her power in war at sea or on land, yet greater still and more lasting have been her benign influences of commerce, human freedom, and the self-rule of her vast states and colonies, into whose borders have fled for shelter and emancipation the hordes of ill-treated and down-trodden children of the many despotisms and tyrannical Governments of the world.

Yes, peace and peace only has been through all the years and centuries of European rule and misrule the

true guiding star of British domination, at home and abroad. For it may be said that while her navies and her martial outposts have policed the world, and made possible the myriad argosies of commerce; yet, she has, by her wise policy of toleration, arbitration, and commercial instinct, prevented much bloodshed, and has, in many instances, held apart, by the iron glove of her power, nations that were eager to rush into bloody conflicts, that would probably have resulted in that great war of nations which has so often been prophesied, but which, happily for the world's highest dreams and modern civilization, has been postponed and made almost impossible.

This is her spirit, and it is the highest spirit; the wisest, the most human, and most conducive to human happiness and national welfare.

" For earth is worn of conquest-sanguined states,
And bloody wars for base, material ends,
Of blatant voices calling unto strife :—
Only the calm and patient will remain,
Only the noble effort will endure."

This is her spirit. It is this spirit, at once wise, strong, human, ethical and practical, which has made her what she is; and so long as she continues in this direction, carried by this impulse, so long will she dominate and control the earth. And it is with this spirit that Britain, in her own borders, and the great child-nations which she has built (not omitting even the great American Republic, which cannot escape, and has not escaped, the destiny of her national heredity), has ethically and materially girdled the world.

Having thus dealt with the British spirit, that controlling influence or underlying impulse which, consciously, or more likely unconsciously, dominates a race and marks it for strength or weakness, good or ill, fame or oblivion, in the pages of history; that most important feature of the national characteristics, out of which has sprung great literatures, religions, laws, practical evolutions in human self-rule, and formation of states; that

kernel, as it were, of human despotism or liberty; we will now turn to those other phases of the history of the globe-girdling impulse of the British peoples.

First of all is the student of history attracted by her unrivalled position, which she has held at all times throughout the centuries, and which, in all human possibility, is now fixed as supreme mistress of the seas. From the earliest days, as far as history relates, the Norman, Saxon and Celtic peoples, which were the nucleus or mother-stock of the great British race of to-day, were famed in song and story as the kings of the ocean. Cradled as the race has been in those small islands of the North Sea, scarcely ever, if at all, out of touch with the influence of ocean; have her sons grown from childhood to old age within sound of its voice, or within the breath of its breeze.

Such a race so cradled have become not only inured to the difficulties, dangers, and hardships of seafaring life, but have, moreover, become enamoured of the very spirit of the sea, which has whispered its siren voice in their ears, and beckoned them afar on its great trackless vasts in all directions, wherever her winds might blow, from the icebergs and floes of the desolate north, to the warm, spicy and silken breezes of the torrid zone.

Nowhere, where wave laps, where continent looms, where keel has cloven the deep, or human, adventurous foot has trod, have they not been; these, her conquering sons, children of the mighty sea-kings of the olden world.

To name a list of her famous seamen, from her first admiral to her latest, would be to write a book of glory and adventure, of human determination and heroism unrivalled in the history of the world. From the days of the Spanish Armada to the stirring and history-making times of the immortal Nelson, and his great confreres, Troubridge and Hood, have her annals of sea-conquest in peace and war been the chief glory of Britain, and her greatest safety from the attack of the outside world.

Though she herself, by means of her vast development in the practical science of modern ship-building,

has long since evolved from the era of the wooden ship to the modern floating fort of steel, with its complicated electrical equipment; yet, she stands to-day, as she was then, supreme mistress of the seas.

In all oceans, east or west, torrid or arctic, wherever the great fleets of the world's commerce go up and down, are her armed cruisers and her coaling stations found, holding, as she does, the gates of all the seas that girdle the earth.

Nowhere, nohap on what shores oppression can be found, or ill of mighty nation against weaker, or of despot against down-trodden subjugated peoples; there, if her flag flies at mast, and her funnels smoke, she stands for right, emancipation, and fair-play the world over.

And nohap how strong the dungeon of the tyrant, or how cruel and tyrannous the hand of the slave-driver, when her guns speak the prisons open and the helot becomes a man once more.

This is, in short, the history of the British spirit, as armed mistress of the seas.

But remarkable as has been her domination as an armed power on the oceans of the world, much more remarkable and equally convincing and dominant has been her personality as mistress of the greatest navies of peaceful commerce which the world has ever seen.

In all climes, and to all shores, have her ships gone and her merchants traded, carrying civilization and human improvement in their wake. From the wealth of the Indies to the bleak inhospitable shores of the far south and the frozen north she has planted her flag of commerce, and fixed her trading stations about the world. The history of the East Indies, of the China Seas, of the Hudson Bay Company, of the fever-infested coasts of Africa, is each but a single chapter in the marvellous volume of the history of her maritime adventure. From the days of Drake and Frobisher and the chase of the Spanish galleons, to the present, with its funnelled iron tramp, her flag has dominated the commercial fleets of the world.

The annals of such seaports as London, Liverpool, Glasgow and Bristol would include the history of the large mass of the centuries of keel and spar, of hull and of pennon, which have carried the commercial products of either Ind, and have been the channel of intercommunication between the great emporiums of trade and civilized communities the world over.

From these great seaports have gone out those navies of commerce and civilization which have been the fore-runners, not only of British colonization, but have carried the influences of British freedom and refinement to the uttermost parts of the earth ; and by this means gradually throughout the centuries Britain, consciously or unconsciously, as a great maritime power, has girdled the world with her commerce, and with it her influences of refinement, and of material, intellectual and ethical progress.

The next phase of British globe-girdling is that connected with her colonization ; without doubt the most remarkable development of nation-building in human history. Again we see the result of her spirit, which, benign and progressive, achieved what no other European nation succeeded in doing, the planting of her children in different parts of the world to reproduce, in new-world communities, that character and spirit of freedom, individuality, and peaceful progress which she represented, and which they had enjoyed within her borders.

In comparison with Britain's success along this line of national development, let us observe the failure of Spain, France and other European countries, who, great in many ways, failed of the spirit of liberty and practical progress which we have already discussed as being the vital impulse, which developed and conserved Britain within her own borders and her separated colonies.

The former, briefly great as a sea-faring power, was early distinguished as one of the first in her discoveries of the New World ; and there is no doubt that had she had a moiety of that practical progressive spirit which dominated Britain, she might have made herself all-

powerful, and have controlled the destinies of the New World. But for all her sea-faring greatness, her high spirit for adventure, and her daring personality, she was destroyed by her rapacious lust for gold, and her fierce, narrow-minded spirit of cruel conquest, and superstitious incapability of self-rule. As one of the leading Latin nations, Spain seemed fatally attracted by conquest of those portions of the New World that lay south of the temperate zone, and her unjust cruelty to the races which she subjugated proved her ruin.

In short, she showed her utter incapacity for colonization, by reason of her lack of the power of self-development in her own peoples.

France, the greatest of the Latin nations, though more successful than Spain, likewise had her hour when she might have controlled the destinies of a large portion of the North American continent; but, like Spain, though more determined and heroic, she failed by reason of the same lack of the practical instincts in her people which were necessary to endure the hardships and maintain at the same time a development of old-world civilization in the wilds of America.

Britain, alone of all the great European maritime nations, had those qualities which go, not only the length of adventurous discovery and martial conquest, but also which include those positive virtues in a people, such as tenacity of purpose, self-government, and freedom of individuality to determine its course socially, when cut off from those centres of government and social conditions which had moulded its ideals.

A marked feature of Britain's expansion is her occupancy of the temperate zones, where, betwixt the extremes of inclemency and torrid heats, a race becomes strong and self-reliant in its struggle with natural conditions, which are hostile enough to need combatting, and yet not so much as to paralyze civilization, or to deteriorate the species in the struggle.

The Latin races who, by instinct, have sought the more enervating climates of the torrid zones, have, in

their colonizations, reproduced communities which have either deteriorated to the level of the aborigines, or have failed to do more than simply reproduce without development the life of the old world from which they have sprung.

This is owing, partly, to natural race inaptitude to develop in progressive self-rule; and partly owing to the indolent character of the people under the more enervating, and, consequently, sensuous conditions of climatic surroundings.

While Great Britain has taken upon herself to be the arbiter of the destinies of such a great oriental country as the East Indies, where such adverse climatic conditions, as we have referred to, occur to a large extent; yet, by the natural genius of her peoples, the trend of her colonial outflow has been rather towards those shores governed by hardier climate, and where the conditions of life necessitate personal struggle, self-denial, and those hardy characteristics which have made the peoples of Canada, of the Australias, and of the United States of America, the dominant peoples of the earth, intellectually and practically, outside of the British Isles.

In this we see her fate; and as fate is synonymous with character, her destiny is but the child of her own spirit, which loves to struggle and toil in the upbuilding of commerce, nationality and self-rule of peoples the world over.

In dealing with this subject, namely, the world-girdling genius of Britain, we naturally now come to a study of what is in reality her mission in the world, and her relationship, not only to her own colonized commonwealth, but also to the humanity which lies outside of her own borders.

It might be said here that this has already been suggested or touched upon in the reference to the spirit or impulse, and the resultant colonizing of the Empire. But there is more to be dealt with under this head than that of the peopling of the temperate zones with new

nations, and the filling of them with her ancient spirit of love of freedom, individuality and practical power.

The mission of Britain is one so far-reaching in its influences, not only through her own people, but also in her personality in directing the affairs and guiding the ideals of the modern world; that it is almost impossible to give an adequate expression in common English of that grave responsibility which lies upon the shoulders of that people and Government, which, of all the great national forces of to-day, is the supreme world power. Or to express it thus:—

“ Her very vastness, wide imperial power, her immense
Titan-like shoulders, whereon heavy, outspread,
God-like Responsibility ever broods,
Pondering on the miseries of this world.”

So great is this mission, that it would almost seem that upon her power hangs not only the destinies of her own people, but also the fate of the many lesser civilized peoples and scattered communities whom she alone of the nations of to-day holds under her protection.

This mission is not alone a vague or general uplifting influence by which she has in the past toned down and softened national relationships, widened lines of the world's outlook, and generally acted as the great moral genius of the civilized world. It is more than that. It is, in short, civilizing, refining, practical, and has to do with the development of the wisest and most human social relations between those communities and her own people wherever they may be throughout the world.

It is true that in this she has often failed, and fallen short of what is best in her national dream. But, allowing for the natural imperfection of humanity, she has carried out, on the whole, this practical and yet uplifting spirit wherever she has gone.

It is well known, it is almost a proverb among nations, even those most jealous of her supremacy, that under the British flag is found not only that freedom and fair-play, but that security of life and property found nowhere else, or under any other flag.

The British have been called sneeringly a race of shop keepers; and, to a large extent, this is true. Trade has no doubt been a great factor in extending her world-wide influence. But in this she shows her great practicality, her genius for the matter-of-fact and the material. Probably no other world-power, even the Germans, a matter-of-fact and phlegmatic people, have so realized that at the basis of all national development the practical must have its place.

The most beautiful blossom has its roots in the common earth, and those delicate, exquisite petals and sepals, with their rare colours and delicious perfume, draw their life from, or rather, have their foundation in the common and unbeautiful, but basic, earth between them.

Here we have a lesson from nature herself, the great teacher, that the highest ethics, the loftiest ideals, the most spiritual personality, either in man, or collectively in nations, must have, to be truly ideal and lasting, their basis or foundation in what is solid, common-place and practical.

It is herein again that we see the supreme stability of the British peoples among the many races of the world. Without this practical, commercial instinct, to anchor her and guide her people, all of her martial and naval genius were less than nothing. And if her mission were no more than to teach this simple truth to the students of ethnology and race-building, that common sense and stability are the foundations of all positive and progressive civilization, she would at least have done her part in influencing the world for the better.

But it can also be said for her, that as a great world-power not only has she taught, by her precept and her example, the lessons of common, every-day struggle with life and nature in her most inclement zones for existence, but she has also with this given to the world, wherever she has gone, the spirit of the literature of Shakespeare, the ethical ideals, and the conciliating social conditions and self-ruling government, which has

yet to be equalled under any other Power which the world has seen.

To sum up, her mission has been, and is, to elevate the ideals of peace rather than of martial achievement; to enlighten and civilize, and to rule by conciliation and reason rather than blind force; and to carry to all nations of the earth that ideal of democratic self-government which has dominated her own national councils and permeated society wherever her rule is felt.

Realizing the vast importance of this, her world-wide influence, not only to her own internal existence as a nation, but also its bearing on the well-being of all modern civilization, it is right that we should seriously consider the terrible loss to the modern world did such a national personality decline or pass out of existence.

Not only would it mean the destruction or decay of the greatest national ideal, and the most practical influence for good in the modern world, but it would also mean the revival of those old despotic conditions which her struggle for freedom had destroyed or driven to the wall; or else the setting up of lesser or more decadent dreams of world-rule and social ideal.

There are many who say that Britain has reached the height of her power. Why they say this, and what reason they give for this supposed decline, is not known. Others, representing another ideal and trend of thought, laugh to scorn any suggestion of the possibility of such a great civilization as she represents falling into decay or desuetude.

While the one idea, that she has reached her zenith is largely asserted by the jealousy of rival peoples, or of those within her borders who are either the victims of pessimism or social dissatisfaction; on the other hand, the statement that such a condition of high national ideals and peaceful world-conquest can go on forever, is likewise based on false premises.

Human life teaches that while there is no limit in the evolution of progress, it is quite possible that those principles and well-springs of effort and ideal, which

have built up a national fabric, if left to themselves by the decline of the impelling impulse which governs the evolution, may decline in their power, and the whole upward flight of national achievement break in mid-air like a fountain, and dissolve in spray of decadence and national decrepitude.

The British Empire, like all other nations in history, is amenable to the great laws of nature; and, therefore, is liable to all the dangers of weakness, sapping vitality, and decay, common to all alive, either physical or of the body politic.

Under modern conditions she is liable to be assailed by those foes, within and without, which attack all nations sooner or later.

Therefore, it is easy to see the dangers which may approach her from many quarters.

There is a period in the history of all peoples when it is time to stand still and look about in a self-questioning mood, and examine into the conditions of the national existence, and try and discover the weak places, the dry-rot and the worm-eaten timbers, in the ship of State; to also size up, as it were, her possibilities; and to see that in her account on the balance sheet that her balance is not overdrawn.

There is a growing feeling to-day among many of the most thoughtful sons of the Empire that her progress in colonization, world-conquest, and patronage of lesser nations has, for the time being, gone far enough; and that, just as business houses often close for a time to take stock of their assets and liabilities, so it is time that the great Empire begins to retrench, or rather to stand still, and gravely consider the conditions and possibilities of the peoples whom she has already gathered under her rule.

It is quite possible for any world-power, as many an institution has done, to exhaust itself and sacrifice its own personality for the sake of emancipating weaker peoples, and giving to them of her life which should

have been kept to continue and develop her own existence.

It is quite possible that in an over-cosmopolitan ideal, a nation may destroy her own strong individuality, or in a desire to dominate the whole of an age, that an empire may forget her limitations until too late.

It is in this spirit that the best thinkers, who have the interest of the great Empire at heart, would now desire to see a sort of retrenchment or conservation of the dominions and the peoples which she now controls.

Cosmopolitanism, at one time regarded as an unusual quality, or a sort of new virtue, has been in these days by the British peoples carried to the other extreme; until it threatens to almost become a vice.

It has been said of great leaders, political and otherwise, such as Gladstone, that in their desire to be thought well of and appreciated by the rest of the civilized world, they forgot that they represented, not cosmopolitan Europe or America, but that their real duty and place were limited to the people by whom they were produced, and who gave them their power.

While we may be philanthropically inclined to sympathize with the reformers, the patriots, and the spirits who stand for liberty and truth, in all portions of the globe; yet, it is quite possible that we may go too far afield and spend that energy so sorely needed at home.

Without any more illustration of this idea, every man of British instincts and British heredity, will see the truth that is enunciated; and will understand that if we are to help others, we must first conserve ourselves, and those institutions which are to be, as we believe, the forces for the emancipation of the outside world.

Having this in view, it will be seen that not only must we, as a race, draw closer together in bonds of social, commercial, and political ties; but that we must also study, in as far as we can, to discover the best and wisest means for the binding together of those remote peoples who occupy portions of the several continents of the globe, and yet who are, by the ties of blood, speech,

heredity, ideal, and loyalty to one common throne, fellow-citizens and compatriots of the world's greatest Empire.

Among the many remarkable facts in history, it is noticed that at certain periods, certain human discoveries along different lines have arrived just when they were needed.

In the ages when each nation lived to itself, with little intercommunication with others, save for the ravages of war; such modern inventions as the discovery of the powers of steam and electricity would have been of little avail. But with the widening and development of colonial growth, the closer intercommunication of the colony with the Motherland became a necessity. Then came, as if in answer to the requirements of the age, that marvellous discovery which changed the Atlantic, which, at one time, was regarded by Europeans as a mysterious, trackless waste that led to the regions of mythical demons, into a narrow strait of a week's voyage, bridged by iron ferries.

Under such conditions peoples, once alien, became fellow-traders, neighbors, and then friends.

The result of this revolution in world-travel is, that to-day the ocean, which at one time was the alienator of race from race, and Motherland from the child colony, is now become the channel of close communication between the peoples of the earth.

It is now for the British peoples, who are to-day, as they were in the past, masters of the trackless seas, to use this great highway of intercommunication to bring into close contact, commercially, socially, and politically, the several commonwealths and the Motherland; and so bind closer those ties of race and allegiance which, if the Empire is to last, are to be the vital arteries which will make her life-blood as one.

When the colonies were young and, in many instances, but sparse settlements of pioneers in the forests or prairies of new worlds, and when they were so occupied in the rude struggle for life, that they had no time to consider those larger problems of imperial rule, and

were satisfied with the political ties which bound them to the Motherland, it was all very well, and quite satisfactory in many ways, that the communication, political and otherwise, should be limited to State communication; and both colony and Motherland were content if the will of the dependency were expressed by the mouth of a Governor, or the head of a Government. But now matters have become more complex, and the time has passed when a colony will be satisfied at having its communication with the centre of Imperial rule represented by one, or even half a dozen men; nor will such a slight thread suffice to bring together and keep loyal, such great commonwealths as Canada, Australia and South Africa.

The ties which now bind must be of another and stronger kind. Commercially, much has been, and is being done. Politically, representation in the Home Government by the colonies is still an academical idea. But socially and Imperially, much must be done to bring the Motherland into close touch with her colonies, and they with each other.

The writer of this paper would modestly make some suggestions along these lines.

The wisdom of the world always uses the means closest to hand, and among the many practical sources of intercommunication between the peoples and peoples, none has more power than the Press.

It is here suggested that an invaluable means of bringing the several portions of the Empire into closer touch, would be by the interchange of matter dealing with the life, politically, commercially, socially, and ethically, representative of each colony and the Motherland; to be so disseminated as to reach the readers of newspapers in all parts of the Empire.

For this purpose an Imperial press bureau could be established within the Empire, with its centre at London, and its ramifications within the colonies. Such an institution could either be controlled by private enterprise, or subsidized by Government; and in any case it could be made self-supporting. Such a bureau could be

used not only for fostering a common political sentiment in the several parts of the colonies and the Mother-states, but would also have for one of its main objects, to enlighten each portion of the Empire as to the opinions expressed in the others. In this way not only could there be commercial interchange of advertisement of local produce and natural conditions, but also it could be the channel of disseminating Imperial literature of all kinds, and also be a social channel of national intercourse.

This is a suggestion, and one which, if carried into practice, would be one of the most practical methods of binding the links of Empire.

Those of our compatriots in the Motherland, and our Australian friends, can have little idea of the Imperial weakness, so far as Canada is concerned, from the fact of this colony being so closely contiguous to the great republic to the south of us; with the result that, so far as our press is concerned, a large amount of the matter which goes to make up the average local paper is sent in, in what is called boiler-plate, from the United States.

Now, the present writer has no intention of, in any way, casting reflection on the ideals and dreams of the great sister nation whose heredity is for the most part British. Canadians, as a whole, look upon the people to the south of us with kindness, and in many cases, admiration; and there is no people on earth that can be so close to the feelings and ideals of the British people as those of the great American Republic. They, like us, have the same heredity of blood-tradition, ideal and literature. The same language which expresses loyalty to the Union Jack vows fealty to the Stars and Stripes.

“Not that we hate our brothers to the south,
They are our fellows in the speech of mouth,
They are our wedded kindred, our own blood,
The same world-evils we and they withstood,
Our aims are theirs, one common future good,—
Not that we hate them, but that there doth lie
Within our hearts a golden fealty
To Britain, Britain, Britain, till the world doth die.”

This is our feeling, and while, as has been stated, we have the warmest feeling toward our great neighbors, yet politically in ideal and fealty we are a separate race, with a dream of Empire older than theirs.

There is no reason why this dream of ours should not be developed on the American continent as a part of the great Empire. But it can be easily understood that the influence, already mentioned, of American press subject-matter in the daily Canadian newspaper must have its impression ultimately upon our people.

Where, on the one hand, the Canadian scarcely ever sees a British paper from outside of our own Dominion; on the other hand, our homes are continually deluged by all sorts of literature, comprising the newspaper and the periodical, filled with matter having for its inspiration the ideals and prejudices of the great republic to the south.

Much of this matter is not only American in spirit, but decidedly hostile to anything British and having to do with British ideals and institutions.

It must also be understood that we are a small people, neither wealthy enough, or numerous enough, to sustain or produce a distinct literature of the press or otherwise, which, expressive of our British ideals, would supplant or shut out American invasions along this line. Then, it must be remembered also, that the class of literature, newspaper, periodical and otherwise, which invades Canada from the south, while much of it is injurious, yet is of a highly attractive character; and likely to catch the attention of and influence the average reader. Therefore, the grave condition we have pointed out with regard to the press influence in moulding or destroying British sentiment in this colony, is one that needs our immediate serious attention. For this reason, among others pointed out, such a bureau as suggested is not only of incalculable importance, but if we are to seriously undertake the building of the Empire of the future, is one of immediate necessity.

There is no room in this short essay to deal with this matter at any length, nor was it the intention to more than give it passing suggestion; but, as to its importance, no thinking person can be oblivious.

Among many other means of binding closer the ties of Empire, there is one which ought also to be seriously considered; and that is, the matter of personal transportation between the Mother-country and her colonies, and between those colonies themselves. Again, to instance the Canadian experience as an example, our British cousins have little idea of the slight knowledge that the average Canadian has of the lands from which his immediate ancestors have come. Here, again, is a grave factor in the propagation or annihilation of the British spirit. There is no doubt that small communities soon evolve prejudices against communities with whom they do not come in contact, and gradually, Canadian communities, isolated by distance, lack of means, and also lack of impulse, grow decidedly careless as to the Motherland.

Those who have seen the wonderful revolution of personal opinion which many colonists, and even American citizens, have experienced after their first trip to the old sod, where ignorant prejudice as to the old-world social ideals and manner of life have evaporated into thin air, and have been replaced by kindly, if not enthusiastic, feelings, and much surprise, will realize the great importance, if not the positive necessity, of constant inter-travel between the different parts of the Empire, and specially between the commonwealths and the Motherland.

Realizing this importance, something must be done to encourage the average colonist to, at least once in a while, make pilgrimage to the place where his own parents were born, perhaps married. Now, many will answer that the transatlantic voyage is impossible to the means of the average colonial. That this is not so is evident to those who have studied the matter in a practical way. There is no doubt that ocean travel is nearer

now to the pocket of the average man than formerly ; but, at the same time, something must be done to make it less expensive and, consequently, more popular. This is a question that should not only attract the attention of British statesmen, but which the great steamship companies might study with much profit.

To bring about the reform necessary in this direction, very little change will be required ; but there is no doubt that for this purpose what is sadly wanted is a line of passenger steamships, connecting the old and new world, on which the average Canadian, the well-to-do farmer, the salaried professional man, the employee of business, or the man of moderate means, can hope to travel with his family, and to do so within the limits of his income, and at the same time, with that social self-respect which is due him under our modern democratic conditions. I need not go more fully into this matter, but those who have travelled will understand that the present saloon passage, with its atmosphere of catering to the vanity and the aggrandizement of the few wealthy people, is utterly prohibitive to the average man ; and that what is called the second-class passage is not to be thought of. Such a line of vessels, or such a condition of ocean-travel as here laid down, is quite within the region of possibility ; and until such a reform is made in ocean-travel, it will be almost impossible to bring the average people, who make up the great bulk of sentiment in the old and new lands, together.

It may be said that such a reduction and reform in ocean travel would make no difference ; but it is well known that once across the water, the expense of living is not as great as it is in the large cities of the Republic, and there is no doubt that many Canadians, who periodically make holiday and other excursions to the United States, and there spend much money to get imbued with American principles and prejudices, would be encouraged to turn their steps in the direction of the lands of their forefathers. In the same way the people of the old country would be encouraged to visit the colony, and

thence would ensue that one thing most necessary to the great Imperial sentiment, the coming together, the mixing, the intermarriage of the people of the two countries.

Without going further into this matter, it might merely be mentioned that the time has gone by when the pilgrimage of a few of the wealthier, the more favoured, classes, and very often not the most desirable, of the inhabitants of a colony to the Motherland, will suffice to bind the links that otherwise should be sacred.

Before closing this subject, however, there might also be pointed out the incalculable advantage to the peoples of the Motherland and the colonies, if the large mass of the thinkers and toilers, the business men, the professional men, the teachers and the artizans of both countries could come closely into touch, with the resultant interchange of thought and practical insight into the commercial and social activities of each country.

Having thus dealt with two important phases of Imperial intercommunication necessary to the well-being of the Empire, we will soon turn to an other means of intercommunication, without doubt the most important of all, and one without which so large an Empire would be impossible. We have already pointed out certain vital necessities in the present and future of our Empire-building. We have shown certain dangers to be faced, certain weaknesses to be overcome; but there are many more, and there is no doubt that the old maxim, that eternal vigilance is the price of liberty, stands forever true; and that "what we have we'll hold" must be the principal motto of the British peoples in the immediate future. But how to hold is another question. We must not only hold by force, by tenacity, by patience; but also by wisdom and foresight. In short, as a practical people we must henceforth pay stricter attention than in the past to the material side of Imperial defence; and this word "defence" means not alone a matter of Quebec and Gibraltar, or of the coaling stations in the various oceans of the globe. It covers a wider ground, and has

a deeper meaning. It has to do with the character, the daily life, the thoughts and the dreams of the many peoples congregated under the folds of the flag. Therefore, the word defence means alertness, vigilance in all parts of the Empire; a sort of Imperial organization of the various communities in the interests of the whole. Now, as has been pointed out, in the whole history of Britain, the one remarkable feature of her existence and development has been her continued supremacy over the seas. Unlike many world-powers, such as Russia, Germany, France, and the United States, which are compact, and depend largely for their supremacy on the government of certain limited portions of territory, Great Britain is unique in the world as a great world-force, whose dominions are found alien from each other in all parts of the globe. Therefore, to her more than any other nation in the world, of vital importance are the many oceans of the world. These have become, by the process of centuries, her natural and chief highway, and on them, without doubt, will depend her future existence and achievement; and there is no doubt, that as in the past all the great progress in maritime affairs will be closely connected with the destinies and spirit of the peoples of the British race. As has already been noted, she has bridged the seas with her fleets of wood and iron, and has brought close together, in trade and other relations, parts of the earth remote from each other.

Therefore, as her destiny as a world-power is so closely associated with the great waterways of the world, it has become of the gravest importance that she should use these great oceans for more rapid means of inter-communication between her various peoples than that afforded by ocean travel. We now come to what is her duty in making use of and controlling, for Imperial purposes, the most marvellous and most important of all modern discoveries in the practical sciences, that of electricity.

There is no doubt that when the electric telegraph was first virtually discovered, that the earth we live on,

for all practical purposes of human intercommunication, was shrunk from its original dimensions. Distance was annihilated, and in the flash of a second, human thought was carried over continents, and the whole world, commercial and social, was brought together by the chained lightning. The use of this marvellous discovery has become so common and so domesticated in our daily life, that we can hardly realize how our immediate ancestors existed without its agency and assistance. But, marvellous and useful as are the many purposes to which electricity has been chained, probably the most important and far-reaching in its results has been through the medium of the ocean cable. Before this, continents were, to a great extent, socially one. The invention of steam had bridged the oceans, and had brought the various continents into closer community; but it remained, and yet remains, for the ocean cable, by annihilating space between continent and continent, to bring the peoples of the earth into close contiguity and knowledge of each other.

It is this marvellous addition to world-communication which lately has been, and is now, the study of the great maritime powers of the world; and to Britain, more than all others, is the use of the ocean cable, as a means of Imperial development and defence, most important and vital to her very existence and future possibilities.

In this, more than all her other globe-girdling exploits, is Britain to find, if not the coping-stone, at least the foundation of her future stability and greatness. For this purpose it is necessary that she should have throughout the world telegraphic communication wholly within her own rule and borders, and without this, under modern conditions, it will be utterly impossible for her, for any length of time, to retain her present position as a vast Empire and mistress of the seas.

To go more specifically into the matter, there are various reasons why an inter-Imperial cable is necessary to the Empire's existence. Many of these are so self-

patent that it is not necessary to discuss them. To understand seriously the great value and necessity of the ocean cable is to understand and realize the various uses which it performs as a channel of world-communication. It is impossible, within the limits of this essay, to discuss more than a few of these purposes, which make the ocean telegraph system of such vital importance. Trade, of course, is the great force which almost monopolizes its agency, and without it to-day, so great has the world's commerce become, it would be almost impossible to carry on modern business. But while the trade question is important, it is one that has received, in Imperial matters, perhaps too much attention, to the neglect of other issues as vital to the Imperial life.

Of course, the most important, as is well acknowledged, of all the purposes for an inter-Imperial cable, is the one of defence in time of war. Without such a means of communication, the different parts of the Empire would be separated from each other, but with the deep-sea cable connecting all parts of the Empire, what was happening in one portion would be known at once, and flashed to all the others. But, aside from this and other reasons for this means of communication, there is one which cannot be ignored without grave results, namely, the absence of press communication save through foreign, and often antagonistic, sources. This weakness, and a grave one it is, is one which cannot be remedied too soon. It is quite possible, as has already been pointed out, that the press agency can do incurable harm in its influence as the channel of communication between two peoples. It is so easy to colour or change news so as to qualify or misrepresent the words of men whose opinions are often, at critical periods of Imperial affairs, of vital importance in binding or loosening the bonds of Empire. We have lately, in Canada, had several instances of this colouring and misrepresentation of the views and attitudes of several of our leading representatives, not only of the commonwealths, but also of the Motherland, in connection with discussions regarding

the Empire and its immediate concerns. This should be an object-lesson, and a warning to ail who have the Empire at heart, and there is no doubt that every month, every day, that intervenes until the completion of an all-Empire cable, is adding so much to the possibilities of Imperial disintegration. For without a common sentiment or feeling, the empire cannot last. This must be realized:

“ Remembering empire's bounds,
Not larger than the loyalty that upholds,
Not wider than the speech that makes us one,
Not greater than the pride of olden dreams,
Of common blood, of common faith and song.

For vain the splendor and the freedom vast,
And vain the iron power that makes it sure,
And vain the mighty will that would endure,
If love be not the anchor that withstands.”

Having dealt shortly with the necessity for an all-Empire cable, we will now briefly show what has been done so far in this direction; and the many difficulties which have lain in the way of its establishment. Many leading statesmen, and others throughout the Empire, have made this subject a study for some years past, and after much conferring with the Imperial leaders and discussion of the matter, thanks to the energy of a few energetic and progressive spirits, one portion of this much-needed cable has been completed, namely, the Pacific Cable, between Vancouver and Australia, by way of Fanning Island. This great undertaking, in which it is understood that the largest cables ship ever afloat was employed, has taken many months, and it was completed last October, so that, as far as the two greatest colonies are concerned, inter-Imperial telegraphic communication has been instituted.

Without going more into this matter, which, from the practical and scientific standpoint, can be treated much better by others, it might be interesting to point out a remarkable feature in connection with this great undertaking.

It must be obvious to all students of the history of the Empire, or to those who know anything about its marvellous development in many quarters of the world, that it is singular that Scotchmen, more than any other of the British peoples, have been foremost in the great practical enterprises which have advanced the Empire and extended her borders. To illustrate this, it is only necessary to instance such great undertakings as the development of the East Indies, and the Hudson's Bay Company, among many other projects in the interests, not only of Imperial trade and colonization, but also of world-wide importance. If we go to India we find that many, if not most, of the adventurous spirits and martial heroes who won the Indian Peninsula for Britain were Scotchmen. If we examine into the history of the Australias, the same fact is patent. Speaking as a Canadian, and in so far as Canada is concerned, it cannot be denied that Scotchmen, as a class, have done more for this colony than any other nationality. All of our great explorers, such as Mackenzie and Ross, were Scotchmen. The Hudson's Bay Company, without which the greatest portion of our vast territories from ocean to ocean would never have been opened up and maintained for Britain, was Scotch in its organization and origin. Without elaborating on the great work of that powerful company in opening up the Canadian north and north-west, from Labrador and Hudson's Bay to the Rocky Mountains and beyond, it is only necessary to mention, among many other distinguished names, that of Lord Strathcona, present High Commissioner for Canada, and Governor of the Hudson's Bay Company, and the leading spirit in the construction of the Canadian Pacific Railway, which connects, through British territory, the Pacific and Atlantic oceans. Among the many distinguished Scotchmen who have helped to build up Canada, and the names are myriad, are those of Sir John A. Macdonald and Alexander Mackenzie, both distinguished Premiers; and the former, in his day, the master-mind in the development and rule of the British possessions on this continent.

Therefore, it is not to be wondered at that the brain that had most to do with the planning and the bringing before the Imperial authorities, during many years, of this gigantic scheme of inter-Imperial telegraph communication, should be also a Scotchman. Sir Sandford Fleming, like Lord Strathcona, began his career as an Empire-builder in the great Canadian North-west, when he made, in the face of terrible difficulties, the first survey of the Canadian Pacific Railway. During many years of his life he has been instrumental in fostering and developing the Imperial cable idea. At the great Colonial Conference held in Ottawa in 1894, this subject was thoroughly discussed, and Sir Sandford, then Mr. Fleming, whose name was, more than any other, associated with the Pacific Cable scheme, placed his views before the Conference, and advocated, with much earnestness and force, the route which has since been adopted, and soon to be completed. Since that time he has devoted much time and study to the matter, and has been largely instrumental in its success. With this cable opened the result is, as Sir Sandford has suggested, that between two of the greatest of the British dependencies there is a channel of instantaneous communication which, in time of war, for purposes of common benefit, annihilates nearly seven thousand miles of intervening ocean, a means of inter-continental connection which, being a deep-sea cable, is out of reach of enemies, who might desire to destroy it.

This plan of the deep-sea cable is a wise one for the reasons laid down. Such a cable extended around the world, from continent to continent, and laid in the deeper parts of the ocean, makes a line of communication which is quite beyond the reach of attack.

The line lately completed is but the first span in the great telegraph project. The scheme which Sir Sandford Fleming, and others throughout the Empire, have in contemplation, is to include a cable from Australia, in a deep-sea line running almost parallel with the equator from Western Australia, to a point near the

Cape of Good Hope, thus connecting Australia with the South African colonies. This is to be supplemented by another line, in a north-westerly direction, across the Atlantic to Barbadoes, with another, completing the circle, either from thence to Canada, or else direct to the British Isles.

As will be seen, the result of this great globe-girdling scheme will be to connect, in all parts of the world, the greater possessions of the British Empire; so that, in war or peace, intelligence can be flashed around the world without passing through any country which is not British; a culmination which, when arrived at, will exceed in importance and in world-conquering significance, the greatest achievements of modern or ancient days.

Having examined thus briefly the many phases of the globe-girdling spirit of the British people, and having dealt with the significance of the present, their greatest undertaking; we might speculate, before closing this imperfect essay, on the future possibilities resultant from this latest achievement of the ocean cable. Without letting our imagination travel further than the culmination of this scheme, we can see that until this is accomplished, Britain cannot be said to have reached the real pinnacle of her modern greatness. Indeed, it is hard to say how far she may go even beyond this world-achievement. That nothing is impossible is an old and wise maxim. The doors of the future are always open; and new dreams arise as the old gods go. A century ago who could have imagined the gigantic possibilities of to-day. When even steam was not in its infancy; when electricity as an agent was comparatively unknown, little could the world imagine such a condition of things as exists to-day; and had a prophet arisen to see into the future, our present possibilities would have been considered but the imaginations of a poet, or the wild fancies of a madman or an enthusiast. Therefore, we know not what may be the new development which will be the outcome of such an undertaking as this. Suffice to say, that in whatever direction the genius of Britain as a

world-conqueror may lead her, it will always be in the direction of practical undertakings, and peaceful, civilizing influences, which, in the future ages, may, perhaps, finally culminate in that poetical dream of the world, the great confederation of mankind.

Meanwhile, is it too much to hope that such an achievement as a globe-circling ocean cable, inter-Imperial, may be established during the present rule of our august monarch, Edward VII, and so complete, in culminating link, the vast Empire of him

" Who stands for all
This vast, earth-circling rule, beneficent,
This power that makes for freedom round the world,
Whose rule is one with those wise, ancient laws
Of mighty Alfred ; that rare, golden speech
Of Shakespeare made immortal ; liberty,
Loved of Scot and Saxon where'er wide,
Love's golden bonds of kinship gird the world."

And thus flame together, with one electric spark, symbolical of that divine love of common humanity, those mighty peoples bound together by a common blood, heredity, speech, and loyalty :

" Brother with brother, kindred peoples set
About the base of one Imperial throne."

CHAPTER XIII.

THE POSTAL CABLE SERVICE.

Mr. Gladstone, in submitting to Parliament his measure for the acquisition of the telegraph system, expressed the opinion that there was no argument in favour of Government control of the Post Office which was not equally applicable to Government control of telegraphs. It may be asserted, with the same degree of propriety, that there is no argument in favour of inter-Imperial penny postage that is not equally applicable to an inter-Imperial telegraph system. In Europe, and indeed in all parts of the world except Canada and the United States, the former of the two propositions would now be admitted without question. When the practicability of telegraphy was demonstrated, it was welcomed by the States of Continental Europe merely as another agency for the transmission of correspondence, and, as soon as circumstances permitted, attached to the post office. In England, fortunately, the opportunity was given to the capitalist of showing the superiority of private, as compared with Government, control, and for over twenty years the telegraph system of the Kingdom was in the hands of private companies. The results did not justify the faith which is in most Anglo-Saxons. Early in the career of telegraphy it was observed that the measure of accommodation afforded by the telegraphs on the continent was much greater than that enjoyed by the people of England. The charges were lower, and were uniform throughout each State. Telegraph offices were more widely distributed than they were in England, and there was an effort, obvious everywhere, to put the new agency at the service of as wide a range of people as possible. In England, on the contrary, the rates were high, and varied in accordance with the distance the message had to travel; there were large sections of the country unprovided with telegraphs, and in fixing the sites of the local offices the convenience of the companies, rather than that of the public, was consulted, and the conse-

quence was that while the Post Office was in the midst of the community, the telegraph office was frequently a mile or more away from it. The complaints of commercial bodies throughout the country became so grievous that, in 1868, a committee was appointed by the House of Commons to consider the whole matter. After taking voluminous evidence on every feature of telegraphy, the committee reported that in all essential particulars, the English systems were inferior to those on the continent; that, as a consequence, while on the continent the business of the telegraph was going ahead "by leaps and bounds," in England it was progressing but slowly; that on the continent, all classes were using the telegraph freely for private and domestic affairs, as well as in the conduct of business; while in England its use was practically confined to business of a speculative character. It was, therefore, out of the fulness of his experience of the shortcomings of private control as applied to telegraphy that Mr. Gladstone was impelled to declare his belief that every argument available for Governmental control of the Post Office had equal validity when applied to Governmental control of the telegraphs. The extent of telegraphic business in England since it was undertaken by the Post Office, has surpassed all expectations. Between 1871 and 1901, the increase in the population has been rather less than 30%, while, during the same period, the number of messages sent over the telegraph lines in Great Britain has increased 900%. The only expansion of business comparable to this, is that of the Post Office after the introduction of the penny postage.

But in spite of this triumphant success, the old superstition will not down. There is no sensible diminution in the faith regarding the superiority of private control. The failure of private ownership to give an efficient service within the Kingdom, and the eminent satisfaction afforded by the service since it has been under the control of the Post Office, carry no conviction with them when the question of international telegraphy presents itself for consideration. The proposition that the

Government shall acquire and manage an international system of telegraphs finds itself confronted with the same instinctive distrust which greets any suggestion looking to the extension of Governmental control. Witness after witness, before the late Committee on Cables, took occasion to signify adhesion to the orthodox confession of faith, with a regularity that compelled the sympathizers of Sir Edward Sassoon to scan carefully the grounds for their belief. The curious feature of it all is, that by far the larger part of the international telegraph business of Great Britain is now done on Government lines. All the lines connecting England with the continent are owned either by England, or by one or other of the four countries to which these lines are run. Of the six lines running between England and France, three are owned by England and three by France; as between England and Germany, each country owns one line, and a third is the subject of joint ownership between the two Governments; the lines to Holland and Belgium are, also, owned partly by England and partly by the other country which they connect with England. The officials of the British Post Office insist upon it, that the domestic telegraph service has been a great success, and express strongly their preference for Governmental control of the cables to the adjacent continental countries, but have serious misgivings as to the prospects of a cable system which shall comprehend India, South Africa, Australia and Canada. The continental lines, they say, are mere frontier post offices; the existence of the "narrow sea" ought to be ignored, and the relations between England and the countries with which she is connected ought not to differ in any way from the relations between the same countries and their neighbours on the continent. They say, also, that they entertain the hope that Government cables may also be laid to Spain and Scandinavia. How the Post Office can go so far, and no further, is difficult to understand. In what regard would a cable to Canada, for instance, differ from those the Government now control or hope to control? The pre-

sent lines to the continent are very short, but the shortest cable has all the characteristics of the longest. The line from Dover to Calais differs from the line between Valentia and Heart's Content, or from the line between Vancouver and Fanning Island, only in length. It is true that on the length of the cable depend, in general, its degree of vulnerability, and, universally, its speed; but these points have to do with the mere mechanics of telegraphy, and are merely matters of more or less. Every cable is subject to accident, and the degree of exposure thereto cannot affect the question as to whether the Government or private individuals should own it, and similarly, the speed of every cable is limited, and the question of ownership cannot be made to depend upon whether the line is capable of transmitting 50 words a minute or only 12. That the Post Office agree with this view is plain from the fact that they desire to add to their control a line over 600 miles in length.

The advocates of the inter-Imperial penny postage scheme pointed out the immense contribution which was being made to the consolidation of the several parts of the Empire, when people separated by oceans were enabled to communicate with one another, with no more thought of expense than if they dwelt in adjoining villages. They dwelt upon the fact that the principal colonies were inhabited mainly by people of British stock, strongly prepossessed in favour of British institutions, and imbued with love for the old land, but, becoming gradually absorbed in their own affairs, these people yield insensibly to the spirit of their surroundings, and unless they are in constant correspondence with their friends they lose something of the feeling of attachment for the old homes. Such people are apt to allow the difficulties imposed by high postal rates to have increasing weight with them. It was pointed out, that while correspondence was easy and unconstrained, every successful man in a colony became an effective immigration agent, and tended to become a centre for a community made up of old country friends and neighbours,

which made for the spread of British ideas. Those of a philosophical turn showed the value to both old and new country of the free interchange of ideas between them; and those who were concerned with the material welfare of the Empire urged the benefits to trade which would flow from increased opportunities for communication.

The action of Great Britain and her colonies to establish a restricted postal union among themselves was followed in the year after by Germany, and in a recent blue-book reviewing the operations of its Post Office, that country points out, with some satisfaction, that if she was rather later than Great Britain in extending her domestic service to her colonies, she has done so much more completely, since the convention between Great Britain and her colonies is confined to the rate on letters. Germany has given her colonies the benefit of her domestic rates on all classes of matters. France's domestic system covers correspondence to and from all her colonies, and she is in advance of all other countries in one regard. Her telegraph system is extended by submarine cables to Tunis and Algeria, and communications are carried between the Motherland and these two colonies at one cent a word.

The policy of placing low and uniform charges on correspondence as a means of fostering intimacy between the several parts of an Empire, which has found acceptance with all Governments having extensive colonial possessions, cannot be unwise when the transmission of the correspondence passes from railways and steamboats to an agency infinitely superior. What was good when the time occupied in transmitting a message was measured by weeks must be vastly better when the time is reduced to minutes.

When people have it within their means to communicate freely by telegraph with their over-sea friends, and learn of their doings in little more time than is necessary to harness a horse and pay a visit to a neighbour, the outlook will be immensely widened. The

anxieties incident to separation will have largely passed away, and the pleasure of life on both sides will be heightened by the floating to and fro of those "unconsidered trifles," which form so great a part of every domestic life, and contribute so largely to its charm. The use of the telegram for social purposes between countries connected by the longer submarine cables is still restricted to matters of extreme urgency, and, indeed, Canadians and Americans know but little of its social uses even within their own countries. In some of the countries on the continent of Europe, notably France, Germany and Switzerland, messages of this character have occupied, for a great many years, a larger, and, in some cases, a preponderating, part of the local lines. Prior to the taking over of the lines by the Government, there was practically no correspondence by telegraph in Great Britain which did not relate to business of a more or less speculative nature; but when the lines were handed over to the Post Office, and the rates lowered and made uniform, this business developed rapidly, until now the general use of the telegraph is nearly twice as great in Great Britain as it is in any of the continental countries mentioned. The extent to which the telegraph is used in England is an object-lesson of the highest utility to those who would understand the growth of correspondence. As compared with France, Germany or the United States, Great Britain is a small country. Its principal towns are all within an area which may be covered in the course of a day's journey by railway. Its arrangements for the distribution and delivery of correspondence are unsurpassed. In short, if there is one country more than another of which it could be said that it might dispense with a telegraph system altogether, that country is Great Britain. And yet Great Britain uses more telegrams per head of its population than any country in Europe or America. It is to Australasia that one must go if he would get figures to exceed those of Great Britain. But it will be objected that in Great Britain people

have abandoned the mails for the telegraphs, and it will be found that the average number of letters delivered to each person in the Kingdom will be low. On the contrary, the average number of letters delivered in the United Kingdom is greater than the average in any of the countries mentioned; and again we must turn to Australasia if we wish to see England's supremacy in this regard lowered. The conclusion to which we are driven by these facts is, that among enlightened people correspondence will tend rapidly to occupy all the facilities offered to it. There is another conclusion of equal importance, and that is, the value of every minute gained in correspondence. There are few telegrams sent in England which could not be replaced by letters if delivery during the same day would answer the requirements. But by means of the telegraph, the Post Office authorities were able to place before the people a service in which the period between the deposit of a message and its delivery in the town to which it was addressed ran from 7 to 9 minutes, and there sprang into existence a mass of correspondence which could not brook even the few hours delay. If there is so extensive a demand for facilities which give an advantage to be measured by the difference between hours and minutes, we may imagine the mass of correspondence awaiting the establishment of a service which, at rates within the means of large numbers of people, will give an advantage which is as weeks to minutes.

In the fostering of trade relations, the benefits of low telegraphic charges are too obvious to require elaboration. The Australian and Indian traders who gave evidence before the recent Commissioners, stated that practically the whole trade of the East was carried on by telegraph, the mails being used only to confirm the transactions concluded by cable. The rates, however, are too high to allow merchants to use ordinary language, however much condensed, in carrying on correspondence, and under the pressure of necessities, codes have been devised to effect economies in the use of words. These codes display great ingenuity, and the savings they make

possible are enormous. Mr. Charles Bright, in his work on submarine telegraphs, gives a number of instances. There are many code words which express 11 or 12 words of ordinary language, and Mr. Bright gives one instance, the word "unholy," which conveys ideas requiring 160 words of ordinary English words to express them. The word could scarcely disclose greater significance to a preacher. But that the merchant may avail himself of the advantages of the code, a large initial expenditure is necessary in the preparation of it. The representative of the Manchester Chamber of Commerce stated some of these codes cost as much as £2,000, and that the clerical force required to decipher the messages received in a large concern is very considerable. A preliminary outlay of this magnitude puts it out of the power of many merchants to take advantage of a highly developed code system, and it may be regarded as one of the entrance fees exacted before the merchant is admitted to do business on the ground floor.

Blocking charges, such as these, doubtless find favor with the aristocracy of business—the close corporations whose operations are thus exempt from any but the highly capitalized competition, with which combination is so easy. Competition by the man of small means, which is recognized as the only natural safeguard upon which the public may depend to hold the exactions of the great combinations in check, is excluded at the outset. On this point, the telegraph companies should be at one with the public. They give as a reason for not reducing the rates to India, that the business with that country is an inelastic business, yielding no response to increase of facilities. But the Committee had before it abundant evidence that there had been a very large increase in the trade with India, but owing to the continuous development of the use of codes, the merchants were able to transact the larger volume of business with a smaller number of words, and consequently, by means less remunerative to the companies. But with all the advantages to be extracted from the use of codes, the high rates are effective in many ways in preventing the free

interchange of communications between England and the merchants of the East. By comparison with the rates to the East, the charges for transmission across the Atlantic are low, and as a consequence, there are masses of statistics, market reports and general business information exchanged between England and America, which help immensely to promote business.

A result, mentioned in the Manchester Chamber of Commerce, as likely to flow from a reduction in the telegraphic charges is, that merchants will reduce the size of their orders, making them conform more exactly to the needs of the market. Where articles are ordered by the thousand, they would be ordered by the hundred, were it not that merchants are obliged to take note of the fact that the smaller lots cost ten times as much to order as the larger. The ideal market is that in which demand and supply most nearly approach a balance, and the condition on which such a market depends is, that supply shall flow easily, and may be accelerated or retarded in correspondence with the state of the demand. The great transportation agencies, the railways and steamers, would appreciate the advantages of having the obstacles removed which check the free movement of goods, and which now throw their work on them in spurts, producing alternate overcrowding and depletion. Where telegraphic rates are so high as to form an appreciable addition to the cost of a transaction, the transactions will be large, but infrequent, and only those may engage in them who have plenty of means; where, on the contrary, the rates are low, and form no deterrent to comparatively small transactions, supply is adjusted to demand; the small merchant is able to take part in the business, and the movements of goods becomes regular.

For the transmission of news, a cheap telegraph service is indispensable. This is a phase of the question which appeals with peculiar force to Canadians. With an hearty desire to be kept in touch with the doings of the Empire, their interest is balked by the fact that they have no direct exchange of news with the centre of the

Empire, and that the news is conveyed to them by agencies not only having no interest in promoting intimacy between England and her colonies, but whose policy it is to keep the two sides apart. The news served out to Canadians has been culled to suit readers in the United States, and among those in the United States whose appetites for British news are strong, is a class whose hearts are bitter against England, and who desire chiefly to hear of things which redound to her disadvantage. To send news gratifying to the taste of this class is an easy matter, and involves no direct misrepresentation. A great many things happen every day, and in the telling of them there must be selection on the part of the correspondent. Given the permission to select his news, and to set them as he pleases, a correspondent may produce any impression he desires, and so meet the tastes of any class. With such a public to serve as the United States news agencies have, it would be vain to look for such a sympathetic account of the daily life and doings within the Empire as Canadians desire. The advantages which would arise from a free interchange of news between Great Britain and her colonies are incalculable. The several parts of the Empire suffer from want of acquaintance with each other. The ignorance in England of Canada and her affairs has become proverbial, and Canadians believe that a greater knowledge of their resources would result in a larger movement of British capital and skilled labour in this direction. Canada is being developed with great rapidity, but it is not mainly or even largely by British capital. Her western country is attracting much attention, and skilled farmers are arriving in larger numbers, but they are not British. Good citizens and loyal to the country of their adoption they are sure to be; whether their loyalty is of the Imperial sort is not so certain. A British heaven, as strong as it can be made, is much to be desired.

The susceptibility of the colonial mind to the influences of the newspaper has been the subject of frequent observation. Every person has the advantage of

at least a common school education, and interest in questions of the public sort is aroused by practice in the art of self-government; hence, the public mind in the colonies is peculiarly hospitable to news of the doings of other lands. The free passage of news between Mother-country and colony, and between colony and colony, will exercise an influence in moulding public opinion which cannot be looked for from any other source. Give the Canadian, Australasian and South African—to mention only the leading colonists—the opportunity to communicate freely with one another and with the Mother-country, and the complaint that nothing short of an Imperial war will establish even a passing intimacy between the members of the British family will soon cease to have foundation. Each will tell, and each is competent to appreciate and sympathize with, the tales of her difficulties, successes and failures, and each will impart something in the way of encouragement and instruction to the others. An influence making for the elevation of public life in the different parts of the Empire would soon be felt as public men grew into the sense that in addition to their own people, they were working in full view of witnesses, friendly indeed, but under no motives leading them unconsciously away from a just verdict.

The importance of newspapers in the public life of Canada may be judged from the measure of assistance afforded publishers by the Government in the distribution of the newspapers. For a number of years newspapers were distributed by the Post Office Department free of any charge to the publishers. At present there is a charge imposed, but it is small compared with the cost to the Department. In England the Post Office collects $\frac{1}{2}$ d. on every newspaper it accepts for delivery; for one-half that charge the Canadian Post Office will deliver one pound of newspapers.

But the question will doubtless be asked: "Cannot the social, commercial and political interests of the Empire be amply conserved by the present cable systems?" The members of the Government bore testimony to the

loyalty of the companies now controlling the cables, and to the assistance they have rendered the Government at critical junctures. No one, we imagine, questions this. Any Englishman, not a traitor, may be depended upon to contribute, according to the measure of his opportunities, to assist the Government in its difficulties. But it is one thing to give freely of one's means in a crisis, and quite another to place oneself and one's business at the service of other people at all times and under all circumstances. The latter is not demanded by a reasonable patriotism. In most cases the duties of good citizenship are fulfilled when men pursue their own interests with diligence and intelligence. But there are other services which, from their nature, cannot be properly performed, if self-interest be their mainspring. The national defence is one of these. The agency for the creation and diffusion of the national spirit is another. If the view of the Post Office could be properly confined to its utility as a deliverer of messages, one might give consideration to the arguments of the extreme individualists in favour of taking it out of the hands of the Government and placing it among the services left to private enterprise. Where the service to the individual is the only consideration, the weight of present economic opinion is to leave the matter in the hands of private competition. But the view cannot be limited in this manner. The national aspects of the Post Office far exceed in importance its private aspects. While placing its services before individuals, the Government never loses sight of the fact that it is conserving interests much greater than those of the individual. In assisting in the free diffusion of intelligence, the Government is, in Sir Robert Lowe's phrase, "educating its masters," and promoting the national unity. At whatever cost demanded, the Post Office must be maintained by the Government. This view of the Post Office is, it is true, a modern one, and has gradually come into prominence with the growth of public spirit among the people. The first postman was merely a court messenger, and an interesting parallel

might be pursued between the development of the postal service and the progress of political liberty. We do not intend to do this here, but it is worth pointing out that the movement which culminated in penny postage sprang into being almost immediately after the passing of the Reform Act of 1832. To those who would know what the cheapening of the means of communication meant to the masses of the people, the report of the Parliamentary Enquiry of 1844 into the effects of the penny postage will be found interesting reading.

The first telegraph was placed at the disposal of the public in England in 1843, three years after the introduction of penny postage, and, as already stated, private ownership was given its chance to provide such a service as would satisfy a public which had been accustomed to the Post Office under the new order of things. That it failed to meet those demands is not surprising. The Post Office, in pursuance of Rowland Hill's plan, was extending its system into every remote part of the Kingdom, serving large districts which until that time had been quite unprovided for, and was placing under contribution every means for increasing the speed of deliveries; while the telegraph companies, like prudent capitalists, having their own and their shareholders' interests to serve, provided such a service as would, in their opinion, give the largest returns. Offices were established in populous districts, and sparsely-settled districts were left to wait till they showed a prospect of paying business. Where offices were established, they were placed where they would cost least, and not where they afforded greatest accommodation to the public; and most natural of all, the charges for carrying messages were regulated in accordance with the distances they were carried. These facts were thought at the time to furnish a sufficient reason why the telegraphs should not be left in private hands, but be taken over by the Post Office. It was found not to be possible for a body of directors, having shareholders' interests in their hands, to furnish such a service as the country demands, and it

is equally impossible for the cable companies to meet the demands of the Empire for a popular cable service. How could directors meet their shareholders with propositions looking to a diminution of their interest to a point at which the holders of the consols have to be satisfied, and to experiments in the reduction of rates, and in extension of service to sparsely-settled countries, with nothing more in the way of assurance than the article of faith to which the Post Office subscribes, that a public will be found waiting to take advantage of every increase of facility or reduction in charge, and thus, by the volume of business, make up for the decrease in the charge?

The series of negotiations between Australia and India and the Eastern Company and its associates illustrate clearly the attitude which private companies assume when they are beyond the range of legal or economic restraint. They confirm, at all points, the *à priori* speculations of the economists on the nature of monopolies. The first negotiation to which attention is invited is that for the duplication of the line between Java and Australia. This line, which is one of the links in the chain connecting Australia with England, had been in use for nine years, and the frequent interruptions in it were the source of much dissatisfaction. It was suggested to the company that they lay a new line. The company could not see their way clear to do this unaided, and managed to induce the Governments of Australia to give them a subsidy for 20 years, which would give a return of over 10% on the cost of the cable. The next negotiation was for a reduction of rates. The charges on messages between England and Australia were very high, 9 shillings and 4 pence a word, and in the colonies an agitation was on foot for a four-shilling rate. The companies were prepared to make the reduction if the colonies would assume the risk. They laid down, as a basis for negotiation, the revenue they were receiving at the time, and knowing full well that the reduction would result in a large increase in the business, they agreed to bear one-half the difference between the revenue at the

lower rate and the sum which had been adopted as a basis. The increase of business was very great, but not sufficient at once to make up for the 57% reduction in the rate, and at the end of the year, the colonies asked that the rates be increased by 9d. Under the agreement the colonies were requested to pay £55,000 to cover the deficits of the first three years, but during the next three years, when business had come to adapt itself to the new conditions, the receipts increased so largely that the average revenue for the six years between 1891 and 1897 was £31,000 a year greater than the amount which the companies had professed themselves contented to accept as a basis.

In 1898, the Colonial Governments and the companies were brought into negotiations once more. In October of the year following there would expire the two agreements upon which the present arrangements depended. These were the agreements providing for the payment of the subsidy for the duplicate line between Java and Australia, and the guarantee of the companies against loss in connection with the reduction of rate in 1891. The companies submitted the first proposition. They had been impressed with the strength of the feeling in favour of an all-British cable, and they laid before the British and Australian Governments a scheme for the cable since completed by way of the Cape and Mauritius to Australia. For this they asked a subsidy of £25,000 from the British Government, and an extension for another ten years of the subsidy paid by the Australian Governments. The Australians demurred at the continuance of this payment. They pointed out that the companies were earning a revenue far beyond the basis which had been accepted in 1891, and asked that the rate be reduced to 4 shillings. The companies would not discuss any proposal which did not involve support of the Cape scheme, and the best they could offer in case their proposition was accepted was a reduction in the rates on Government and press messages. The rates to the public they considered as low as could be afforded. The

Governments were very much bent on a four-shilling rate, and in canvassing the various factors making up the charge, they found that the reduction could be made almost entirely at the expense of the British and Indian Governments, and these facts they submitted to the companies, for, as they put it, the companies' opinion and advice. The companies, however, had no opinion or advice to offer, since the colonies would not accept their schemes, and wasted no words in telling the colonies so. To those whose sources of information were limited to the reports of the Postmaster General of New South Wales, the change in the attitude of the companies between the years 1898 and 1899 must have appeared no less than amazing. In 1898, the companies stood firm for the full pound of flesh. They would have the subsidy, and the guarantee against loss, and they would not reduce the rates. Before the report of 1899 appeared, they had "got off their high horse," with a finish which must have sorely tried the dignity which had hitherto marked their attitude. To quote their own words, "they entirely waive renewal of subsidy and guarantee against competition, and in addition to providing a cable all the way from the Cape, they will at once reduce the tariff to 4 shillings, and will make further reductions, on a sliding-scale rate, as traffic increases." For this, all they ask in return is the liberty to establish offices of their own in the principal cities of Australia, instead of having the business done through the Post Office. The Pacific Cable is in sight, and the Post Office is no longer to be depended upon. The companies must look after the business for themselves, and it must be confessed that if in the past they have been doing business *en grand seigneur*, they show no reluctance to take off their coats when it becomes necessary to fight. Already they have found the conditions of business in Australia so promising that they have reduced the rates to 3 shillings.

The rates to India have been the subject of many anxious conferences on the part of the Indian Office. From 1886 they were maintained at 4 shillings a word,

though this was only possible through the courtesy of the Russian Government, which, at the earnest solicitation of the British delegates, obligingly kept its transit rates up to a point which seemed to it unreasonable. The companies met all demands for a reduction by stating that the rate was as low as it should be, and that reductions would not lead to an increase of business as it did in other countries. The Indian merchants declared that there was a much greater volume of business transacted by telegraph than formerly, but the high rates had forced them into use of codes, which had developed into a very effective economy, though the initial cost of preparing the codes was large. When further pressed, the companies set up a much more serious reason for not reducing the rates. They said that the agreements which bound them, as members of the International Telegraphic Union, and of a joint-purse scheme, put it in the power of Russia and Germany to veto any reduction they might feel inclined to make. Several witnesses, who had taken part in the International Telegraphic Union, stated that those two countries had been glad to assist with any reduction which the English companies wished to make, and they expressed the opinion that they had not been approached in a manner to indicate that the reductions were seriously desired. That such was the case is plain from the fact that as soon as the evidence was made public, the two countries declared their willingness to waive any objections to a lower rate, and as a consequence the rate was reduced from 4 shillings to 2 shillings 6 pence on the 1st of March, 1902.

Though the Pacific Cable is not, at this writing, actually working, it is proving by its mere presence to be a profitable venture. The reduction on Australian business from 4 shillings 9 pence to 3 shillings is a reduction of 37%, which, on the volume of business transacted in 1899, the last complete year before the change in the rates, gives a saving to the Australian merchants of £199,792, a sum of £41,120 greater than the highest estimate made by the Pacific Cable Committee of the cost

of interest and maintenance of the projected cable. The influence of the cable is also observable in the reduction of 30% in the rates to South Africa.

In the eyes of the Imperialist, however, the importance of the Pacific Cable is not to be measured by the effects it may have on the charges fixed by a monopoly. It is rather as the first link in a chain which, it is hoped, may, at no distant date, bind the whole Empire together. The purchase or duplication of the line recently laid from England to Australia via Capetown, Mauritius and Cocos-Keeling, the laying of a connecting link between Cocos-Keeling and Ceylon, and another from Ascension to Barbadoes, thence to Halifax by way of Bermuda, will, with another link, complete the inter-Imperial cable system. The link still to be mentioned is one that particularly concerns Canada, that, namely, between Ireland and Vancouver. While the link remains in private hands, it is vain for Canadians to carry on an effective campaign for the Imperial system abroad. In associating itself with Great Britain and Australia in the laying of the Pacific Cable, Canada manifested much disinterested zeal for the cause Imperialists have at heart, but it behooves her to set about the acquisition of her land lines, and of cables sufficient to establish communication with Great Britain, if she would prove her faith in the scheme. The laying of the Atlantic cables may well be postponed until Mr. Marconi has had an opportunity of demonstrating the practicability of wireless telegraphy. If he is successful, the arrangement between him and the Canadian Government, providing for a service at a maximum rate of ten cents a word, will settle the question of communication across the Atlantic.

But the question of acquiring the land lines stands on a different footing. At present the Mother Country and the colonies are able to say that Canada is the only part of the Empire in which the telegraph system is not under the control of the Post Office. Until a year ago, Newfoundland was in the same position as Canada, but the example of the other sections of the Empire, and of

all the foremost countries, led her to reconsider the question, and the result is that Canada stands alone in this regard. Is the policy of Canada in this matter the correct one, and are all her partners in the Empire in the wrong? Widen the prospect, and let it comprehend the whole civilized world, and where does Canada stand? With her is found one country, a very important one it is true, but nevertheless one only, the United States. On the other side, Great Britain and her remaining colonies find countenance in the support of all the other countries where telegraphy is in use. Republican France and Switzerland and autocratic Russia and all between, differ as those countries may in every other regard, on this one point are all agreed. As has been stated, the question of ownership did not seem to have raised a doubt in the minds of most Administrations. Great Britain alone gave private ownership a trial, and after an experience of 27 years deliberately abolished it.

But hopeless as the minority is in which Canada and the United States appear to stand in this matter, the question of superiority cannot be settled merely by the counting of heads. There are other tests—such as the character of the service given, the extent to which it is patronized, the nature of its development (that is, does it exhibit a healthy, steady growth), and the financial results. Fortunately, we have data bearing on each of the questions asked. In dealing with these questions, we shall take our statistics from the United States and Canada, indifferently. The question as to the character of the service is one on which opinions only can be offered, but the evidence to be produced ought to be fairly conclusive. The United States Consul at Southampton reported, in 1895, that the telegraphic "service is performed with the most perfect punctuality. It is calculated that the average time employed to-day in the transmission of a telegram between two commercial cities in England varies from 7 to 9 minutes, while in 1870, under private ownership, two or three hours were necessary." General A. F. Walker, President of the Massachusetts

School of Technology, declared that the service in England, France and Germany was better than it was in the United States. The United States Consul in New South Wales expressed the opinion that the service in that colony was more prompt, more economical and more reliable than the same class of service in the United States, and that no well-informed person could be found who would be willing to hand over the service to any corporation.

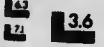
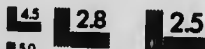
A better test of the quality of a service than mere expressions of opinion will be found in the answer to the second question, "to what extent is the service patronized?" Before seeking an answer, it is well to draw attention to the fact that as compared with almost any other country, Canada and the United States should, from their extent, stand pre-eminent as users of the telegraph. In countries such as Great Britain, where letters may be delivered within a few hours after posting, it is to be supposed that the telegraph, whose function is to annihilate space, could not have the same utility as in more extensive countries, where several days are often occupied in the delivery of a letter. Bearing this in mind, let us turn to the statistics. During the year ended 31st March, 1901, there were delivered in Great Britain 89,576,961 telegrams, or 218 for every 100 persons in the Kingdom. In Australia, omitting South Australia, where statistics are not given, 7,780,558 messages were tendered for despatch, or 228 for every 100 persons. In New Zealand the number was 3,534,444, or 457 for every 100 persons. Turning now to the United States and Canada, the statistical returns give the business, in 1900, of the two companies controlling the United States telegraphs, as 79,696,227 messages, or 105 per 100 persons. The number of messages sent in Canada, in 1901, the year of the census, was 5,105,280, or 95 per 100 persons. The results of this test are sufficiently decisive.

Applying the test of steady growth, such as is exhibited in the case of letters handled, the English statistics show an extraordinary growth. The number of



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messages sent 18 months after the Post Office assumed control was doubled in four years, trebled in ten years, and quadrupled in fifteen years. The number transmitted in 1885-6 was more than doubled in the succeeding decade, and the progress since that date shows the same regularity of growth. In Canada and the United States the figures do not suggest development at all. Taking Canada first, in 1890, the number of messages sent was 4,082,000. The number rose, till in 1893, it was 4,550,000. During the three following years there was a steady decline, the figures in 1896 being only 3,945,744. The figures of 1893 were not attained till 1899, since which time there seems to be greater steadiness. The United States figures show the same lack of steady growth. In 1889, there were sent 60,186,361 messages; in 1893, the figures were very high, 76,843,194. There was a drop after this year, and it was not until 1898 that the figures of 1893 were surpassed. They fell off slightly in the following year, and in 1900—the last results obtainable—there was an increase of 3%. The majority still appear to have reason on their side.

American travellers in Europe have made frequent observations on the extent to which the telegraph is used abroad for social and family purposes; and among inquirers into postal affairs, this has come to be regarded as a test of the efficacy of a service. In the several Congressional inquiries made of the question of a postal telegraph, much has been made of the contrast between the United States and European countries in this regard. The President of the Western Union stated, in 1894, that not more than 1% of their business was of the private and social sort. In 1890, he gave a very careful analysis of the business, and came to the conclusion that about 8% was of this description. In Europe, the proportion of such messages is very large. Belgium reported 50¾% in 1868; France, 41%; and a committee of Congress, which investigated the subject in 1870, reported that two-thirds of the telegraph business of Europe had to do with social or family matters.

The rates for messages are very much lower in Europe than they are in Canada and the United States. As with letters universally, so with telegraph messages in Europe, there is but one rate throughout the country. In Canada and the United States, the charges vary with the distance. The rate in England, France and Belgium is one cent a word, with a minimum charge of from 10 to 12 cents. In Germany and Austria, the rate is slightly higher— $1\frac{1}{2}$ cents a word, with a minimum of 12 cents. The rates in Canada and the United States vary from 25 cents to \$1.00 for 10 words. As to whether the service pays, it is, generally speaking, impossible to get exact information, owing to the fact that the receipt and delivery of correspondence by mail and telegraph is carried on in the same building, and in small places by the same persons, and no attempt is made to keep the accounts separate. All that can be said is, that the combined postal and telegraph services pay excellently well in all the leading countries of Europe. In 1900, France had a surplus of \$12,813,208; Germany, of \$6,158,836; Belgium, of \$2,306,285; Austria, of \$1,935,750. It has been the practice to point to England as a country where the system is carried on at a loss, but when account is taken of the fact that, owing to the enormous amount she had to pay to buy out the owners of the lines, which may be regarded as the price she paid for her experiment in private ownership—this has been calculated as four times the cost of duplicating the wires,—and the fact that by her cheap press service (9 cents per 100 words), she makes a contribution of £300,000 a year to the dissemination of news—it will be seen that the service is far from being unremunerative.

Would a one cent a word rate pay in Canada? The question may be approached from two sides. On the one hand, it is hard to believe that when Canadians got into the habit of using the telegraph for all purposes, as they do in Great Britain and the other colonies, they would use it less freely than they do in the Mother Country, Australia or New Zealand. On the other side,

taking the present business as a basis, a moderate estimate can be made of the probable effect of the proposed reduction of rates in increasing the number of messages. The effects of reduction have been noted in many countries. The British Government, in the course of the inquiries which led to the incorporation of the telegraph system with the Post Office, obtained some interesting figures. In Belgium a decrease of $33\frac{1}{3}\%$ in the rate was immediately followed by an increase of 80% in the volume of business; a further reduction of 50% led to an increase in business amounting to 83%. In Prussia, a reduction of $33\frac{1}{3}$ in the rate produced an increase of 70% in the business. In Switzerland, a reduction of 50% in the rate brought about an increase of 90% in business. None of these figures, however, approach the rapidity with which the telegraph business of the British Post Office increased. More wonderful, however, are the figures furnished by the last report of the New Zealand Post Office. In 1896, the number of messages sent per 100 persons in this colony was 270, a number greater than that of either Great Britain or Australia to-day. One would suppose that the capacity of the colony had reached its limit, but in that year there was introduced a 12-word telegram, at a cost of 6 pence instead of 1 shilling, and straightway the increase in business began. It has gone on continuously, until the elsewhere unattained figures of 270 messages per 100 people has advanced to 457 for every hundred. We fancy that these figures will give us ample warrant for assuming that a $33\frac{1}{3}\%$ discount in the rate will give Canada, as it did Belgium, an immediate increase of 80% in the business; and that greater reductions in rates will lead to greater increases in the number of messages.

It is proposed, then, that there shall be a uniform one-cent rate, and that the minimum charge will be 20 cents. That is, that a message may contain 20 words, but adopting the practice followed in all countries except Canada and the United States, it is proposed to charge for every word of the message. In Canada and in the

United States the address is not counted. The English Post Office and the Western Union Company estimate the number of words in a message as from 15 to 17. At the ordinary rates within Ontario, Quebec and New Brunswick of 25 cents per 10 words, and one cent for each additional word, the average cost of a message will be not less than 30 cents. The reduction to 20 cents for the same message is a reduction of $33\frac{1}{3}\%$. To Nova Scotia the rate is now 30 cents for 10 words, and 2 cents for each additional; present average charge, 40; reduction 50%. To Manitoba, the rates are 75 cents and 5 cents, present average charge, \$1.00; reduction, 80%. To the North-West Territories and British Columbia, the rates are \$1.00 and 7 cents. As the cost is very high, the average would probably not be more than \$1.20, and the reduction by the adoption of the 20 cents per message rate would be $83\frac{1}{3}\%$.

In distributing the business, we have nothing but our sense of the probable to guide us, but it is unquestionable that the business done at the \$1.00 rate is very small, and we shall assume it to be 5% of the whole; the business at the 75-cent rate, we shall place at 10% of the whole, leaving the remaining 85% to be distributed over the 25-cent and 30-cent rates. As was stated, it is proposed to assume that 85% of the business, the reductions on which shall run from $33\frac{1}{3}\%$ to 50%, shall have increased to 80%, the rate of increase noted in Belgium. The messages at 75 cents per 10 words, on which the reduction is 80%, we shall assume to increase by 100%; and the North-West Territories and British Columbia business, which has scarcely come into existence yet, we shall assume to increase threefold, or 200%.

The total number of messages sent last year was

5,105,000.					
85%	of	5,105,000	is	4,339,250	+ 80% = 7,810,650
10%	"	"	"	510,500	+ 100% = 1,021,000
5%	"	"	"	255,250	+ 200% = 765,750
					<hr/>
					9,597,400

That these figures are not excessive is plain, if we now apply the test proposed, viz., the rate per 100 persons in Great Britain and Australia. At the British rate the number of messages would be 11,383,692; at the Australian rate the number would be 12,242,838. At the rate of 20 cents per 20 words, the average charge would be from 21 to 22 cents, as there is always a certain number of messages over number. At 21 cents per message, the revenue would be \$2,015,454.

As regards expense, the items are: cost of purchasing or constructing lines, salaries, maintenance and sundries, which consist of stationery, travelling expenses and general contingencies. The cost of the present lines is given by Mr. Dwight, in the Canadian Cyclopaedia, as \$7,000,000. There is no doubt that owing to the duplication of the lines of the several companies, there would be a large mileage which would be useless to the Government. Indeed, it has been ascertained that if the Government purchased the lines, the same territory would be served by 30% less lines than are now in use. For the purpose of this estimate, the value given by Mr. Dwight will be taken, but in estimating the charge for maintenance, there will be made a reduction of 30% in the mileage of the lines.

The salaries are somewhat difficult to arrive at with any precision. In England 65% of the receipts go out in salaries, but the number of towns of larger population, where the salaries are governed by Civil Service regulations, is high, while in Canada these would not exceed 20. In all other places the amounts paid would be a percentage of the business done. At present the rates of pay on the Canadian Government lines, on the north shore of the St. Lawrence, is 25%, with a minimum salary of \$50 a year. Under these circumstances, and remembering that in all places out of the cities and towns, the post office and telegraph office will be in the same hands, 40% would seem to be a liberal estimate for salaries. The charges for maintenance and sundries are estimated at the British rates, the system in that

country being most expensively maintained. The cost per mile of wire was rather less than \$10.50; while the charges for sundries are rather less than 10% of the total revenue. Applying these figures, therefore, the expenditure would be:—

Interest charge on \$7,000,000.....	\$210,000
Salaries, 40% of \$2,015,454.....	806,182
Maintenance, 57,635 miles wire, at \$10.50	605,152
Sundries, 10% of \$2,015,454.....	201,545
	\$1,822,879

which would leave a surplus of \$192,565.

Although the mode of transmission across the Atlantic must remain, for the moment, unsettled, there is no difficulty in arriving at the approximate cost of this part of the service. The contract with Mr. Marconi provides for a maximum rate of ten cents a word, and in Newfoundland Mr. Marconi declared that at one cent a word transmission by wireless telegraphy would give a satisfactory return. This is evident from the fact that the only capital outlay necessary is the cost of the two stations, which would not exceed \$150,000. The cost of maintenance and salaries is insignificant, in view of the immense business which would be transacted between the stations, if the scheme proves practicable. But supposing we have to wait awhile for the benefits of wireless telegraphy, a Government-owned cable across the Atlantic could be made to pay at rates much less than are now paid. The expert evidence laid before the two recent cable commissions furnishes all the data necessary to arrive at a close estimate of the cost of laying a line and maintaining a service. A cable across the Atlantic should, if possible, land in Newfoundland. The reasons for this are two-fold. In the first place, Newfoundland is much nearer Great Britain than any other point in North America, and the speed of the cable bears a direct relation to its length. This point has been recognized by the prospectors in Atlantic telegraphy from

the beginning. The first cable was laid between Valentia, Ireland, and Heart's Content, Trinity Bay, Newfoundland, and in anticipation of success, the cable company, in 1854, obtained exclusive rights to lay cables to that island. When the Direct United States Cable was laid, a bold attempt was made to obtain access to Newfoundland, and the Anglo-American Company had to exercise all its vigilance to keep the intruders off. The Anglo-American charter, which confers the monopoly, expires in April, 1904, and after that time the Newfoundland Government will be free to deal as it pleases with its landing rights. The other reason for making the cable run from Newfoundland is, that the "all-red line" cannot be considered to have been strung properly if it leaves the Ancient Colony aside. The situation of Newfoundland in the matter of obtaining news from the rest of the world is pitiable. Owing to its position, Newfoundland has been of incalculable service to telegraphic communication between Europe and America. It was the point from which all attempts to speed the news between the two continents were conducted. While the Atlantic cable was no more than a pleasing dream, a matter for adventurous spirits to speculate upon, a scheme was projected to turn to account the fact that a steamer, having 1,200 miles to go before it could deliver the latest European news in New York, could be hailed by a boat from Cape Race, and the news taken ashore, sent swiftly to the mainland in Cape Breton, thence by telegraph to New York. The plan was for the steamer to throw out its news in a sealed bottle, trusting to the skill of the boatman to pick it up, and when he reached land he was to transmit the messages by telegraph across the island to Cape Ray, from which point they were to be carried across the Cabot Strait by carrier pigeons. In carrying out this scheme, the company secured the exclusive right to set up telegraph lines in Newfoundland. This apparently fanciful scheme was not the conception of a mere visionary, but had its origin in the same brain that first gave practical shape to the idea of the Atlantic

cable. When it was determined to attempt the Atlantic cable, Newfoundland was the only point in America that was seriously considered as a suitable landing place, and to-day the largest of the cable companies operating between Europe and America has its extensive American offices in Newfoundland. To those interested in cables, the world over, Newfoundland is a country of great interest. But what substantial good does Newfoundland derive from her connection with telegraphy? Beyond the fact that the Anglo-American Company have made a pretty little English village of the fishing cove at Heart's Content, little can be said by way of answer. Though the news of the whole world pass and repass across Newfoundland, none by any chance is let fall by the way for the enlightenment of the islanders. The citizens of St. Johns, loyal Britons, mainly good English and Irish stock, educated and intelligent, and as capable of appreciating the news of the Motherland as any other of the colonies, are obliged to content themselves with a daily dribble from New York or Halifax, made up of half-a dozen items, three or four lines each, and rarely occupying more than 6 or 8 inches of a single column of the daily papers.

If arrangements were made with the Newfoundland Government for the use of their land lines, the length of cable required to cross the Atlantic between Valentia and Sydney, by way of Heart's Content and Cape Ray, would be rather less than 2,000 miles. The 1894 cable, laid by the Anglo-American Company, has a length of 1,847 miles, and the distance from Cape Ray to Sydney is rather less than 100 miles. If Cape North, in Cape Breton, were chosen as the landing place in Canada, this distance would be lessened by 50 miles. If, on the other hand, it were thought better not to pass by way of Newfoundland, the length of a cable required for a direct service between Ireland and Nova Scotia is 2,161 miles (the length of the Commercial Cable between these points). The cost of making and laying a cable is given

by all the authorities as from \$750 to \$1,000 a mile. Thus, the cost would be about \$2,000,000. To this add \$150,000 for the cost of buildings and instruments, and \$350,000 for a cable ship. The annual expenditure for the carrying on of the service would be made up of (1) the sum necessary to pay the interest on the outlay, and to replace the capital in 50 years. The rate per cent covering these two items will be calculated at $3\frac{3}{4}\%$. The Pacific Cable Committee put the percentage at 3.7. (2) *Maintenance*.—The experts before the Pacific Cable Committee placed this item at £6 per mile. The representative of the Post Office said that the books of the Eastern and South African Company showed that their expenditure under this head was £4 5s., but that their arrangements seemed specially fortunate. (3) *Working expenses*.—Mr. Siemens, whose experience in such matters makes him a leading authority, stated before the Pacific Cable Committee that £2,000 a year ought to be sufficient for such a station as Vancouver; and the stations we have in mind will be something of the same sort.

In order to provide against the chance of under-estimating, we shall put the figures at £4,000 for each of the two stations. The total expenses will, therefore, be as follows:—

Interest, \$2,500,000 at $3\frac{3}{4}\%$	\$ 93,750
Maintenance, 2,161 miles at \$30....	64,830
Two Stations, at \$20,000 each.....	40,000

Total \$198,580

With regard to the capacity of the cable, the last cable laid by the Anglo-American and the Commercial Cable Companies give a speed of from 200 letters to 250 letters a minute. From these must be made a deduction for service messages, which the Anglo-American Company says equals 10%, the Commercial Cable Company 16%. Taking the lower of the rates of speed, 200 letters per minute, and making the larger deduction for service messages, 16%, the number of paying letters produced per minute is 168, or at 8 letters per word, which

both companies accept, 21 words per minute, working singly. By duplexing, as is done on all the Atlantic lines, the speed is increased by 90%, making practically 40 words a minute. Taking 10 hours, as the Atlantic companies do, as the working day, and 300 days in a year, a cable of the capacity of the last Commercial Cable line is capable of transmitting 12,960,000 words a year. If the cable worked to its full capacity, that is, 24 hours a day, its output would be 19,200,000 words per annum, the annual charges on the line would be met at a small fraction beyond one cent a word; if the cable worked 365 days a year, the necessary charge would be less than one cent a word.

A breakdown, however, is always possible, though with modern cables, they come at rare intervals. The difficulty would be adequately met if the two Governments were each to lay a cable after the manner of the British-French, British-German and British-Belgium cables. Each working half capacity, and ready to take up the whole work in case of interruption of the other, would enable each to charge for messages at the rate of 3 cents a word. A duplicate State cable across the Atlantic might, however, be postponed until the traffic became unmanageably large without it, for with a round-the-world cable as proposed, an ordinary interruption could be met by sending the messages the other way.

Turning from the possible to the probable, let us ascertain, as nearly as may be, the volume of the business upon which it would be proper to reckon if the Canadian Government were in a position to offer to carry messages to-morrow. The statistics of the Anglo-Canadian cable business are not published, but we cannot be far from the fact if we take it for granted that this business would equal in volume that between Australia and England. The Australians are great correspondents, even under the most adverse conditions, but in population they and the New Zealanders are one million less than the Canadians, and the charges for transmission have, until a short time ago, been 4 shillings and 9 pence

a word, whereas the Canadians can correspond with Europe for 1 shilling a word. Assume, then, that the Canadian business were equal in volume to the Australasian business for 1900, that is, consisting of 191,874 messages, which at $15\frac{1}{2}$ words per message, the average length of Australian cable messages, gives a total of 2,974,049 words. In addition to this is the Australasian-European business, which will pass over the new line, estimated by the Pacific Cable Commission at five-twelfths of the total volume of words transmitted. This will furnish a business in itself of 1,239,185 words, and give a total business between Canada and Australia, on the one side, and Europe on the other, of 4,213,234 words. With the Newfoundland business added, the Government cable ought to be able to count immediately on 4,500,000 words, and as the expense to be met is, as stated, \$198,580, a charge of 5 cents a word would be sufficient to cover the expenses at the outset.

With these figures it becomes possible to extend the inquiry, and furnish an answer to the position as to the rate at which telegraphic business could be carried on between Australasia and Europe, if the Pacific Cable were employed to the extent of its capacity. The speed of the new cable is reported by the engineer who superintended the making and laying of it on behalf of the Government, to be 110 letters per minute. Making no addition for duplex working, and deducting 16% for "waste," we have 92.4 paying letters per minute. At 8 letters to the word, the cable working 300 days of 18 hours each, would produce 3,726,000 words per annum. The Pacific Cable Committee, whose conclusions were marked by a prudence to which they themselves were impelled to call attention, placed the annual expenditure connected with the laying and working of the most expensive type of cable possible to be laid in that ocean, at £155,464. To cover this expense, the rate on the 3,726,000 words would have to be slightly in excess of 10d. Allowing it to be $10\frac{1}{2}$ d., and adding one cent for the land charges through Canada, and 3 cents for the

transatlantic charge, the most favourable rate by this route would appear to be 12½d., or 25 cents per word.

Still extending the inquiry, let us examine for a moment the possibilities of the all-British system sketched out by Sir Sandford Fleming. The routes comprehended in the system, with the length of each, are as follows:—England to South Africa via Bermuda, Barbadoes, and Ascension, 9,400 miles; South Africa to Australasia, with branches from Cocos to India, 8,000 miles; Australasia to Canada, 7,150 miles; Canada to Ireland, 1,850 miles; giving a total of 26,400 miles, or, in round numbers, 27,000 miles. At \$1,000 per mile, the cost of laying the cables comprised in this system, including the trans-Pacific cable just laid, would be \$27,000,000. At 3¾%, the rate taken by the Pacific Cable Committee to cover the interest and provide an adequate sinking fund, the annual charge under this head would be \$1,012,500; maintenance, at \$30 a mile, would cost \$810,000; and the working expenses, taking one station for every 2,000 miles, or 14 in all, and accepting Mr. Siemens' estimate of \$10,000 as the necessary outlay for each station, would call for \$140,000 a year. The total annual outlay would thus be \$1,962,500.

The business done between the principal colonies and Europe during either 1900 or 1901 was as follows, again assuming that the Canadian business is equal to the Australasian:—

Australasian	2,974,049
India	2,427,000
Canada	2,974,049
South Africa	333,316
West Indies	58,200

8,766,614

These figures represent the whole foreign business done by each of the colonies mentioned, including, of course, the inter-colonial business, but as this is insignificant at present, and would be more than offset by the business of the smaller dependencies whose statistics are

not obtainable, they may be accepted as giving a fair idea of the work ready for transmission by the "all-red line," if such were in a position to undertake business. A general rate of $22\frac{1}{4}$ cents per word would be sufficient to enable the business of 1900 to meet the expenses of the all-British cables. Add to this rate the necessary land transit charges, and 25 or 26 cents a word may be accepted as sufficient to cover the expenses of the service.

It is not to be doubted, however, that such marked reductions as are here indicated would be followed by the usual consequence, a large increase in the volume of business. The Australasian business, which was transacted at the rate of 4 shillings and 9 pence per word, would have the rate on it reduced by 75%; the Indian business on which the rate was, until recently, 4s. a word, would undergo a reduction of 70%; the reduction on South African and West Indian business would be quite equal to 70%. These reductions would open the way to a vast amount of business now excluded by the high rates. They would make it possible to exchange social and family messages without calling for too serious demands upon moderate purses, and generally the habit of using the telegraph for purposes not now thought of would be fostered. It would be but a short time before the business would be doubled or even trebled, and the rate would be susceptible of reduction almost in proportion to the increase in the business, for there is this peculiarity about cable business, that there must be under employment at all times, be the business small or great, a staff sufficient to work the line to its full capacity.

CHAPTER XIV.

CABLE LAYING.*

The first requisite before laying a cable is to have a survey of the bed of the ocean to be traversed. The better the survey the more satisfactory results from the cable, and the longer its life. Having made an accurate survey, suitable ground can then be chosen to lay the cable, so that its resting place shall be devoid of bare mountain tops, holes, crags and hills.

The problem of survey, then, is to determine the configuration and nature of the bottom of the ocean. A survey of this kind may be compared with the problem of the construction of a transcontinental railway, where the engineer, instead of being able to use his level on *terra firma*, would be obliged to determine the direction and location of the road by means of soundings from a balloon miles above the surface.

At the date of the contract, 31st December, 1900, for the construction of the British-Pacific Cable, soundings had been taken over a limited area along the route of the proposed line; so that it became imperative that additional soundings be taken before the actual laying of the cable could be undertaken.

In 1899, the British survey ship, "Egeria," had taken a line of soundings from Vancouver Island towards Fanning Island, but for some reason had discontinued this line when 300 miles distant from the latter place. A line of soundings also existed between San Francisco and Honolulu. It was necessary, therefore, to make a survey from Moreton Bay, Queensland, to Norfolk Island, thence to the Fijis and New Zealand, and thence to Fanning Island, together with the remaining part of the Fanning-Vancouver line. For this purpose, the steamship "Britannia" was engaged. She is a steel

*Free use has been made of the Report of the Pacific Cable Committee Nov. 1896 and published in 1899.

twin-screw steamer of 1,554 gross tons, and 1,200 horse power; was built for the Telegraph Construction and Maintenance Company in 1885, and had been employed for a large number of cable laying and repairing expeditions, as well as on several important surveys, notably that from Bermuda to Turk's Island and Jamaica in 1897, from the English Channel to the Azores and New York, and from Canso, Nova Scotia, to the Azores and the coast of Ireland, in 1899.

The sounding machine was adapted for depths up to 6,000 fathoms, nearly seven miles. The sounding is done by means of a fine wire, which passes over a measuring wheel, the revolution of which records on a dial the number of fathoms out. The sinker at the end of the sounding wire weighs about fifty pounds. In olden times, when hemp lines were used for sounding, it was necessary to employ a weight of about four hundred and fifty pounds to keep the line vertical, and about three hours were occupied in taking a sounding of two thousand fathoms. With the present apparatus, the sinker will reach the bottom at that depth in about twenty minutes.

The steamship "Britannia" left Sydney on the 16th of May, 1901, in command of Captain J. E. Leach, Mr. C. W. Clarke being the contractor's engineer on board. Mr. R. E. Peake, of the firm of Messrs. Clark, Forde & Taylor, engineers to the Pacific Cable Board, joined the vessel at Sydney to supervise the carrying out of the survey on behalf of the British Cable Board, and it is from his report that most of the following data are obtained. The ship arrived at Southport, the cable terminus in Queensland, on the 18th, and began the work.

SOUTHPORT—NORFOLK ISLAND SECTION.

At about 120 miles east of Southport the water rapidly shoaled. The survey in this vicinity revealed a line of hills, which have been named after the vessel, the Britannia Hills, rising in a northerly and southerly direction. Although deep water was found between the hills, through which the cable might have been laid, it was

deemed advisable to clear them altogether, and to continue the survey to the south thereof, as Norfolk Island lies somewhat south of Southport. The discovery of these hills was of the greatest value and importance, and demonstrated the necessity of a survey before laying a cable.

In taking these soundings not only is the depth of water determined, but also the nature of the bottom, which is of importance for cable laying. The sinker, or "snapper" at the end of the sounding line, is so contrived that the moment it strikes the bottom, it encloses a specimen thereof, which is then hauled aboard. The specimens brought from the bottom in the vicinity of the mainland consisted of sand, with small pieces of dead coral and small shells; little hard ground was encountered. From 223 fathoms downwards the bottom is excellent, being formed of globigerina ooze, down to 2,200 fathoms, below which the percentage of carbonate of lime is small, and the deposit becomes a red clay.

The depth along this section of the cable route may be summarized as follows: the Queensland bank extends for about 23 miles; the slope to 2,000 fathoms occupies a further 51 miles, and then a long stretch of very level ground follows, extending over about 364 miles, with an average depth of a little over 2,500 fathoms. This is succeeded by another stretch of 131 miles, with a depth varying from 900 fathoms to 700 fathoms. From this latter point the water deepens to 2,000 fathoms in the next 73 miles; then rises to 1,400 in 23 miles, falls to 1,950 in 77 miles, and from thence in 49 miles rises gradually to the foot of the Norfolk Island bank, the latter on the cable route being 7 miles in width.

NORFOLK ISLAND—NEW ZEALAND SECTION.

The next section of soundings extended from Norfolk Island to North Island of New Zealand.

It should have been mentioned that besides the soundings, temperature readings were taken at the surface as well as at the bottom of the ocean. It may be stated, that although the surface temperatures may vary

considerably in the various parts of the ocean under consideration, extending over many degrees of latitude, yet the temperature at the bottom of the ocean, at great depths, say of 3,000 fathoms, is pretty uniform, whether the measurements are made in the tropics or in the temperate zone.

Although the greater part of the bottom of this section is covered with globigerina ooze, yet hard rock was encountered, where the "snapper" was bent inwards and was badly cracked, in 882 fathoms. This hard rock covered a considerable patch, so that the route was changed in order to avoid it.

The general character of the ground, from Norfolk to the foot of the New Zealand bank, may be considered favorable; the most uneven portion of the route being the 17 miles extending from the 2,800 fathoms to the 1,100 fathoms line at the foot of the Norfolk Island bank. The rough coral debris also extends to a greater depth on the slope of this bank than was found on its north-western side.

NORFOLK ISLAND—FIJI SECTION.

On the 17th of July the survey of the route for the cable from Norfolk Island to Fiji was commenced from the Norfolk Island end, after having taken soundings about Norfolk Island. For the first 150 miles soundings were satisfactory. Coarse sand mixed with coral debris was found down to 120 fathoms, then fine sand down to 350 fathoms, at which latter depth globigerina ooze commences. The water gradually deepens to about 2,200 fathoms, and it was expected that depths not less than the latter would now be found for some distance; the distance between the soundings was, therefore, increased from 10 to 15 miles. The next sounding, however, showed 842 fathoms; and it was evident that the cable route would require to be diverted into deeper water, which was done.

The discovery of this hill 150 miles from Norfolk Island, surrounded by deep water, shows how necessary it is for cable purposes that soundings should be obtained at moderately short intervals, as those at 40 to 50 miles apart, taken on previous expeditions near the route now under examination, gave no indication of the shoal ground existing in this locality.

About midway between Norfolk Island and Fiji the specimens obtained from the bottom showed a large percentage of manganese, pumice, and the casts and shells of foramanifera in varying quantities. These have been variously defined as red clay, volcanic mud, and radiolarian; but the former are not by any means typical specimens.

The direct route from Norfolk Island to Fiji passes very close to Conway Reef, and a deflection was, therefore, made to the east to get into deep water. In the vicinity of this reef the greatest depth on this section of the cable line was found, namely, 2,600 fathoms, nearly 3 miles. It would appear that this depth is probably within an old crater, with the hill rising to within 872 fathoms of the surface, 25 miles distant from it. Several of the bottom specimens here showed pumice and other volcanic material, although in nearly all cases this was mingled with globigerina ooze. Good ground was found from here onward to Suva.

The Fiji Islands are connected by a bank with New Caledonia, and when the cable passes around the south eastern end of this bank, as it does, and also on the line up to Suva, it is believed that a good route for the cable has been selected. In the volcanic region, however, the upheavals are, as a rule, very sharp, and previous experience on ground of a similar nature has shown the greater difficulty, at short intervals, of finding all the inequalities of the bottom.

On the 29th of July the "Britannia" completed the soundings for this section.

FIJI—FANNING ISLAND SECTION.

On the 3rd of August the survey of the section Suva-Fiji-Fanning Island was commenced. At 3 p.m., on Sunday, the 4th of August, the 180th meridian was crossed, so that this day had to be considered as Saturday, the 3rd. As is well known, at longitude 180° , or 12 hours from Greenwich, the date changes; in going from the west towards the east a day is apparently gained, that is, we count two days with the same name and date. However, in going from the east to the west, crossing that meridian, we skip a day in our diary.

On this section the first 568 miles show some unfavorable patches of hills and hard ground. Looking at the soundings previously shown on the chart with the experience gained by those subsequently taken, it is difficult to see where a route could be selected across this belt of treacherous ground which could confidently be considered a satisfactory one. The only redeeming point, however, about the ground in this locality is, that apparently the bad places are individually of small extent, and only a short detour would, therefore, have to be made to divert the cable to good ground, should that at any time be found necessary.

The greatest depth on this section was found to be 3,070 fathoms, where the bottom specimens consisted principally of radiolarian ooze. The slope up to Fanning Island was very gradual, rising from 2,700 fathoms to 1,570 fathoms in 110 miles, the latter depth being found soon after the island was sighted, distant about 14 miles. On the last 1,350 miles there were only two departures from normal conditions, one in latitude $3^{\circ} 30'$ S., where a wide ridge, with 2,100 fathoms of water, crosses the cable route, and the other where a shoal was found at about 180 miles from Fanning Island, with a minimum depth of 1,700 fathoms. The latter, however, was easily avoided by diverting the route to the eastward. It is a feature, in coral formations, to be sur-

rounded by steep gradients. However, these do not extend to great depths, after which there is an easy slope to deep water, with good bottom.

FANNING ISLAND—VANCOUVER SECTION.

As already stated, the survey ship, "Egeria," had carried on soundings from Vancouver to within about 300 miles of Fanning Island. It was, therefore, only necessary to complete her survey. The "Britannia" started out to complete this work on the 25th of August.

Fanning Island is a coral island, or atoll, 3 by 9 miles, and only about 10 feet above the surface of the ocean. After leaving the coral bank the steep gradients disappeared, and the slope to the thousand-fathom line was found to be a very easy one, with good bottom, composed of coral, sand, and globigerina ooze. At the end of about 70 miles, the depth had reached to 2,200 and 2,300 fathoms. This continued up to 180 miles from Fanning Island, when the sounding was taken in 990 fathoms. As the specimens obtained showed good bottom, it was decided not to make any alteration in the cable course. Onward the depth gradually increased to 2,700 fathoms, with good bottom, composed of globigerina and radiolarian ooze.

The soundings had now reached those of the "Egeria," and thereby completed the work of the Pacific Cable survey. The "Britannia" had steamed 6,883 miles during sounding operations, and had taken 699 soundings, in 198 of which the bottom temperature was observed.

In the neighbourhood of the Fiji Islands, at a depth of 2,500 fathoms, a temperature of 34.1° Fahrenheit was noted, being the lowest temperature taken during the expedition. As already stated, there is very little difference in the temperature of the ocean at great depths, say below 3,000 fathoms, over a great extent of the earth's surface, the temperature being only a few degrees above the freezing point, or 32° Fahrenheit.

As far as experience goes, deep holes are always

near land. There is no case yet of a deep hole being found in the centre of any ocean. For this reason, it was not anticipated that when the soundings were taken between Vancouver and Fanning Island, any great depth would be encountered in the broad waters of the Pacific. Subsequent surveys proved the correctness of the surmise.

Sir John Murray, who examined the specimens obtained by the expedition, indicated the principal points relating to the classification, composition, and distribution of marine deposits. These have been divided into:—

(A) Littoral deposits, found between tide-marks, and made up of boulders, gravels, sands or muds, the position of which is determined by the nature of the immediately adjacent land.

(B) Shallow water deposits, found between low water mark and the 100-fathoms line, made up of gravels, sands, muds and various deposits. In some places the unorganic fragments from emerged land predominate; in others, the remains of benthonic organisms, that is, organisms living, attached to or crawling over the sea-floor.

(C) Deep sea deposits, found beyond the 100-fathoms line, made up of mud, organic oozes and clays, in which the remains of pelagic or planktonic organisms predominate; that is, those organisms living on or near the surface of the ocean.

The three principal divisions of the various types of deep sea deposits from the basin of the Pacific may be given in their order of importance, as follows:—

(a) Red clay. This deposit attains its most typical development in the deep water regions of the Pacific, covering more than one-half of the total area, and is found at the greatest depth.

(b) Next in importance to the red clay is the globigerina ooze, which also covers an extensive area, and its deposits are confined to depths not exceeding about 2,500 fathoms.

(c) Radiolarian ooze. This type of deposit is now

known to cover an extensive area of the floor of the Pacific. It is found at far greater depths than the preceding. The "Challenger's" deepest soundings, in 4,475 fathoms, brought up a mud sample of this ooze. The United States steamer "Nero" sounded in 5,269 fathoms, 6 miles (this last being the deepest sounding recorded in the ocean), and the material brought from the bottom is radiolarian ooze.

All the varieties of deep sea deposits pass gradually the one into the other, there being no sharp line of demarcation between them. Very frequently it is difficult to say whether a sample should be called a blue mud, globigerina ooze, or a red clay, although typical samples of these are well marked and distinct. Of the 597 samples of sea bottom obtained, 497 were such that they could be divided into distinct types of deposits. It was found that:—

294	samples	referred to	globigerina ooze.
65	"	"	red clay.
43	"	"	radiolarian ooze.
45	"	"	coral mud or sand.
27	"	"	pteropod ooze.
12	"	"	blue or green muds.
11	"	"	organic mud or clay.

Having given the soundings and distance for the various sections, the cable engineer has the necessary data for computing the dimensions and types of cable for each section. Obviously, the longest stretch is the governing factor, for this must necessarily give the slowest speed, and the shortest sections must be governed by it. A chain is not stronger than its weakest link, and the weak link in our case is the Vancouver Island-Fanning Island section. It would be useless, as far as through traffic is concerned, to have greater speed for the shorter sections of cable than is possible for the longest section. It must be remembered that at the time

the Pacific Cable was discussed the longest cable fell short by about 1,000 miles of the length from Bamfield Creek to Fanning Island.

It may here be noted that in the original contract the landing place on Vancouver Island was given as Port San Juan, but subsequent examination of the coast in the vicinity showed that Bamfield Creek in Barkley Sound was more favorable than San Juan. This change of terminus gave a saving of 20 knots in the cable distance, and of about 40 miles in the land line connecting the cable station with the Canadian Pacific Railway main line of telegraph at Vancouver. Furthermore, the landing at Bamfield is a thoroughly protected one in all weathers, whilst Port San Juan is exposed to heavy seas during the prevalence of southerly or south-westerly storms.

Theoretically, any speed, that is, the number of signals which can be sent over a cable in a given time, can be obtained for any length of cable. It is simply a question of putting enough copper and gutta percha into the cable. However, for mechanical reasons, a limit is soon reached: first, on account of the high retarding strains it would be necessary to apply whilst laying the cable in great depths; and secondly, because, if a very heavy cable were successfully laid, it would be well-nigh impossible to effect repairs.

Based on an experience of 40 years of cable manufacture, and of cable laying in many waters of varying depths, and over distances of varying lengths, it was concluded to put into the Vancouver-Fanning Island section 600 pounds of copper and 340 pounds of gutta percha per nautical mile, besides the necessary outside covering and sheathing. This was expected to give a speed of about 70 to 80 letters per minute.

The working speed of a submarine telegraph cable depends on, and is invariably proportional to, the product of the total resistance of the conductor multiplied by the total inductive capacity of the core, so that other things being equal, the speed varies inversely as the

square of the length of the cable. Taking 80 letters a minute as the working speed under ordinary conditions and manual transmission, by using the automatic curb transmitter, the speed is increased by 30 per cent., making 104 letters, to which we must add 60 per cent. for duplex work, giving a total speed of 166 letters per minute, which, at 8 letters per word, would give 20.75 words. About 94 per cent. of words sent are paid for; the cable would, therefore, have a speed of about 17.6 "paying words" per minute.

The speed of signalling through a cable is generally expressed by saying that it varies inversely as the K. R. of the line. The K. R. of any submarine cable is obtained by multiplying together the total electrostatic capacity in microfarads, and the total conductor resistance in ohms. Thus, if a core of 100 pounds gutta percha for a length of 500 knots gives a speed of 120 words per minute, for 1,000 knots it would give 30 words per minute, and for 2,000 knots, $7\frac{1}{2}$ words per minute. Or, again, it may be put this way: if it requires 100 pounds of copper and 100 pounds of gutta percha to give 30 words for a distance of 1,000 knots, it would require 400 pounds of copper and 400 pounds of gutta percha, to give the same number of words on 2,000 knots; similarly, 900 pounds of copper and 900 pounds of gutta percha for 30 words on 3,000 knots. If the K. R. of cables is the same, then their speed should, theoretically, be the same; if the K. R. is the same, the speed only depends on what kind of instruments are used, what kind of clerks, and whether worked under very favorable conditions.

In practice it is usual, for mechanical reasons, for the weights to be equal in small cores, as a core with a very thin covering of gutta percha would be difficult of manufacture with sufficient certainty of good insulation for a deep water submarine cable; but for cores larger than 150 : 150, it is more economical for the copper to exceed the gutta percha in weight, the difference increasing proportionately with the size of the core until, in the largest sizes, the copper may be as much as 50 or

60 per cent. heavier than the gutta percha.

The question of cost also governs the amount of copper and gutta percha; sufficient gutta percha is only used to give mechanical safety.

A submarine cable consists, first, of a core, which comprises the conductor, made of a strand of copper wires, or of a central wire surrounded by copper strips, and the insulating covering, generally made of gutta percha, and occasionally of india rubber, to prevent the escape of the electricity. As far as cabling is concerned, this is really all that is necessary—an insulated conductor. This, however, would not, in the first place, be sufficiently heavy to lay in the ocean, and, secondly, would be too easily injured and destroyed by the many vicissitudes to which it would be subjected. For this reason, a protection in the form of a sheathing of iron or steel wires surrounds the core; the nature, size, and weight of the sheathing being dependent upon the depth of water and kind of ground over which it has to be laid. The deep sea section, being the best protected from all disturbing influences outside of displacement of the earth's crust by earthquakes or volcanic action, is naturally the one of smallest dimensions; and for the shore end, which is exposed to the action of the waves, to driftwood, to grinding of ice in the more northerly latitudes, to the dangers of anchorage, especially of fishing boats, the sheathing must be very heavy. So that while the deep sea cable is somewhat less than an inch in diameter, that for the shore ends is nearly $2\frac{1}{2}$ inches in diameter. The action of the waves is limited to a depth of only about 13 fathoms, so that their influence on the cable, manifested by wear and chafing, is confined to the shore end.

Cables are manufactured at the rate of $5\frac{1}{2}$ nautical miles per machine per day, so that in a factory having ten machines working, as some have, 55 miles of cable per day can be made. The difficulties which are experienced in manufacturing the core are mostly created by air bubbles, which get in while the hot and plastic gutta percha is being pressed round the wire, or by small

foreign particles which may get into the gutta percha. Little specks of dirt, or anything which falls into the gutta percha, and which are not seen and removed, will get into the core, and the so-called faults in insulation are principally caused by air bubbles and by foreign matter. In testing by the ordinary methods, even with 500 volts of a battery, it will not indicate where there is an air bubble, because air is a very good insulator, even a better insulator than gutta percha; and so, naturally, in the test for insulation, the air bubble will not be detected. If the foreign substance does not happen to touch the copper conductor, and reach right through the gutta percha to the outside, the ordinary testing will not show that either; but when the cable is manufactured and laid in great depths where there is a heavy pressure of water, then the water will at once burst the air bubbles, and thereby injure the insulation; and also the foreign substances, being hygroscopic mostly, will set up a small leak, and the curious action of an electric current when it passes through gutta percha is, that it eats a larger way, and an evil which once commences in a cable is sure to lead sooner or later to a complete break down in the insulation at that spot. Hence, the custom to specify that a cable must be maintained for 30 days by the contractor after the completion of the laying. That was just to give the pressure of water time to press the air bubbles, and find out any small leakages which might exist. Some manufacturers have special cylinders constructed in which the cable can be subjected to such pressure as will be found at the depths of water in which it may be laid. The pressure at a depth of 3,000 fathoms, in which a considerable portion of the Pacific Cable is laid, is about four tons to the square inch. By this artificial pressure in the cylinders, faults due to air bubbles are detected. The other difficulty, that is, of little foreign matter which does not quite reach through, remains. This is dealt with by exposing every drum of core for half an hour, at a pressure of 5,000 to 7,500 volts, and that is done after the core has been pressured.

The effect of the two tests applied, viz.: that of high pressure and of high voltage, is to render such defects as air bubbles visible, and to burn out any particles of foreign matter that may be imbedded in the gutta percha covering.

In the older manufacture of cables, it was customary to have the conductor heavier in the shore ends, but that is really of no advantage, for the best results are obtained by an even distribution of the copper over the entire length.

The ratio of copper to gutta percha per nautical mile has been arrived at experimentally. For light conductors, it is advantageous to have more pounds of gutta percha per mile than copper. For the heavier conductors, the reverse is the case.

When the core has been manufactured and tested by the hydraulic and high tension electric current, then it is brought into the sheathing department and coated, first with a layer of tan jute; and from there it passes to the sheathing machines, which lay the steel wires round it, as also the outer covering of jute and compound. Whilst this work is in progress, the conductor of the core is connected with the testing department, where the instrument indicates the insulation; so that the moment anything happens the machine can be stopped and an investigation made.

From the sheathing machines the cable passes into big tanks, where it is kept under water, and also continuously tested, at least as long as the sheathing machine is going. The cable in the tank, of course, is in circuit with the same testing instrument as the core, which is passing through the sheathing machines, and when the tank has been filled, its ends are left out, and it is tested at regular intervals during all the time of the storage until the ship is ready to take it.

There is absolutely nothing to deteriorate in the gutta percha, if there is no electrical fault after its submersion; in fact, the reverse is the case. Submersion

and pressure of the water seem to improve it. The enemies of gutta percha are exposure to sunlight and change of temperature.

It is a matter of fact that the deep sea cables last longer in the tropics than in the northern oceans. At first sight the reason therefor is not apparent, for at depths of 2,000 fathoms and more the temperature of the water is practically the same. However, the reason is to be found in the fact that in the tropics marine life, from which globigerina ooze is derived, is more abundant than in the more northerly or southerly waters. It is the sun and the hot surface water that call into life these countless globigerina, which live for a short space, then die and fall to the bottom like dust, making such a good bed for the cable to rest in. In the arctic currents, where the surface is cold, the water does not teem with life in the same way as it does in the tropics, and for that reason the deposit in the tropics at the bottom is formed rapidly, that is, there is more of it than there is in the northern oceans. Hence, it is when cables are picked up for repairs in the tropics, after having been laid for years, they are often in better condition than those laid further north or south.

The type of cable intended for depths of 400 fathoms or less, where it is subjected to the ravages of the teredo, or borer, has a brass tape to protect the core against its inroads. When it has pierced the gutta percha it meets its own death, as well as kills the cable, by making a ground, or "partial ground," whereby the electricity escapes. The teredo swarm in about 30 to 70 fathoms, but they are known in 800 to 900 fathoms. In the tropics it appears that a good many faults are caused by fish bites. An extraordinary case was one on a cable on the Zanzibar-Mozambique Cable, in four hundred fathoms of water, where a piece of tooth like the point of a shark's tooth was found broken off in the core.

Another source of trouble is occasioned by the alteration of the bottom of the ocean by land slips, earthquakes, and volcanic disturbances, against which it is

practically impossible to make any provision. A peculiar source of interruption was recorded some years ago, when both cables between Aden and Bombay simultaneously broke at a depth of 870 fathoms. As no earthquake shocks were experienced at the time, the cause of the break was assigned to a violent typhoon then raging, and which was so disastrous to shipping.

The area of low barometer or low pressure accompanying the typhoon produced a sudden rising of the bottom of the ocean. On land we have the phenomenon of the destructive action of an area of very low barometer (cyclone), quickly passing over the country, shown by the wrecking of buildings by "explosion"—namely by being blown down. The pressure outside being so much less than within the building, where it is about 15 pounds per square inch, the destructive action is outwards—the walls are blown "out."

It was necessary to construct a special cable ship to take on board so long a cable as that required between Vancouver and Fanning Island, as there was no cable steamer in the world which could carry that lengthy section. For this purpose, the "Colonia" was built by Wiggin, Richardson & Co., of Newcastle-on-Tyne. She is 510 feet in length; with beam of 56 feet; is 39 feet deep, and is designed to carry close upon 10,000 tons dead weight. When loaded she steams 11 to 12 knots. The length of cable that she can carry is about 4,000 miles, which is a greater length than could be put on board the "Great Eastern," when she was engaged in her cable-laying expeditions. The "Colonia" carried for the Vancouver-Fanning Island section, 3,540 nautical miles of cable. Her builders have designed an elegant-looking craft, in spite of the special conditions which had to be fulfilled, and in this respect the "Colonia" is a pleasant contrast to cable ships afloat. The spar deck is of teak, and is flush entirely fore and aft, making a spacious promenade. Amidships is accommodation for the officers and numerous electrical experts. There are also bath rooms, galley, butchery, bakery, and on the

deck below, a refrigerator chamber. Adjoining the cabin is a spacious dining saloon, pannelled in oak, and beautifully finished, even to the minutest detail. On the bridge deck above are the apartments of the captain, being a suite of three rooms. Next to this is a chart room of ample proportions, and above it is the navigating bridge and boat deck. In the aft part of the vessel, on the spar deck, are two houses of special interest to electricians, one of them being the test room, and the other the drum room. These have a very complete installation of galvanometers and other testing instruments, together with a quantity of the special appliances by means of which all the calculations are made as to the amount of cable paid out, the strain on it, and its electrical resistance. The aft-most deck house is occupied by the powerful steering apparatus, which is a compound hydraulic and steam steering engine, actuated as a tele-motor on the flying bridge. The vessel is lighted throughout with electricity; and as much of her work is in tropical seas, special attention has been paid to ventilation. On the main deck is accommodation for the crew, the cabin hands, and the stewards; and there is also a well-aired hospital. Amidships will be found an engineer's repairing shop, with a lathe, drills, and several other machines. Below the main deck are the four huge cable tanks, two of them being forward of the bridge, and two aft, each large enough to hold a good-sized dwelling house. The propelling machinery consists of sets of triple-expansion engines, working at a pressure of 190 pounds per square inch. The outfit of pumps, feed-water heaters, evaporators, filters, and other machinery, is exceptionally complete.

The "Colonia" sailed from Bamfield Creek, the Vancouver Island terminus of the Pacific Cable, at 2.30 p.m., on the 18th of September, and laid 3,455 nautical miles of cable to Fanning Island in 17 days and 21½ hours. This is an average speed of 8 miles an hour, and is believed to be a record in cable laying. The distance travelled was about 25 miles less than the estimate.

In commencing the work from the shore at Bamfield Creek, one end of a rope was attached to the cable, and the other end carried ashore, where it passed around a pulley made fast to a stump, and back to the ship over the winding gear. Then, as the cable was passed over the sides casks were attached to it, and it was thus floated ashore. Otherwise it would have been impossible to accomplish the work, owing to the great weight of the wire. When the water is very shallow some of the cable is taken off on a raft, and thus transported ashore.

The shore sections of the cable, as already stated, are much heavier than the deep sea sections, as they are more exposed to wind and weather, and to the danger of being hooked by anchors, especially of fishing boats.

The cable is kept immersed in water in the tanks, and in passing into the tanks is whitewashed, to prevent the layers or "flakes" of cable sticking to each other. In the centre of each tank is a hollow truncated cone, called the "eye," around which the cable is coiled. In laying the cable it passes out of the tanks on to pulleys, and to ensure control it passes three times round the drum, equipped with brakes immersed in water to prevent it firing. Then it passes under the dynamometer, which registers the strain on the wire, and thence again out over the stern sheaves to the water.

The dynamometer is a large iron sheave or pulley, mounted on a frame, arranged so as to slide up and down, with a range of several feet, in a tall iron support. The cable—and grappling rope, too—passes underneath the dynamometer, which moves up and down by the varying strains, the latter being indicated by a pointer moving in front of a scale fixed to the iron support. The sheave is also connected to a cylinder and piston, by a rod passing through a gland and stuffing box. The cylinder is filled with glycerine or oil, and the use of this oil is to act as a buffer or cushion to ease down the sheave when the strain falls. The wheel being lifted by the increase of strain on rope or cable, the glycerine is forced by the

piston from the top end of the cylinder through a valve to the bottom. When the reverse action takes place, or the sheave falls from loss of strain, the piston falls, and the oil is forced from the bottom to the top.

A few feet from the dynamometer is situate the drum room, where a checking clerk watches the recorder, and chronicles faithfully the number of miles paid out. From this room there is connection with the engine room and the electrical room.

A perfect check on the distance covered by the vessel is obtained by the unrolling of a fine wire about the size of a piano wire. The difference between the distances recorded by this wire and the recorder for the cable gives the amount of slack cable which has been paid out into the cable. The cable, in being paid out, is intended, of course, to lie uniformly on the bottom of the ocean, to adjust itself to the gentle undulations and contour of the ocean bed. For, if sufficient slack be not paid out so that the cable would be, in instances, suspended from summit to summit of hills or peaks, it would, in a greater or lesser degree, be chafed through by its own weight, and therefore break the circuit, and call for repairs, which is always a matter of great expense.

The average slack that is allowed is about 10 per cent., that is, to the given distance between the termini of a cable is added 10 per cent. for slack, in estimating the length of the cable required. To this is generally added about 5 per cent. to allow for a surplus of cable to be utilized, if necessary, for repair purposes.

When the cable is being laid in depths of about 3,000 fathoms ($3\frac{1}{2}$ miles), it will be approximately twenty miles astern of the ship before it touches the bottom.

The soundings along the route for the Pacific Cable, however, showed that seven and a half per cent. of slack was sufficient, and the total estimated length of the cables agrees within a few miles with the total number of miles as actually laid between Vancouver Island and Australia.

On this section—Barnfield-Fanning—there were four different types of cable: the heavy shore end of $1\frac{1}{4}$ miles, the heavy intermediate of $3\frac{1}{4}$ miles, the light intermediate of 60 miles, and then the main cable for the deep sea.

As previously mentioned, the core for these various types on the same section is uniform.

Situate near the stern line of the cable steamer is a large buoy, which, in case of a break in the cable, is dropped overboard to mark the spot. Attached to it is a peculiar mushroom anchor of about 500 pounds weight, the head of the mushroom being down and the concave surface up. This cup-like depression in the anchor speedily fills with silt, securing the buoy more safely day by day.

As soon as the deep-sea type of the cable passes over the ship's sides into the water, it loses approximately half of its weight; that is, the weight of the cable in the water is half its weight in the air, the specific gravity of the cable ordinarily ranging from 2 to 2.5. Knowing the breaking strain of the cable, one can readily determine the greatest length of cable that could be directly suspended from the ship. For instance, one of the types of deep sea cables weighs, dry, 40.7 cwt., wet, 42.3 cwt., and in the sea only 23.8 cwt.; and has a breaking strain of 10.6 tons, from which it is found that dividing the breaking strain by the number of hundred-weights per mile in water will give the miles which the cable will support of its own length in water without fracture, in this case 9 nautical miles.

From this it will be obvious why cables cannot be lifted on the bight from very great depths to the surface for repairs, for the miles of cable which would be suspended on each side of the bight or loop would be so excessive that the cable would part long before it reached the surface. It is therefore necessary, should the cable not be broken, but faulty, "to make one end," and

lift on the single part only; cutting grapnels have been devised for this purpose.

When a cable lies in a soft bed of ooze, at a depth of 2,500 fathoms, and more, there is no reason why it should not last for an indefinite period.

All the sections, except that from Vancouver to Fanning Island—which was laid by the cable ship "Colonia"—were laid by the cable ship "Anglia." The work on the section from Queensland (Southport) to Norfolk Island (Anson Bay), was commenced on March 8th, and finished on March 18th, covering a distance of 837 nautical miles.

The section, Norfolk Island to New Zealand (Doubtless Bay) was begun March 20th, and finished March 26th—519 nautical miles.

The section from Norfolk Island to Fiji (Suva) was begun April 3rd, and finished April 10th—981 nautical miles.

The section from Vancouver (Bamfield Creek) to Fanning Island, was begun September 18th, and finished October 6th—3,458 miles.

The last section, Fanning Island to Fiji, was begun October 18th, and finished October 31st—2,043 miles; thereby completing the British Pacific Cable, and two months before the expiration of the contract time of the Telegraph Construction and Maintenance Company.

The weight of the completed cable, per nautical mile, varies from $1\frac{1}{2}$ tons for the light deep sea to 26 tons for the heavy shore end.

The most serious and trying time experienced in laying the whole cable was on the Norfolk Island-Fiji section. A terrific cyclone was encountered on the night of April 5th, and to add to the difficulties, the steam-steering apparatus broke, and the steering had to be done by the hand appliances and the two propellers. However, cable laying was continued during the storm, but it was impossible to follow the direct route; hence,

on this section more cable was paid out than would otherwise have been the case.

On September 1st, 1858, the first Atlantic cable was dead. The public mind, which had been greatly excited by the unprecedented demonstrations of joy everywhere expressed upon the completion of the cable, now experienced the most bitter disappointment; and many believed that the whole thing was an imposition on the public credulity.

It is supposed that the first cable was damaged by the use of high battery power and induced currents of high potential, but cabling, nowadays, is better understood, and vast improvements have been made in various directions.

In the first place, the working battery consists of Fuller cells of bichromate of potash, giving an electric motive force of two volts each, and such voltages only are used on the cable to avoid any possibility of injury to the insulating coating of the cable. Batteries are worked on the open circuit, that is, the current is only on while the key is depressed. When a current, say of positive electricity is sent into the conductor of the cable, it has the effect of separating the natural electricity of the outer coating, the positive being driven off, and the negative electricity bound upon its surface. The outer coating, therefore, becomes negatively electrified by induction.

The rapidity with which signals can be sent through the cable is limited, owing to the fact that the cable receives a charge with every signal sent, and a certain time is required to allow the cable to be discharged after each signal. To accelerate the speed of discharging, and thereby the speed of signalling, a current of opposite polarity and of short duration is sent into the cable after each signal, whether of a positive or negative polarity.

It has already been stated that the current applied for signalling purposes is of low potential, never exceed-

ing 40 volts. It may be interesting to state here that electricians have conversed with each other across the Atlantic, using a battery composed of a percussion gun cap, a morsel of zinc, and a little acidulated water. Strictly speaking, no current is sent into the cable at all, but into one of the series of plates of the condenser, thereby disturbing the balance of equilibrium between the two series of plates. Now, as the other series of plates is connected with the cable, a transference of electricity of opposite polarity is induced from the cable, thereby disturbing the equilibrium of the condenser at the other end of the cable, that is, across the ocean, which disturbance shows itself by the deflection of the mirror or siphon; hence, the energy exercised in creating a disturbance or in restoring equilibrium between the potential of the terminals of the condenser manifests itself in the deflection of a mirror or siphon.

The cable is balanced by what is called the artificial line for duplex work, which has the same ratio of resistance to capacity as that of the cable. The artificial line is composed of strips of tin foil—gridiron form—placed between, but insulated from, plates or sheets of tin foil—forming condensers—of paraffine paper. The gridiron tin foil strips are joined in series, and represent the copper conductor of the cable, while the tin foil plates are joined in multiple, and represent the sheathing of the cable to which they are joined; there being no “grounding” of the cable as in telegraph lines, so that together they represent the cable *in toto*.

The whole mass of tin foil and paper is made solid by immersion in paraffine wax. The artificial line is made in boxes of the following dimensions:—2 feet 7 inches by 1 foot 6 inches by 2 feet 2 inches.

Each box weighs about 100 cwts., and contains the electrical equivalent of about 50 nautical miles of cable.

The surface covered by the tin foil of the artificial line will run up to 150,000 square feet or more. It is essential that the artificial line be kept dry, and at a uni-

form temperature; and for this reason it is generally placed in a specially constructed cellar, with double walls. Chloride of calcium is used to absorb any moisture.

Nowadays, practically all cables use the duplex. The artificial line which is used in connection therewith has already been described. By duplex is understood cabling in two directions at the same time; that is, at the two terminal stations of a cable messages can be sent and received at the same time. The principle involved is very simple, although it is somewhat difficult to give a popular description thereof without the aid of diagrams.

With the older cables, a mirror was used for noting the deflections caused by currents sent into the cable. A beam of light was thrown on a minute mirror an eighth of an inch in diameter, and the light reflected on to a scale, by means of which the signal was interpreted into letters. This necessitated one person constantly scanning the spot of light as it moved to the right and to the left of the scale, and calling out the individual letters, which were taken down by another person. This tedious and trying method of receiving signals was done away with by the siphon recorder of Sir William Thomson (now Lord Kelvin). The value of this invention can scarcely be overestimated.

The siphon, by which the cable signals are automatically recorded, is a thin glass tube the thickness of a strong linen thread, and quite flexible. It is suspended in a frame, and attached by a single silk fibre to one side of a rectangular coil of fine insulated wire, moving about a soft iron bar fixed in the magnetic field of two large permanent magnets. The coil is held down at the lower end by a silk thread fastened to an adjustable spring, to regulate or confine the lateral motion of the siphon. The magnets are placed vertically, and are two inches apart; one end of the siphon is twice bent at right angles, and dips into an ink well, filled with filtered aniline ink; the other end has a minute thread or short piece of soft iron cemented longitudinally to it, and sways in

close proximity to a narrow fillet of paper five-eighths of an inch wide, which is drawn along by a small motor known as a "mouse mill."

The small motors or mouse-mills by which the paper is drawn along receive their current generally from lead-lined trays, 18 by 20 ins., at the bottom of which is placed a copper sheet (Dutch foil); the zinc is wrapped in stout manilla paper, which serves the purpose of a porous cup for the sulphate of copper.

The cable current passes through the small rectangular coil, which is about 2 inches long. As both positive and negative currents are sent into the condensers, and thereby disturb the static electricity of the cable, the coil is deflected to the right and left, respectively, tending to place itself at right angles to the lines of magnetic force between the fixed bar magnets, and which lines of force are concentrated by the small bar above mentioned of the best soft iron, within the coil. The siphon has, therefore, a corresponding motion to the coil.

As the mechanical force of the suspended coil is very small in deflecting, it is necessary that the siphon be not in continuous contact with the fillet of paper; otherwise its motion would cease. The difficulty of obtaining a record is overcome in an ingenious manner. The siphon is made to vibrate by means of a local battery, on the principle of the push-button electric bell. By the breaking of the circuit, the vibration is communicated to the siphon by the interposition of another electro-magnet in the local circuit, and placed underneath the fillet of paper; the small thread of iron on the tip of the siphon acts as the armature to the latter electro-magnet.

The number of vibrations made in a second depends on the siphon, different siphons having different periods, or inherent notes, but 55 is about the number of vibrations a second. Every pulsation of the siphon deposits a drop of ink on the paper, and as the paper is moving at the rate of over half an inch a second, an apparently continuous line is drawn.

There is another method of causing the siphon to vibrate, and thereby deposit successively drops of ink on the paper, but this is now generally superseded by the one just described. This was done by electrifying the ink and paper with opposite polarity by an induced current from the motor.

From the description of the working of the siphon—of its lateral movements—it will be evident that the cablegram, as shewn on the fillet of paper, will look something like the contour line across the Rocky Mountains.

The undulations made by the siphon correspond to the clicking we hear in the ordinary telegraph instruments. A cable office is very quiet compared with the bewildering clatter in a large telegraph office.

It was found that on the Atlantic (and shorter cables), a greater speed of signals was possible than could be sent through by hand with the double key. This called forth the invention of the so-called automatic transmitter. For this purpose the messages are, in the first place, punched into a strip of oiled and prepared paper. The characters on the strip are represented by holes at varying distances on each side of a central line. This strip of continuous paper is then fed into the transmitter, in which metallic points slide along the under side of the strip; wherever a hole is encountered electric contact is made, and a signal sent. The speed of running the strip through the transmitter can be regulated as desired. The "auto" can easily keep two men busy punching.

The question is often asked, "how long does it take a message to cross the Atlantic?" What is generally meant is, what time does it take a signal to cross. Accurate time determinations, for astronomical purposes, which were made some years ago between Waterville, Ireland, and Canso, Nova Scotia, gave an average speed, from many measurements, of 28 hundredths of a second, or a little over a quarter of a second; that is, when the key was touched in Canso, within less than a third of a

second the signal would be seen at Waterville, 2,500 nautical miles distant. This is at the rate of about 10,000 miles a second. Electricity in space travels at the rate of light, i.e., 186,000 miles a second; on conductors, however, to which are attached recording instruments, an appreciable time is required to obtain sufficient strength to move the recording instrument, whereby the velocity is apparently reduced.

The time taken for a cablegram between distant points is consumed in transfer from one line to another, and especially in the delay waiting for its turn in being despatched. As far as transfers above are concerned, there is no difficulty in cabling around the world in thirty minutes; the actual time of an individual signal on the cables would sum up to probably two or three seconds. When Shakespeare lets Puck say:—

“ I'll put a girdle round about the earth in forty minutes,”

he little dreamed that it would be more than realized.

Within recent years an improvement has been effected for transmitting signals or messages automatically from one cable to another. Formerly it was necessary, after receiving the signals from one cable, to transmit them by hand to the connecting cable at the station. Now, however, this can be done automatically by means of Taylor, Brown & Dearlove's "Translator." The siphon in it, instead of carrying ink, contains a metallic thread, which rests, instead of on the fillet of paper, on a rapidly revolving, perfectly smooth small wheel, in which the surface of the circumference is divided into three parts, the central one, known as "No Man's Land," being a non-conductor, such as glass, while the outer ones are of silver. As the siphon sways to one side or the other, it makes metallic contact, which is communicated by means of "brushes," which press against each side of the wheel, to the outgoing cable. This "translator" simplifies the work, and reduces the office staff, which would otherwise be necessary.

The cable is at times subjected to disturbances—earth currents—(or “ecs,” as spoken of in the cable offices) quite beyond control. The phenomenon is an electrical disturbance. It manifests itself on the cable by causing the siphon to vibrate at times violently, sometimes for a few minutes only, sometimes for hours, thereby interfering with or totally interrupting the commercial work.

Long cables seem to be more affected than short ones, and furthermore, the earth currents appear to travel mostly from east to west. When the aurora borealis is visible it is pretty certain that earth currents will show themselves. Thunder storms and earth currents, however, do not seem to be so closely related, if at all. The year 1892 was particularly noted for disturbances of this kind. There appears to be a periodicity in the earth currents corresponding to the eleven-year solar cycle.

A word about repairing the cable. For this purpose a special cable ship is put into service. It is provided with cable tanks, and the necessary gear similar to that described for the “Colonia,” but on a smaller scale, as it is not necessary to carry so many miles of cable at one time. Such a repair cable ship is stationed at some convenient port, for the Pacific Cable at Suva, Fiji, and must always be ready, with its full complement of men, within a few hours’ notice, to leave for the spot where a reported leak or break in the cable is said to exist. This information is, of course, communicated from one of the cable stations.

The capacity and resistance of a cable are used to determine the locality of a break or leak in the continuity of the conductor. The capacity and resistance per unit of length being accurately known, it is obvious that, if the conductor breaks without disturbance of the insulator, the distance of the break from the end can be ascertained by determining the capacity of the cable from one

end. This capacity will be proportional to the capacity of a mile or any fixed unit as the distance to the break is to the length used as a standard. From this it will be seen that when a break or leak occurs, the distance to it from the cable stations can be accurately determined in miles.

The information which the cable electrician gives as to the locality may be compared to saying, as regards an interruption on land telegraph lines, that the interruption is between stations so-and-so; and consequently, the line repairer will have no difficulty in tracing or finding it.

The position of the cable at the bottom of the ocean is known in latitude and longitude, so that when the captain of the repair cable ship receives the distance to the place of trouble, he can proceed thereto with a considerable degree of accuracy, dependent, more or less, of course, on wind and weather. If it is fine weather, so that he can take astronomic observations for position, and not be too much dependent upon his log, the closer he will be able to locate the place before beginning his grappling operations.

It may be noted that it is always possible at sea to ascertain one's position in latitude, that is, north or south, with a far greater degree of accuracy than the position in longitude; that is, east or west. The former may readily be determined within less than a mile, while the latter can not, mostly due to the uncertainty of rate of the chronometer.

A further confirmation of the position of the ship is obtained by taking a sounding and bringing up a specimen of the bottom, for these data are charted along the cable route.

Having arrived in the vicinity of the spot, a grapnel is lowered somewhat to the north or south of the supposed position of the cable, and the bottom of the ocean dragged towards and at right angles to the cable line. The grapnel has a shank about 5 feet long, and is provided with five hooks, about 18 inches in length. The success in grappling the cable in the first effort is de-

pendent upon the accuracy with which the ship has been able to locate itself in the proper place, and also upon the nature of the bottom over which the grapnel is passing. It sometimes requires quite a number of trials before the cable is hooked.

The rope of the grapnel passes around the drum and under the dynamometer, the same as the cable in laying, and the strain on the dynamometer shows what is going on with the grappling hook. When the pointer on the dynamometer scale makes a sudden jerk, it may be taken for granted that rock has been encountered, which may possibly cost the loss of the grapnel, if it cannot be loosened. However, when a steady increasing strain is indicated, joy is manifested on board—the cable has been hooked.

When the depth of water is 2,000 fathoms or less, there is not a great deal of difficulty, if the cable has not deteriorated through chaffing, or otherwise, in bringing it to the surface. When the cable is brought over the bow, it is secured by ropes, and then cut between the bights. The electrician then tests with his batteries, which, on ship-board, are always of the Leclanché type, Thomson galvanometer, siphon recorder, and other necessary electrical apparatus, on which side or end of the cable the break is. The working or good end of the cable, by which communication has been had between the ship and the shore, is then temporarily buoyed, and from the other end a sufficient portion is cut off to remove the defective part. The piece cut off is generally some miles in length, although the defective part may be confined to a small section; but it does not pay to hunt for the exact position of the fault. Having removed the leak, a fresh piece of cable is carefully spliced to the two ends of the main line. After the copper conductors are securely joined, great care must be exercised in covering the joint with gutta percha, to the utter exclusion of air. In the first place, the gutta percha on the cable, for some distance back of the joint, is exposed, then warmed to make it plastic, when it is worked by the fingers over the

conductor. This having been satisfactorily done, a sheet of gutta percha is cut into strips, warmed, and then wound over the thin coating of gutta percha just described, until the required thickness is obtained, when the jute covering and sheathing are put on. During this process the cable is continually tested, and when everything is satisfactory, it is again lowered to its bed.

For doing cable repair work, the weather should be fine, and the ocean fairly calm, so that there is little heaving of the vessel; otherwise a considerable additional strain is put on the cable while it is being lifted, or while hanging over the bow.

At 2,000 fathoms it will require about 10 hours, after hooking the cable, to bring it to the surface.

When the cable lies at depths of 3,000 fathoms, it becomes impracticable or impossible to lift it to the surface, as the strain would be greater than it could bear. In this case the cable, after being hooked and lifted some distance, is severed by means of a special cutting grapple, and one end brought to the surface, where it is buoyed. Subsequently, the other end is recovered, and if satisfactory tests to both stations have been obtained, the necessary length of cable to join up is laid, and communication restored.

In order to complete this chapter, a summary of the contracts entered into between the several British Governments and the Telegraph and Maintenance Company, Limited, is here given. The parties to the contract were Sir Michael Hicks-Beach, Baronet, and William H. Fisher, two of the Lord Commissioners of Her Majesty's Treasury, on behalf of the Imperial Government; Lord Strathcona and Mount Royal for Canada; Henry Copeland for New South Wales; Sir Andrew Clarke for Victoria; William P. Reeves for New Zealand, and Sir Horace Tozer for Queensland, and the Company already mentioned.

The contractors were to make and lay down five submarine cables of specified lengths and types:—

- 1.—Between Vancouver Island and Fanning Island.
- 2.— “ Fanning Island to Fiji.
- 3.— “ Fiji and Norfolk Island.
- 4.— “ Norfolk Island and Queensland.
- 5.— “ Norfolk Island and New Zealand.

The sum to be paid to the contractors for making and laying these cables was £1,795,000, apportioned as follows:—

For first cable (1).....	£1,067,602
“ second cable (2).....	338,358
“ the other cables (3, 4 and 5)....	339,040

The contracting company engaged to make all the soundings and surveying operations in the Pacific Ocean. to provide steamships fitted with testing rooms, and machinery for grappling, picking up and repairing the cable, and all other instruments necessary to enable them to lay the cable from Vancouver Island to Fanning Island on one expedition. Provision was made for complete and thorough inspection of the cable while being manufactured, and at every subsequent stage.

Arrangements were made respecting the payment of the contract price, respecting surplus cable, terminal stations, &c. The contract itself is to be found in Sessional Paper No. 59 and 59a, 1901, Parliament of Canada.

The following tables show the different types of cable required for the various sections:—

*Section A.—Vancouver (Port San Juan) Fanning
Island Cable.*

Specification for the manufacture of the lengths and types of cable to be furnished by the contractors under the contract.

DESCRIPTION	TYPE	SHEATHING	LENGTH IN NAUTICAL MILES TO BE MANUFACTURED	
			Core { 600 lbs. Copper. 340 lbs. Gutta Percha.	
Heavy shore end	AA	Type B 12 No. 6 reclosed with 14 No. 1 ('300 galvanized compounded and yarn served.....	Core Brass sheathed	Core not Brass sheathed
Heavy intermediate.....	E	10 No. 2 ('280) galvanized compounded and yarn served.....	1'25	
Light intermediate... ..	B	12 No. 6 ('200) galvanized compounded and yarn served.....	3'25	
Main Cable	D	18 No. 14 ('083) galvanized each wire taped and compounded.....	60 00	
			.....	3,589'00
			64'50	3,589'00

Total contract length of cable, 3,653'50 nautical miles.

Section B.—Fanning Island—Fiji (Suva) Cable.

Specification for the manufacture of the lengths and types of cable to be furnished by the contractors under the contract.

DESCRIPTION	TYPE	SHEATHING	LENGTH IN NAUTICAL MILES TO BE MANUFACTURED	
			Core Brass Sheathed	Core not Brass Sheathed
			Core { 220 lbs. Copper, 180 lbs. Gutta Percha.	
Heavy shore end	AA	Type B 10 No. 6 reclosed with 14 No. 1 ('300) galvanized compounded and yarn served.....	1'75	
Heavy Intermediate.....	E	10 No. 2 ('280) galvanized compounded and yarn served.....	1'25	
Light Intermediate.....	B	10 No. 6 (2'00) galvanized compounded and yarn served.....	5'00	
Heavy deep sea	D ₁	17 No. 13 ('095 galvanized compounded and yarn served.....	....	649'00
Light deep sea.....	D	16 No. 14 ('083) galvanized each wire taped and compounded.....	....	1,524'00
			8'00	2,173'00

Total contract length of cable, 2,181'00 nautical miles.

Section C.—Fiji (Suva)—Norfolk Island (Sydney Bay.)

Specification for the manufacture of the lengths and types of cable to be furnished by the contractors under the contract.

DES- CRIP- TION	TYPE	SHEATHING	LENGTH IN NAUTICAL MILES TO BE MANUFACTURED	
			Core { 130 lbs. Copper. 130 lbs. Gutta Percha.	
			Core Brass Sheathed	Core not Brass Sheathed
Rock cable	G	Type E 10 No. 2 reclosed with 6 No. 00 ('380) galvanized and compounded...	0'75	
Heavy shore end	AA	Type B ₁ 12 No. 8 reclosed with 14 No. 1 ('300) galvanized compounded and yarn served.....	1'50	
Heavy intermediate.....	E	10 No. 2 ('280) galvanized compounded and yarn served.....	4'50	
Light Intermediate	B ₁	12 No. 8 ('165) galvanized compounded and yarn served	43'25	
Deep sea..	D	16 No. 13 ('095) galvanized compounded and yarn served .....	....	969'0
			50'00	969'00

Contract length of cable 1,019 nautical miles-

Section D.—Norfolk Island (Sydney Bay)—Queensland (Moreton Bay).

Specification for the manufacture of the lengths and types of cable to be furnished by the contractors under the contract.

DESCRIPTION	TYPE	SHEATHING	LENGTH IN NAUTICAL MILES TO BE MANUFACTURED	
			Core { 130 lbs. Copper. 130 lbs. Gutta Percha.	
			Core Brass Sheathed	Core not Brass Sheathed
Rock cable	G	Type E 10 No. 2 reclosed with 6 No. 00 ('380) galvanized and compounded.....	0'75	
Heavy shore end	AA	Type B, 12 No. 8 reclosed with 14 No. 1 ('300) galvanized compounded and yarn served.....	5'75	
Heavy intermediate.....	E	10 No. 2 ('280) galvanized compounded and yarn served.....	23'50	
Light intermediate.....	B,	12 No. 8 ('165) galvanized compounded and yarn served.....	24'00	
Deep sea...	D,	16 No. 13 ('095) galvanized compounded and yarn served.....	.....	852'00
			54'00	852'00

Contract length of cable 906'00 nautical miles.

Section E.—Norfolk Island (Sydney Bay)—New Zealand.

Specification for the manufacture of the lengths and types of cable to be furnished by the contractors under the contract.

DESCRIPTION	TYPE	SHEATHING	LENGTH IN NAUTICAL MILES TO BE MANUFACTURED	
			Core { 130 lbs. Copper. 130 lbs. Guita Percha.	
			Core Brass Sheathed	Core not Brass Sheathed
Rock cable	G	Type E 10 No. 2 reclosed with 6 No. 00 ('380) galvanized and compounded...	0'75	
Heavy shore end	AA	Type B, 12 No. 8 reclosed with 14 No. 1 ('300) galvanized compounded and yarn served.	5'5	
Heavy intermediate.	E	10 No. 2 ('280) galvanized compounded and yarn served	11'5	
Light intermediate	B ₁	12 No. 8 ('165) galvanized compounded and yarn served	55'25	
Deep sea..	D ₁	16 No. 13 ('095) galvanized compounded and yarn served .....	....	440'00
			73'00	440'00

Contract length of cable 513 nautical miles.

In answer to a question put by Sir Edward Sassoon, M.P., Mr. Austen Chamberlain (for the Secretary of State for the Colonies) said:—

“ I am glad to be able to say that the Cable has been laid in perfect condition, and that the tests for insulation and conductivity are satisfactory. The consulting engineers of the Pacific Cable Board have conducted a series of speed trials over the Vancouver to Fanning section of the Cable. These tests show that the Cable is capable of carrying 85 letters a minute with hand working, 100 letters a minute with automatic curb working, and, approximately, 168 letters a minute (84 letters each way) with duplex and curbed automatic working. These tests exceed the anticipations of the expert witnesses who gave evidence before the Pacific Cable Committees.”—(4th December, 1902).

CHAPTER XV.

THE CORONATION CONFERENCE OF 1902.

The Conference was assembled at the period of the coronation of King Edward VII, in the summer of 1902.

It consisted of the Premiers of the self-governing colonies of the Empire, and was presided over by the Secretary of State for the Colonies, Rt. Hon. Joseph Chamberlain. These met for the purpose of exchanging views with the object of settling upon a definite policy to be pursued for the general advantage of the United Kingdom and the King's Dominions beyond the Seas.

A number of subjects were discussed, and in most of them a common understanding was reached. The purchase of ocean cables was considered, but the Conference apparently did not deal with the cable question in as drastic a way as President Roosevelt dealt in August last, with the application of the Commercial Pacific Cable for authority to lay a cable or cables from San Francisco to the Coast of China. The President gave the authority in terms which efficiently prevent the company exercising an unchecked monopoly.

The company had to file its written acceptance of the terms and conditions before being granted the privilege it sought. It had to declare (1) that it had not received any exclusive concession or privilege, was not associated with any concern or company having such concession as would exclude any other company formed in the United States from obtaining the privilege of landing cables on the coasts of China, or connecting them with other cable lines or inland lands of China; and that it had not combined itself with other cables or telegraphic companies with a view to regulate rates between points in United States territory, or between them and points in China, Japan or other oriental places. (2) That its cables should touch only at places in American territory on the way from the United States to China. (3) That the rates for commercial messages should be reasonable,

reasonable being defined to be not exceeding 50 cents per word for the transmission of messages between San Francisco and Hawaii, to be reduced to 35 cents within two years; the charge between San Francisco and China to be not more than \$1.00 per word. (4) To give the cablegrams of the Government of the United States and all its officers priority over all other cablegrams, at such rates as the Postmaster General may annually fix. (5) To admit the right of the Government of the United States at all times to purchase the cable lines property and effects of the company, on an appraised value, to be ascertained by five selected persons. (6) To give to the Government full control of the cable when war is on or is threatened. (7) To make no contracts with foreign Governments for the transmission of messages unless they contained a proviso making them null and void when the United States is engaged in war. (8) To give the United States Government the right to sever all branches in the event of war. (9) To assent to the rule that all employees and operators in the company's employ shall be exclusively American citizens. * * * * *

(17) "That the consent hereby granted shall be subject to any future action by Congress, or by the President, affirming, revoking or modifying wholly or in part the said conditions and terms on which this consent is given."

It will be seen that the conditions laid down by the President point out the exceptional character of the cables in the eyes of the United States Government, and effectually retains control in the hands of the State.

There is no mention of cables or telegraphs in the list of subjects suggested for discussion at the Coronation Conference, as appears by the papers presented to the Imperial Parliament, by command of His Majesty. In October following the matter was discussed. At page 39 of the Parliamentary Return, there appears the following reference to the subject, under the sub-heading: "Purchase of Ocean Cables":—

"On the question of the purchase of ocean cables, the report of the recent Departmental Committee on the

subject of cable communications, and a Memorandum by Sir Sandford Fleming, advocating the establishment of a complete system of Government cable communication between the various parts of the Empire, had been laid before the Conference. The attention of the members was directed to the risk, pointed out by the Committee, of hampering and checking the construction of cables by private companies, if any general scheme of State construction or purchase were adopted, and the decision arrived at was expressed in the following resolution:

"That it is desirable that in future agreements as to cable communications, a clause should, wherever practicable, be inserted, reserving to the Government or Governments concerned the right of purchasing, on equitable terms, and after due notice, all or any of the cables to which the agreements relate."

On page 146 of the Return is the Memorandum referred to in the above extract, "On the Pacific Cable and the Telegraph Service of the Empire," submitted for the information of the members of the Coronation Conference.

As this document presents as briefly as possible the present situation (November, 1902), and gives warning of imminent danger to the public interests through the designs of the cable monopoly, it is given here at length.

"In the Canadian Parliament a few weeks ago, the Honourable William Mulock, Postmaster General, informed the members that a complication, prejudicial to Canadian interests, had arisen in connection with the Pacific Cable.

Although this complication is distinctly traceable to the pronounced hostility to the Pacific Cable of the Eastern Extension and associated telegraph companies, its immediate cause is due to the action of the Government of New South Wales, in granting to the companies concessions materially affecting the financial outlook of the Pacific Cable scheme.

On December 31st, 1900, the contract for establishing the Pacific Cable was formally executed on behalf of

the Home Government, the Governments of Canada, New South Wales, Victoria, Queensland and New Zealand. Sixteen days afterwards the Government of New South Wales, without the consent of the five other Governments in the partnership arrangement or any of them, granted the telegraph companies, under a formal agreement, the concessions referred to. This agreement cannot be rescinded unless by mutual consent, and as the Post and Telegraph Service has, since the date of the agreement, been transferred to the Commonwealth of Australia, New South Wales, even if she so desired, has not now the power to set aside her own act. The power has passed from her, and the Government of the Commonwealth, as the inheritor of the act, is bound by the agreement.

When in Australia last year, Mr. Mulock had frequent interviews with the Right Honourable Edward Barton, Premier of the Commonwealth, by whom he was made aware of the peculiar circumstances of the case. Mr. Barton and his Government were placed in an extremely difficult position, for if the Commonwealth inherits the particular act referred to of New South Wales, it likewise inherits the responsibilities assumed by each of the three Australian States, Victoria, Queensland and New South Wales, when they entered into the Pacific Cable arrangement. If, therefore, the agreement with the telegraph company cannot be changed, the moral obligations inseparable from the partnership agreement of an earlier date, resting on all the partners, are still more irrevocable.

Mr. Mulock informed the Canadian House of Commons that Mr. Barton recognized it to be the duty of the Commonwealth, while adhering to the agreement of New South Wales with the telegraph company, to live up to the spirit of the Pacific Cable agreement, and that he earnestly desired to see an honourable way out of the grave difficulty to which his Government had fallen heir.

As already stated, the difficulty is directly traceable to the Eastern Extension and associated telegraph com-

panies. These companies have combined to thwart the efforts of the Governments concerned in establishing the Pacific Cable. It cannot be said that those in the combination are inspired by lofty ideals or patriotic sentiments. They are governed entirely by considerations of private interest, and, in order to accomplish their ends, they are bent on controlling all the over-sea lines of telegraph to Australia and New Zealand. There are good grounds for the belief that they aim to control even the Pacific Cable itself. As will hereafter be pointed out, they have entered on a crusade which may so seriously affect the financial success of that undertaking as to develop a feeling against the policy of working it by the State, in order that its control may fall into their own hands. As the danger apprehended is imminent, the public interests will best be served by recalling and considering the facts. Possibly a knowledge of them may open up an honourable way out of the difficulty, acceptable to the Commonwealth of Australia, and to which each of the other partners in the Pacific Cable contract may yield a ready assent.

At the Colonial Conference held in London in 1887, the delegates discussed at some length various matters bearing on the telegraphs of the Empire. Again, in 1894, at the Ottawa Conference, the discussions were renewed. At innumerable meetings of Chambers of Commerce, Empire Leagues, and other associations, the subject has again and again been considered. In the interval which has elapsed, the project of a British Empire telegraph service has been steadily developing. Its outline was submitted in a communication to the Secretary of State for the Colonies, dated October 28th, 1898, and the main features of the scheme therein set forth may be described as one unbroken chain of State-owned telegraphs around the globe, touching or traversing all the great British possessions so as to bring each of them into direct electric touch with the Mother Country and with each other. In this manner Canada, New Zealand and Australia, India, South Africa, and the United Kingdom

would be brought within the same electric circle. An essential feature of the scheme laid down is, that no part of the system should touch foreign soil, and that the cables should each and all avoid shallow seas, in proximity to any country likely at any time to prove unfriendly. The route of the telegraph was more precisely described as extending from London to Canada, through Canada to Vancouver, from Vancouver to New Zealand and Australia, thence to Perth in Western Australia, from Perth to South Africa, with a branch from Cocos Island to India; from Capetown it was designed to extend to Bermuda, touching at St. Helena, Ascension, and Barbadoes; at Bermuda a choice of routes to England would be opened for selections. It might cross the Atlantic direct or, as an alternative, extend northerly to a suitable point of junction with the State line between Canada and England.

Such a telegraph girdle of the globe would constitute a means of connecting all His Majesty's great possessions, and nearly all the coaling stations, with each other and with the Imperial centre in London. The sub-ocean connections would be deep-sea cables in the least vulnerable position, and it may be added that the system would possess an advantage peculiar to a globe-encircling line of telegraph: each point touched would be telegraphically connected with every other point by two distinct routes, extending in opposite directions. This feature possesses special value, and in practice would prove the best security against interruptions from whatever cause.

Since 1898, when the scheme was promulgated, progress has been made in its development: (1) a State-owned cable from Canada to New Zealand and Australia is on the eve of completion, and (2) a cable has been laid across the Indian Ocean from Australia to South Africa. The latter is, however, a private undertaking, from which have sprung the complications which perplex the Government of the Commonwealth of Australia. On this point a brief explanation is called for.

It is well known that the telegraph companies have, from the first, placed themselves in opposition to the Imperial telegraph scheme, and have employed every conceivable means to stifle the proposal to establish a Pacific Cable.

One main reason for their hostility to the Pacific Cable lies in the fact that it forms the most important section of the larger proposal, and that the Canadian route is absolutely the only route by which the globe may be girdled by a chain of all-British cables, the proposal to which they are so strongly opposed. When it became known that the six Governments concerned had resolved to establish the Pacific Cable, the telegraph companies combined, and determined to adopt drastic measures in order to defeat the new State policy. They saw plainly that a State-owned cable across the Pacific would speedily lead to similar cables across the Indian and Atlantic Oceans. Accordingly they arranged to preoccupy the ground by laying a private cable on the precise route which had previously been projected in the Indian, and partly in the Atlantic, Ocean for the State-owned line. Moreover, they made tempting overtures to the Governments of the Australian colonies, offering to reduce the burdensome telegraph charges hitherto exacted, provided these Governments granted them certain concessions; which concessions it was believed would enable the combined companies to ruin the commercial value of the Pacific Cable. There is likewise evidence to show that the cable combine took means to invoke the power of the press to influence public opinion in their favour. Unfortunately, the then Government of New South Wales listened to the overtures, and granted what the companies asked for.

These, in a few words, are the circumstances which have led to the difficulty referred to by Mr. Mulock. There is a collision of interests, private on the one hand, public and Imperial on the other. The cable companies, looking to private rather than public interests, adopted a bold and aggressive policy. If they succeed in their

designs they will hold firmly within their grasp the most important telegraph lines of the Empire. A condition of things pregnant with danger; for it must not be forgotten that the property, the privileges and the powers of companies are transferable by purchase. We are not unfamiliar with such transfers, and we may ask ourselves the question: "What would prevent a syndicate of German, French or United States stock operators buying up the controlling power of the Eastern group of cables? What would prevent the controlling power of the whole telegraph system of the southern hemisphere passing into foreign hands? What would prevent the cables of the Empire being alienated at the most critical moment?"

The mere possibility of such a thing can scarcely be regarded with equanimity. The question raised is of vital importance to British people everywhere. Obviously the obligation to safeguard the public interest in the matter of telegraph communications is thrown on the Government of the British family of nations, and at this juncture on no single Government more than on that of the great Commonwealth of Australia.

In November, 1900, an Inter-Departmental Committee was appointed by the Home Government to inquire into the subject of telegraphic connections, Lord Balfour, of Burleigh, being chairman. The Committee reported a few weeks ago, and the points specially referred to in the report which have a bearing on the matter now being considered are as follows:—

(1) The Committee are strongly opposed to the general purchase of cables by the State.

(2) The Committee are of opinion that every important colony or naval base should be connected with the United Kingdom by one cable touching on British territory, or on the territory of some friendly neutral.

(3) A variety of alternative routes should be provided wherever it is essential, to secure telegraphic communication in time of war.

(4) The normal policy should be to encourage free trade in cables. Exceptions should only be made to this rule on the ground of national, not of private, interests.

These are the principal conclusions reached by the Committee, and it will be observed that not one of them conflicts with the proposal formulated in October, 1898. With respect to the first point in the above list, the general purchase of cables by the State formed no part of the proposal then submitted. The proposal was not to purchase old cables, but to supplement them by establishing a sufficient number of new lines, touching only British territory, to connect every important colony with the Mother Country. This part of the proposal is in complete harmony with the recommendation of the Committee, with this difference; their recommendation is indefinite with respect to the number of cables, and may be understood to mean many cables, that is to say, a separate and distinct cable from each colony to the United Kingdom. The proposal of 1898 is precise and clear. Its main feature is to have the greater colonial possessions connected with each other and the Mother Country by one continuous chain of cables, constituting an all-British telegraph around the globe. Importance is attached to this proposal in the interest of economy, as it would secure every advantage with the least outlay. Moreover, the continuity of the cables, so as to form an electric ring around the earth, would in practice be the best security against interruption in the transmission of messages; as when a break would occur at any point there would remain an alternative route in the opposite direction.

It is not necessary to dwell on the enormous importance of having the globe girdled by an all-British State-owned telegraph, as its advantages are self-evident. When the proposal was made known in December, 1898, the British and Colonial press, with extraordinary unanimity, expressed generally the opinion that the advantages to result are incontrovertible; that nothing would tend more to quicken a sense of unity and solidarity

throughout the Empire; that at all times it would place it in the power of the Governments to regulate and moderate the rates for the transmission of messages between all the countries served; that the immediate effect would be to facilitate intercourse and foster trade, not only between the Mother Country and the colonies, but between the colonies themselves.

One essential point to be insisted on is, that the Imperial telegraph girdle must be absolutely State controlled, in order that the main lines of communication of the Empire be placed beyond the possibility of interference by trusts and combines, that is to say, that they shall remain inviolably British.

The expenditure involved would be considerable, but it is far outweighed by the incalculable benefit to result. The original estimate of expenditure required to establish such a telegraph girdle around the globe was £5,000,000 to £6,000,000, but this included the Pacific Cable, which will cost close on £2,000,000. The Pacific Cable will shortly be completed. To provide and lay the remaining cables not far short of £4,000,000 will be required.

The foregoing paragraphs relate, in brief detail, the causes which have led to the complications which have arisen in Australia, and point out the inevitable outcome of the designs of the cable companies if they are allowed to go unchecked. The gravity of the peril has been indicated, and it is of such a character as to demand decisive action on the part of the Governments concerned.

Although the complications referred to by Mr. Mulock in the Canadian House of Commons had their origin in Australia, the question raised is not limited to that country. The antagonists of an Imperial system of cables conspired to defeat it; they played what, from their own standpoint, might be regarded as a master-stroke. This action has, however, brought forward an Imperial question of vital importance, in which we are all concerned, and the issues at stake are such that it is

in the last degree inexpedient to place it in the power of any man, or syndicate of men, to gain control of the nervous system of this great Oceanic Empire.

We have a common interest in a common object. We have a common interest in seeing that a gigantic cable combination shall not be fastened on the British people, to handicap commerce and retard general progress, and still more are we all interested in seeing that it shall not remain as a menace to the security of the Empire.

The problem presented is of the first importance, and the solution of it rests with the statesmen from the self-governing parts of the Empire, to be assembled at the Coronation Conference. It can undoubtedly be solved by following the same policy as that adopted in the establishment of the Pacific Cable, that is to say, by a partnership arrangement in which all will unite for the common good.

Our common object is the freest intercourse, and this object can best be attained by linking together all the great outposts of the Empire, precisely as Canada, New Zealand and Australia are now being brought into close relationship by means of the Pacific Cable. The Imperial telegraph system will embrace, in its circuit round the globe, three great oceans. Of these the Pacific will have its opposite shore telegraphically united in a few months. Then will remain the Indian and Atlantic oceans to be traversed by nationalized cables. This, the crowning achievement, will cost, in round figures, £4,000,000, an insignificant expenditure of capital, in view of the immensely important results to be attained. It would do more for the Empire as a whole than twenty times the amount, spent in any other way whatever. It would set at rest the difficulty which has been caused in Australia. It would place the telegraph service of the Empire on a secure and satisfactory basis, and render alienation of the leading cables impossible. It would be a fresh tie between all the great colonies and the Motherland of great practical utility; it would minimize

transmission charges and prodigiously increase the volume of telegraphic intercourse; it would benefit trade, vitalize the spirit of patriotism, and strengthen the sentiments which constitute the most enduring foundation on which the Empire of the future can be built up. The circumstances are such, and the benefits so many and so great, that whatever the cost, the pan-Britannic telegraph service should, as speedily as possible, be carried to completion.

The establishment of such a service would affect the existing companies. The national telegraph encircling the globe would become the main or trunk line of communication between the great self-governing portions of the Empire. The existing private cables would, to a large extent, assume the position of branches to the trunk line, and as such would find employment in general, and especially in international traffic. The charges for transmission by the trunk line would be lowered to a minimum, so as merely to cover cost of operating, interest and maintenance, and as a consequence the business would be immensely increased. The companies would gain by the increase, and likewise by the reduced charges on the main line, as they would thus be supplied with much profitable business for general dissemination.

The private cables were for the most part established with commendable enterprise many years ago. They received generous Government assistance. They have done useful pioneer work, and this work has already yielded to the enterprising investors rich returns. The time has come, however, when circumstances demand a change. It has become a matter of public expediency that the State should control an unbroken line of telegraph established for the safety and well-being of the Empire. It is possible, therefore, that the companies may have to rest content with more moderate gains than hitherto, at least until there be a new development of business under the changed conditions. That a development of telegraph business beyond all ordinary concep-

tion will result from the establishment of the Imperial service there can be no doubt whatever.

In the event of a determination being reached to complete the Imperial telegraph service, before proceeding to lay a State cable across the Indian Ocean, the companies should be given the option to transfer, at a fair price, the private cable recently laid by them between Australia and South Africa, and arrangements should likewise be made to connect the Cape with the United Kingdom by a State-owned cable. These, with the Pacific Cable, will complete the globe-encircling telegraph line, designed to link together the trans-marine homelands of the British people on the five continents. It will prove an Imperial service in every sense. It will greatly promote the commercial and industrial well-being of all the parts. It will strengthen their relationship, and enable the whole fabric the better to withstand any stress or strain which the future may bring.

There is a rapidly growing desire on the part of the British people, everywhere, to strengthen the ties and multiply the links which unite the mother nation with the daughter states. This feeling of attachment prevails in Australia and New Zealand. It is especially marked in Canada, and the writer feels himself warranted in expressing the foregoing views on behalf of Imperial-minded Canadians. Their name is legion, and they are prompted only by one spirit. Their ardent desire is to join cordially and actively in building up the Empire on an enduring basis, that it may long continue to confer benefits on the human race."

SANDFORD FLEMING.

Ottawa, June 14th, 1902."

CHAPTER XVI.

"WAKE UP."

The King's subjects domiciled beyond the seas have long since discovered that while the average Englishman is the fortunate possessor of many sterling qualities, his mind is slow and impervious to new ideas to an almost amusing degree.

An observant Royal Prince seems to have made the same discovery. On his long tour of the globe last year he came into direct contact with the British people outside of England, and speedily entered into the sympathies of those who are building up great commonwealths, which, in a few years, will astonish the stay-at-home subjects of the King of England. The United Kingdom is centred in London, but the number of people in the great city whose thoughts are turned beyond their immediate geographical horizon is not large. The ordinary resident in the metropolis is absorbed every hour of the day in the affairs of his own world, in its business, or in the occupations and pleasures of social life. He is practically asleep to the concerns of the great outer Empire, unless occasionally he may be startled momentarily by his morning newspaper's announcement of the result of a boat race or of a cricket match in distant parts of the globe. He is in a paradise of his own, and much in the dark concerning the life, the work and the aspirations of the Briton beyond the seas, in matters which concern the interests of the Empire and the progress of humanity.

If this self-absorption, this engrossment of mind in things immediately concerning himself and his special environment, has come to be considered the ear mark of the average man on the street in the view of the average man in the "British Dominions beyond the Seas," is it not much more likely to be accentuated in the sphere of officialdom?

It is a very old complaint, that the people of the British Isles, officials and all, are ignorant about the over-sea possessions of the Sovereign. "Oh! Squire," said the Clockmaker (1838), "if John Bull only knew the value of these colonies he would be a great man, I tell you—but he don't."

Unfortunately, this general characteristic is much in evidence among those who are permanently placed in the great departments of State at Westminster.

Lord Carnarvon, who carried through Parliament the great measure of Confederation, and who had much to do with the most representative delegation that ever visited the Motherland from Canada—that of 1866-7—when he visited Montreal a few years later, expressed his surprise on finding that city so largely built of brick and stone. Mr. Gladstone, not so many years ago, referred to Canada as "those huge ice-bound deserts of North America." The officials, high and otherwise, seem to partake of the same lethargy as that which blunts the perception of the ordinary Londoner and prevents him lifting his eyes beyond the streets and towers of the great metropolis.

It does not appear to be easy for the officials to find room in their minds for anything out of the ordinary routine to which they are accustomed. They object most decidedly to be troubled by reforms, or any new-fangled notions that may be pressed on their attention by mere colonists. The burden of Empire is too much for them. They appear, like John Bunyan's Pilgrim, more desirous of getting rid of the burden, as if it were a bundle of sins, than anxious to carry it.

The positions of these worthy persons are comfortable enough, and they desire no change, unless it be promotion, which they know will come in time. Meanwhile, they must not be disturbed. Their training tends to fasten in their minds, as the central principle of their official existence, the advisability of maintaining everything *in statu quo*.

They have precedent to the right of them, precedent to the left of them, precedent in front and rear. They are hemmed in by precedents.

The travelled Englishman, like the King's over-sea subjects, gains a widened sympathy, a higher sense of duty, a broader patriotism. The King's son proceeded last year on a great Imperial mission, to touch the button as it were, and start the legislative machinery of the new Commonwealth of Australia into activity. He returned home by way of New Zealand, South Africa and Canada. As a result of his mission and observations, he had something to say to the good people of London, and he embraced the first opportunity of speaking very plainly. Fresh from the large-viewing Empire-including thought he found so prominent in all the portions of his father's realms he had visited, he condensed into two words the conclusion he had reached. Those words were "Wake Up." This trumpet call of His Royal Highness is many edged. It was sounded surely for the good of the whole British people. It could scarcely fail to arrest the attention of Downing Street in its innermost and topmost chambers. It was a call to the officials, as well as to the merchants and manufacturers and the great body of the people.

Once awakened to a sense of duty by so high an authority, officialdom, we are willing to believe, can be counted on to assume a more sympathetic, wide-awake attitude towards the interests of the King's outside subjects.

In some of the preceding chapters it has been indicated to what extent the permanent official staff have hitherto taken another attitude, and lent themselves, perhaps unknowingly, to the designs of the cable monopoly.

Does not Thackeray—or is it some other English writer?—speak of the potency of the knife and fork and the soporific effects of a good dinner? It is easy to imagine that some delightful social function, where the legs of an under-secretary find their way under the

WAKE UP.

mahogany of the chairman of a great cable company, would have the effect of blocking the Pacific Cable for years.

It is impossible, therefore, to tell what good may result from the far-penetrating call of the Prince of Wales. "The sleeping pride of former days" may be awakened, and "wide-a-wake" instead of "fast asleep" become the normal and natural condition of the public departments.

We have evidence to satisfy us that once the settled inertia of officialdom is fairly overcome, the public servants are not slow to move.

In this regard, a single illustration directly bearing upon the subject of the Pacific Cable may be recalled.

Documents relating to the Pacific Cable were submitted to the Canadian Parliament in 1899. Among them is a telegram from the Secretary of State for the Colonies to the Governor General, dated April 26th, 1899. The opening sentence of this remark reads: "Her Majesty's Government are anxious to show sympathy with Canadian and Australasian Government by assisting Pacific Cable scheme, but cannot take part in laying or working the line."

The sympathy to be shown and the assistance to be granted are to be given on six conditions, set forth in the telegram. The effect of these conditions are explained by one well able to do so in the next document in the blue-book.

The document is somewhat lengthy, but it contains so much that is essential to an understanding of the position which the Imperial Government took, and expresses so well the objections that sprang up in the minds of those who realized the effect that would be produced if the proposals in the telegram should be adopted, that no apology would be needed for giving it in full. The following will show the forcefulness of the protest made:—

Ottawa, 5th May, 1899.

To the British People,—

Within the last few days it has been stated that the Home Government has not responded to the proposals of Canada, Australia and New Zealand respecting the establishment of the Pacific Cable, in the way that the Governments and the people of these countries had reason to expect, in consequence of which a feeling of disappointment and surprise is on all sides expressed.

It had been arranged that the Pacific Cable should be established as a national work, the Governments of Canada, Australia and New Zealand being joint partners with the Imperial Government.

This arrangement has been slowly developed. It has been generally favoured by all the Governments for some time. The Home Government has frequently been asked to take the initiative in carrying it into effect, but the Colonial Secretary has always insisted that Canada and the Australasian colonies should take primary action by determining what proportion of the cost of the undertaking each would be willing to contribute.

It has been a matter of much difficulty to reach an agreement on this point, and the difficulty has been enhanced by the great intervening distances, and the character of the means of communication, in consequence of which much delay has arisen. At length, however, conclusions have been arrived at. On the 20th August last the Australasian colonies finally agreed to contribute eight-eighteenths of the cost, and last month Canada finally undertook to contribute five-eighteenths, making thirteen-eighteenths in all, thus leaving only five-eighteenths to be assumed by the Home Government.

It appears that the Home Government, although it has not absolutely declined to enter into partnership and assume the remaining five-eighteenths share of the liability, has merely offered to bear five-eighteenths of any loss of revenue (not exceeding £20,000) which may re-

sult from operating the cable, provided priority be given to Imperial Government messages, and that they be transmitted at half ordinary rates.

As this proposal, at the eleventh hour, taken by itself, involves an entire change in the well known plan upon which Australia, New Zealand and Canada have been proceeding in their negotiations for more than two years, and, moreover, is in itself of no value in securing the establishment of so important a national work, it is impossible to believe that it is the full or final judgment of Her Majesty's Government, for the following reasons, viz. :—

1. It would always be regarded as a recession on the part of the Mother Country from a common understanding with Canada, Australia and New Zealand.
2. It would always be regarded as an attempt to retard the expansion and cripple the commerce of the Empire in the interest of a few rich monopolists.
3. It would always be regarded by the people of Canada, Australia and New Zealand as an unjustifiable and discourteous act to them.
4. Its effect would be far-reaching, and its immediate effect would be a fatal blow to the scheme for establishing a system of State-owned British cables encircling the globe.
5. It would be a very grave retrograde step in the Imperial movement, which aims to draw closer the bonds between the Mother Country and her daughter lands.

There were other agencies in operation to produce an effect instantaneous and great. The Agents-General in London and the High Commissioner for Canada represented to the Home authorities the views of their respective Governments. The press at home and abroad voiced almost unanimously the general disappointment which was caused, more especially in Canada, New Zealand and Australia, by the changed attitude of Her Majesty's Home Government. A few weeks later, the Canadian

Minister of Public Works (Hon. J. I. Tarte) proceeded to London to explain, in person, the views of the Canadian Government in the matter, but the day before he landed, the Home Government informed the High Commissioner and the Agents-General that a new and very different policy had been adopted. At the same time a pledge was given that the Imperial Government would do far more for the Pacific Cable project than Canada and Australasia asked or expected, or than was previously contemplated in any quarter. In this sudden change of policy, which was, in fact, the turning point, in this complete reversal of previous determination, have we not an excellent illustration of the fact that whatever may have been the attitude previously of officials or of those in authority, when once His Majesty's Government come to understand the true state of public opinion, and especially popular opinion expressed through the over-sea Governments, they do not hesitate to extend to it every consideration? In this particular case they did not fail to yield to it promptly, and in a generous and graceful spirit, which not only removed the doubt, surprise and disappointment, but substituted a pleased and satisfied condition of mind.

During the Victorian era, Great Britain has had an interest in emigration and colonization not second to that felt by any other nation, in ancient or modern times. Pre-eminently her mission has been to settle, with an industrious population, the waste places of the earth which have come under her flag, and to provide employment for surplus labour to relieve her poor, and to extend her markets. At the beginning of the twentieth century the reign of a new Sovereign has commenced, and a new era has begun, the era of consolidation. Consolidation is the Empire's watchword. True, the United Kingdom has not been emptied of its population by emigration, but the widely-extended countries, which have long been under process of colonization, have advanced

in development towards nationhood, and they are formed, or are forming, into great commonwealths. Certain it is that they will, in no long time, contain a larger number of inhabitants, descended from the best European stocks, than the Mother Country.

The families of the once poor emigrant have generally improved in fortune, and the native born, favouring alliance with natural allies, join heartily in the desire to remain British, to co-operate in promoting the progress of the Empire, and to participate in its highest duties.

In these words we have the problem which the new century presents to us. The old Empire consisted of Great Britain and Ireland. The era we now enter opens with a new and far greater Empire, still in process of evolution. Is there evidence to think that it will develop into *the United Commonwealths of Great Britain?*

If we have entered the era of consolidation, obviously the first work is to unite all the parts by the most perfect agency which science has placed at our command.

We have already made a good beginning in connecting Canada telegraphically with Australasia. The Pacific Ocean is now, for the first time, traversed by a submarine telegraph. For the first time has any ocean been crossed by a State-owned cable, and we are now at the end of a long-continued struggle, in which the public interests and the general progress of the British peoples have triumphed.

"Better is the end of a thing than the beginning thereof." We have only reached the end of the beginning.

After long delays and much difficulty, six British Governments formally joined in a partnership arrangement, on the last day of the century, to connect Canada in the northern with Australasia in the southern hemisphere— $54^{\circ} 40'$ north with 35° south, nearly 90° of a span—by a direct under-ocean telegraph.

That great State-owned undertaking is now completed, but there is a greater State-work to be accom-

plished, of which the Pacific Cable is but the initial step, expressed in the enthusiastic message cabled to Mr. Chamberlain by Sir William Mulock on the first day the Pacific Cable carried a message, and endorsed from the antipodes.

This initial step, however, marks a distinct advance in the establishment of a globe-encircling national telegraph service, designed to unite all the self-governing British communities.

In the consolidation of the Empire, the pan-Britanic telegraph system may now be regarded as one of the primary Imperial objects to be attained. There is evidence, however, to show that it will not be attained without a struggle with the old adversary—the Eastern Extension and allied cable companies. It will be a struggle for supremacy, and must end in one of two things (1) triumph of that gigantic, self-seeking monopoly, which aims to fasten itself permanently on all the avenues of trade and commerce, or (2) the beginning of a new era of cheap telegraphy the world over, giving to the British people the freest intercourse, and adding thereto a vast enlargement of human activity. If we believe with Conan Doyle, that the real glories of the British race lie in the future and not in the past, that "glory's thrill" is not over but only beginning, we will be aroused into action by the call of our future King:

"Wake up," John Bull! Do not forget that your "boys" are growing up to man's estate, and you must not any longer regard them as school children. Listen to their appeals; consult them on many points; sympathize with their aspirations, and, if you so wish, take them into partnership. Whatever you do, you must recognize their needs, and unloose the fetters of that gigantic cable monopoly of London financiers who design to take by the throat those who are expanding your trade and building up the Empire under the Southern Cross. Adopt the true policy of giving your children the freest means of holding frequent intercourse with you.

"Wake up," Canadians! Remove the reproach which rests upon you, that Canada is the only British possession on the face of the globe within which the land telegraphs are not State-owned, and placed under the control of the Post Office Department. Adopt the policy elsewhere adopted by British people, on grounds of public economy and public utility. By so doing, while you will reduce the cost of messages within the Dominion to less than half present charges, you will at the same time materially contribute towards the completion and the success of the pan-Britannic telegraph service. Whatever you do, see that you lose no time in having a State-controlled telegraph across the Atlantic, from Canadian territory to England.

"Wake up" New Zealand and Australia! Insist upon the cable connecting your country and South Africa being nationalized, and see that the pan-Britannic girdle is completed, in order that the high tax on your trade and intercourse, so long exacted by the Eastern Extension Company be brought to an end soon and forever.

"Wake up," British people in India and other parts of Asia. Take means to have telegraph connection established between the continent of Asia and Cocos Island, thence to a junction with the pan-Britannic girdle, and provide for yourselves the means of telegraphing by the east or by the west to England, at lowest charges for transmission.

"Wake up," South Africa! Adopt the same general policy as the rest of the Empire, and see that your cable connection with England is brought under State control.

"Wake up," John Bull & Sons. See that you are not taking it easy in a fool's paradise. Is it not a standing miracle that Canadians are loyal and devoted to the British Empire when the whole press telegraph service filters through a foreign press association, whose chief interests lie in purveying news-food suited to the palates of their own people, sometimes hostile, and

at all times indifferent, to the development of unity and close communion between Canada and the Motherland? Does it not concern the whole family of British Commonwealths that they should have unrestricted intercourse the one with the other? On the threshold of the new era, should you not begin, in a business-like way, to set your house in order, and get rid of every hindrance to progress, unity and security? Take away the menace of private ownership referred to in another chapter. Remove every vestige of unnecessary toll exacted by a close corporation on your main lines of communication. Beware of the danger of cable trusts, and make absolutely certain that the electric nervous system of your mighty Empire can never pass under the control of an insidious enemy. Lower charges on telegraphy to a minimum, in order to open wide the door to the free play of sympathy and sentiment, and the broad Imperial patriotism of all your kith and kin.

Let your news service be all-embracing, by which and through which will ebb and flow, with electric speed, the welcome words of patriotic sympathy to and from each of the free communities under one flag and Crown in both hemispheres. Let the pulsations of the great heart of the Empire responsively throb wherever the subjects of King Edward have homes around the habitable globe.

ADDENDUM



THE RIGHT HON. SIR WILFRID LAURIER

The happy completion of the Pacific Cable should be hailed with satisfaction throughout the Empire.

SPEECH FROM THE THRONE, NEW ZEALAND

A work of Imperial and Colonial importance—a link in the chain to bind the various portions of the Empire with the ties of a common cause and interest.

THE RIGHT HON. JOSEPH CHAMBERLAIN

I am convinced the mission of the British Empire is only just beginning. It is a mission of peace and civilization, of a union of hearts, spirit and interests.

ADDENDUM.

Interview with Sir Sandford Fleming on the completion of the trans-Pacific Cable—the key to an Empire-girdling, State-owned Telegraph Service.

The people of the two hemispheres were amazed on Friday, October 31st, 1902, when they learned that the great island continent, Australia, and the smaller sister State, New Zealand, were connected by cable with Canada. The new connection had been long desired, and it had been long delayed. The amazement of the public was, perhaps, mainly due to the fact that those who had persistently opposed the project had diligently inculcated the idea that it was impracticable, or next to impracticable. For that or other reasons, the consummation of the trans-Pacific Cable project seemed to come in the end with unexpected suddenness. The first communication was a greeting to the King from the Fiji Islands, and it appeared strange that these islands, so remote, so recently occupied by cannibals, should be the first to transmit, through the newly-completed Pacific Cable, a message of respectful homage to the Sovereign of the great British Empire. The fact is significant. Is it not another indication that the civilization of the human family is steadily advancing? In this relation we are reminded that, in the British Islands, in that part of the earth where the Fiji message was received by the King, the inhabitants, now highly civilized, were, a few centuries back, a race of painted savages.

The message from Fiji to the King awakened the world to a new fact. It became apparent that a certain number of the islands, great and small, in the South Pacific, were telegraphically united with the group of Canadian provinces, and through them with the Mother Country. It likewise became obvious that hereafter the British people, in those widely sundered parts of the globe, were to be on new and more intimate relations.

The message to the King was speedily followed by congratulatory messages to and from governors,

premiers, statesmen and prominent persons, north, south, east and west. New Zealand and Australia exchanged friendly greetings with Canada and the Mother Country, all highly appreciative of the newly-completed means of telegraphic communication.

The cablegrams received in Canada were all without delay made public for general information. The first to arrive was from the Right Honourable the Premier of New Zealand, addressed to Sir Sandford Fleming, with cordial congratulations on the completion of the great work—the Pacific Cable—so largely the result of his long and disinterested labours.

The genuine and generous outburst of good feeling which was exhibited by the press and the public everywhere shows, in a marked way, the satisfaction of the British people with the realized project, and the manner in which it had been brought to a successful conclusion. It is not surprising, therefore, that the man who, above all others, had made the project of the Pacific Cable his own was not forgotten. Sir Sandford Fleming was the recipient of many messages of congratulation from both sides of the Atlantic Ocean, as well as from both sides of the Pacific Ocean. Always alert, he immediately saw that an opportunity had come for the first time in the world's history. The first messages from the southern seas were made public on the eve of All Saints' Day. At once he thought that if the world is round, it will be possible to bear testimony to its rotundity by means of the electric current. He conceived the idea of sending two messages around the globe, in opposite directions, and in order that their arrival, after making the circuit, should be attested by the highest authority, he obtained permission to address both messages to His Excellency the Governor General of Canada. They were both despatched from Ottawa shortly after ten o'clock on the evening of October 31st; both arrived in Ottawa, from opposite directions, early next day, after accomplishing their purpose. The message sent eastward on its long mission, by way of England and South Africa to Austr-

lia, thence by the new trans-Pacific Cable to Vancouver, and along the transcontinental railway to Ottawa, arrived from the west in ten hours and twenty-five minutes from the time it was despatched. The other message, for some unknown reason, did not circle the globe quite so quickly. It was transmitted westward; it followed the reverse course of the first message, and arrived from the east in fourteen hours and twenty-five minutes from the hour of its despatch. On their arrival in Ottawa, both messages were immediately delivered at Government House, and His Excellency, Lord Minto, retains in his possession the first two telegraph messages to pass around the globe.

The editor of these chapters deemed it eminently proper, before finishing his task, to seek an interview with the man who has been so much associated with the great work which has rendered such results possible. When seen at his residence in Ottawa, Sir Sandford was busily engaged, but extended to the writer a cheery welcome.

One of the first inquiries made had reference to the globe-encircling messages. Sir Sandford did not conceal his satisfaction that both had accomplished their mission. He explained that after sending them off late on Friday, he asked the telegraph agent at the Ottawa office, if they ever returned, to apprise him of the fact. Retiring as usual, he was aroused on Saturday morning, to be informed by telephone that one of the two messages had returned. Thus, during the hours of sleep, his message, the first of its kind, had passed around the globe, by a route of some 30,000 miles, being at the average speed of 3,000 miles an hour. The second message arrived from the opposite quarter, and was delivered to the Governor General four hours later.

Sir Sandford showed me a letter from the telegraph superintendent on the Pacific Coast, enclosing the actual

cable slip or paper ribbon on which the first message was written by the Lord Kelvin siphon recorder, direct from the cable as the words were received from Australia.*

A third message around the globe seemed necessary to settle as completely as possible the question of speed. The first messages were sent off simply to determine the possibility of encircling the globe; they were despatched as pioneer messages, without any actual certainty that they would return to the place from whence they started. The fact, however, of their having come home satisfactorily demonstrated that the way was clear. Still, it was thought that the telegraph circuit should be effected in less than ten or fourteen hours. In order to accelerate the despatch, the co-operation of the cable authorities was invited. The third message around the globe was addressed by Sir Sandford Fleming to the Mayor of Ottawa; it was sent eastward from Ottawa, and returned from the west in six hours and three minutes. The time of its arrival at certain points was noted. Five hours and forty-five minutes elapsed between its arrival at London and its arrival at Brisbane, the time being occupied in its passage by the Eastern group of cables. Having reached Brisbane, it was transferred to the Pacific Cable. In fifteen minutes it was received at Ottawa, and it was found that the whole time of transmission between Brisbane and London, by way of the Pacific Cable and Canada, was only eighteen minutes. Thus, by this test it was definitely established that a telegraphic message can be transmitted between England and Australia, half round the globe, by the Canada route, in the marvelously short space of time of eighteen minutes.

Sir Sandford mentioned that when the last day of December came around, he remembered that it was the anniversary of the day upon which the Pacific Cable contract was signed two years before, and that it would be a fitting time to send New Year's greetings to Australia and New Zealand. He was good enough to place at my

*With permission a *fac-simile* is appended.

service the messages exchanged, including replies received from eight Premiers, those of the Commonwealth, the six Australian States and New Zealand. The new year's greetings to Canada from all the Australasian Premiers will be found appended.

He had no very great inclination to say much about the past. He remarked that he was quite willing to leave history with the historian. His mind is so constituted that he prefers looking forward. "The Pacific Cable project," he said, "has had many vicissitudes, but it is now an accomplished fact, and I am at this stage less interested in its annals than in its aims. It is a national work, important in many ways. It is the first result of a co-partnership arrangement between the Australasian, the Canadian and the Home Governments, and in that respect alone is of great importance; but it is as the initial section of a far greater project that I regard it with intense interest. A careful study of the question will satisfy any man that the Pacific Cable is the only possible key to an Imperial postal cable service with ramifications throughout every over-sea British possession. In view of the larger project, the Pacific Cable should be regarded, not as a work completed, but as a great Imperial undertaking commenced. I make bold to think that circumstances already demand that every British Government should seriously consider the expediency of extending, at no distant day, a postal telegraph service to the whole Empire. I may add, that the postal telegraph service of the United Kingdom is so nearly perfect that, unless something better meanwhile be discovered, it may well be taken as the miniature model of the Imperial service of the future."

"Yes," Sir Sandford went on, "the British people everywhere may rejoice that State telegraphy has triumphed, and I am satisfied that it will continue to triumph. The first signal victory was in the last hours of the recently closed century, when six British Governments entered into a partnership which, in some respects,

is without parallel. It formed one of the closing acts of the Victorian era, an act far-reaching in beneficent effects, which future generations will regard as bequeathed to them from the reign of the good Queen. Twenty-two months after the contract was signed on December 31st, 1900, an electric cable was completed athwart the greatest of all the oceans. This first result brings London within eighteen minutes of its antipodes, by a telegraph which lands nowhere but on British soil.

Some time will elapse before the great ultimate objects will be realized; that is to say, the extension of the postal telegraph service to every part of the Empire, but in the common interest, that comprehensive service should be steadily kept in view. To me it appears to be necessary, as a means of building up the new Empire in process of development, and likewise indispensable to its life and unity. In my judgment, it will, not only be a direct means of promoting the welfare of our people, but indirectly prove an effective instrument in advancing the cause of civilization. Its general tendency will be to promote the peace and happiness of the human race.

I have so frequently given expression to my views in advocacy of a complete Imperial telegraph service, that I need not dwell upon the subject, although it is with difficulty I deny myself an opportunity of enforcing the opinions I so strongly hold. I shall content myself just now, however, by referring you to the writings which I have given to the public within the past five years. The scheme of a comprehensive telegraph service for the Empire was first publicly unfolded in my open letter to Mr. Chamberlain in 1898. My last words on the subject appear in "Queen's Quarterly," for January of the present year.

There are many submarine cables, but the only national ocean cable yet laid is that between Canada, New Zealand and Australia. The principle of State-ownership and control of ocean cables uniting the British possessions is now formally recognized and practically inaugurated. The extension of the principle to

other oceans will follow. In the telegrams which recently passed to and from the Secretary of State, Mr. Chamberlain, the Premiers and Postmasters General of Canada, New Zealand and Australia, there is a distinct note of hopefulness on this point. Take, for example, the message sent by the Postmaster General of Canada to the Postmaster General of New Zealand: "We rejoice with you on the completion of the Pacific Cable, one important link of Empire, and trust the *red line* may continually be extended, until it connects the Mother Country with all parts of her dominions beyond the seas."

Much as I think that the extension of State telegraphy to every part of the Empire should never be lost sight of, circumstances render it expedient to take one step at a time. The first step has already been taken, and it is a long step in the proper direction, for the Pacific Cable is the foundation upon which the whole fabric may be reared. The next step is to extend the State telegraph system from Australia across the Indian Ocean, *via* Cocos Island, to India, and from Cocos Island to South Africa. This done, and assuming that the line from Vancouver to London is also brought under State control, we shall have the United Kingdom, Canada, New Zealand, Australia, India, and South Africa brought within instant touch of each other by a continuous line of telegraph under the direct control of the State.

The third step will be to establish a State-owned line of cables from South Africa to England, in order to complete the girdle of the globe. Manifestly, a belt of such cables round the world, under the one control and management, will have its peculiar advantage. Each point in the encircling chain will be in direct connection with every other point, by two routes extending in opposite directions, thus giving a double connection in each case, so that in the event of an interruption on any single section, communications may, nevertheless, be maintained.

It is true there are telegraphs already connecting the Cape with London, but all these telegraphs are owned by joint stock companies, and for the most part they are laid in shallow seas, and thus rendered extremely vulnerable; they are likewise open to the further objection of touching at points not under the British flag. The proposal is to lay the State cable in the deep waters of the Atlantic, by extending it from the Cape to England via St. Helena, Ascension, Barbadoes, and Bermuda.

On the occasion of the Coronation Conference last year, I submitted to the members of that body a memorandum which has since been laid before the Imperial Parliament. In that document, among other things, I ventured to point out a grave danger, which will always obtain so long as any vital portion of the trunk telegraph lines of the Empire remains in the possession of a joint stock company.

We have recently been made aware how easily, by a bold financial stroke, British lines of ocean steamships can be alienated from their nationality. We constantly hear of the controlling power of joint stock companies passing from one set of owners to another. All joint stock companies are in the same category, and as cable companies are no exception to the rule, the control of company-owned cables can with facility be transferred to fresh owners. Stock operators are perfectly familiar with such transfers; they can be effected by purchase in the open market without attracting special attention. How quietly may a well-backed stock operator, by adroit management, hand over a company supposed to be British to foreign control! What would prevent the present cables to South Africa, to India, to Singapore, to Hong Kong, and to Western Australia being so transferred? What would prevent these vital organs of communication being alienated when it is least expected? Does it require any effort of the imagination to see many possible conditions in which terrible disaster might be inflicted by an enemy in possession of these cables, even for a brief period? Every sane man must recognize that this

matter should not be lightly regarded by our Governments and Parliaments, and that the mere possibility of such a thing should be absolutely removed. I make bold to say, the public interests should be safeguarded beyond all question, by establishing with as little delay as possible, an effective means of communication inviolably British. While the ultimate expansion of the postal telegraphic service to the whole Empire may for a time be postponed, there should be no time lost in securing a complete chain of State-owned telegraphs, from London through Canada to New Zealand, Australia, India, and South Africa, returning by the Atlantic Ocean to the seat of Empire, after passing around the globe.

Such a chain of cables would prove of unspeakable value in countless ways. It would enormously cheapen telegraphing to and from all points on the line of the electric girdle, and within range of its influence. It would link together the widely-sundered British communities as nothing else could. An endless globe-encircling Imperial telegraph would, like the marriage ring, symbolize union, and above and beyond every useful purpose in the activities of trade and amenities of life, its tendency would be to establish the unity and maintain the indivisibility of the Empire.

The all-Red Line would, in some respects resemble the spinal cord in the human body; it would prove to be the cerebro-spinal axis of our political system, and give origin throughout its length to many lateral groups of nerves. This trunk line of State cables round the globe would virtually become an annular *Medulla Spinalis* to the world-Empire, through which would freely pass the sensory impressions and the motor impulses of the British people in every longitude.

It cannot be denied that in the establishment of a State-owned all-Red belt of telegraphs such as described, some disturbance would be caused to the existing private cable system. From Australia to South Africa and from South Africa to Ascension, the belt line would cover practically the same ground as that now occupied by the

allied cable companies. For this distance only would parallel cables be required, but if considered preferable, for this distance the private cables could be expropriated and a fair price paid for them. In this event, the remaining cables, wherever they came in contact with the trunk State line, would assume the position of branches, and, at the points of junction, they would be fed with telegraph traffic at the very lowest rates, for general dissemination. Thus, it will be obvious that the all-Red globe-encircling belt may advantageously co-exist with private lines; that it would actually prove a feeder to them, and give them scope for all reasonable profit. They, on their part, would reciprocate by bringing traffic to the trunk line.

You ask me what I think of the Marconi system, and if there be any probability of it proving a serious rival to the cables. I wish I could definitely answer the question. The system is wonderful, and no one could be more astonished with what has already been achieved than I am, but it is yet very much in the air, and I see no very great prospect of ocean cables being superseded. It seems probable that both submarine and aerial telegraphy will each find their proper place and uses. At this stage he would be a bold man to make rash predictions. We must give time for the full development of the new system. Another generation will know more about it, but perhaps even another generation will not see the final achievements of electrical science. Meanwhile, should Marconi be instrumental in cheapening telegraphy, I see nothing but good to result to the all-Red project.

In answer to the congratulations offered him on the spirit which he has displayed in connection with this important Imperial undertaking, and the success which so far has attended the persistent efforts employed, Sir Sandford at once replied: "I do not stand alone. It is quite true that I have always done what little I could to

bring about the consummation of the project, but there are many in New Zealand, in Australia, in England, as well as in Canada, with whom I have co-operated, and who have largely and willingly contributed to bring success to the Pacific Cable project. Every one of them has to be congratulated. I shall try to mention a few of those who have helped to overcome obstacles and promote the common object, but I am afraid my poor memory will be greatly in fault.

First of all, we must pay tribute to the memory of the late Sir Thomas McIlwraith, at one time Premier of Queensland, the late Sir Julius Vogel, at one time Postmaster General of New Zealand, the late Sir William Fitzherbert, the late Sir Charles Mills, the late Sir Patrick Jennings, and the late Sir Alexander Campbell—the last four took part in the Conference of 1887—the late Sir James Patterson, at one time Premier of Victoria, the late Sir George Baden Powell, the late Matthew Gray, of England, and the late F. N. Gisborne, of Ottawa. We must hold in remembrance each one of the delegates who took part in the proceedings of the Jubilee Conference of 1887; each delegate who took part in the Ottawa Conference of 1894. We must specially mention with honour the Right Honourable R. J. Seddon, Premier, and Sir Joseph Ward, Postmaster General of New Zealand, the Right Hon. Sir Edmund Barton, Premier, and the Hon. J. G. Drake, Postmaster General, of Australia, Sir George Turner, formerly Premier of Victoria, and Sir George Dibbs, at one time Premier of New South Wales, and we must not fail to bear in mind others who have done good service, such as Mr. J. S. Larke, of Sydney, and Mr. J. C. Lockley, of Nhill. Also Mr. Owen Jones and those associated with him in the defunct cable Company, more than fifteen years ago.

The Chambers of Commerce of Melbourne and Sydney deserve mention, and especially the venerable Mr. Cowderoy of the former, and Mr. Mitchell, secretary, of the latter. In England there is a long list, and I fear

many will escape my memory. First and foremost stand the Rt. Hon. Joseph Chamberlain and Lord Jersey. We cannot forget Mr. Henniker Heaton, Mr. R. Kaye Gray, Mr. H. H. Gray, Mr. Alex. Siemens, and Mr. Charles Bright, and no man has done nobler service than Sir Edward Sassoon. Then we have Sir Charles Tupper and Lord Strathcona, both of whom, in Canada, as well as in London as High Commissioners, have done most valuable service at many different times. Returning to Canada, we have to pay willing tribute to all the Prime Ministers, from Sir John A. Macdonald to Sir Wilfrid Laurier. It is with much satisfaction I include among the best supporters of the project the Hon. A. G. Jones, Lieutenant-Governor of Nova Scotia, Sir William Mulock, and Hon. R. W. Scott; Mr. George E. Casey as well as Mr. William F. Maclean, who have done excellent service in the House of Commons, and Mr. Danvers Osborn in the press. It is impossible to forget the good services of Sir Mackenzie Bowell, alike in his mission to Australia and as Chairman of the Conference of 1894. Then, special mention must be made of Dr. Parkin, and others connected with the Empire League and its Canadian branches; of the substantial aid in forwarding the movement by many Chambers of Commerce throughout Great Britain, the Chambers of Commerce of the Empire, and to no association is more cordial recognition due than to the Board of Trade of Ottawa.

No story of the Pacific Cable, however brief, could omit reference to its opponents. The great opponents of the movement to connect Canada telegraphically with New Zealand and Australia have been the powerful cable companies with headquarters in London, commonly known as the "Eastern Group." These companies probably do not yet comprehend the value of the public services they have unwittingly rendered by the stand they have been pleased to take for the last 18 years in hostility to the Pacific Cable. Had they assumed another attitude, had they seen their way to lay a cable or co-

operate with others in establishing a cable from Australasia to Canada, or any part of North America, they would have laid the foundation of an impregnable monopoly, with the globe within its grasp. Happily, the associated companies did nothing of the sort; on the contrary, they employed every possible means to prevent the two continents being telegraphically connected, and, in consequence, the conditions to-day are very different from what they might have been. The British people in every part of the world have reason to rejoice that the allied companies in the Eastern group expended their powers in opposition to the Pacific Cable, and that there is now the near prospect of complete emancipation from the incubus of a gigantic cable combination. Before the century is much older, all the Governments concerned will come to the conclusion that the Empire is incomplete without a State-controlled telegraph service circling the globe; they will see that we should certainly have one continuous line of communication, uniting all the great self-governing portions of the Empire, no part of which to be interfered with by any foreign or unfriendly agency—a line which cannot be bought and which cannot be sold. Nothing can be more obvious than that such a service is of vital interest to the British people throughout the world. If cheapness and rapidity of intercommunication be advantageous to commercial communities for business intercourse or social purposes, it is manifest that such a service will effect a revolution in the world's telegraphy, and reduce charges for the transmission of messages between all points within the range of the all-Red Line to rates not yet dreamed of.

Notwithstanding the hostility of the cable companies, the promoters of a State-owned telegraph across the Pacific have always felt that the cause they have advocated would eventually triumph. The efforts of their opponents, and the powerful influences they exercised, could only cause delay. The effect of delay would be to increase the enormous reserve of undivided profits which the companies have annually accumulated, and as sooner

or later hostilities must end, the increased reserve will enable them to yield with a better grace to the inevitable. It will be a cause of satisfaction to all to know that the companies have been richly rewarded for their enterprise, in being the first to extend to Australasia the benefits of telegraphic communication with Europe. While a change is now demanded by the progress of events, we must not refuse to recognize that the world is indebted to the companies for the place they have occupied as pioneers in the field of submarine telegraphy. No name in that field will be longer remembered for courageous British enterprise and high business qualities than that of the late Sir John Pender, who, in his lifetime, was the leading spirit in the ocean cable-laying of the Eastern group, and Chairman of the several companies from the start to the end. We have the assurance that the people of the outer Empire will pay generous tribute to him and his associates—the great cable adventurers of England.

Sir Sandford concluded by saying: "I think I should make a brief reference to the Imperial authorities. For a time indifference and opposition seemed to be the prevailing feeling in every Department of the Government, but it is impossible to speak too highly of the active interest which has recently been awakened, and the new policy of the King's Ministers in London.

There is but a limited number of persons who can appreciate justly the immense weight of responsibility which rests on the advisers of the Crown, and censure is often extended to them by the unthinking, when, if the facts were known and duly weighed, statesmen in office would not only be freed from blame, but commended for the course followed by them. Take the Pacific Cable as an illustration. We may be unable to fathom the apathy long displayed, but whatever the reason for the attitude of the Home Government at one time, whatever the seeming indifference of Secretaries of State, wherever the unwise and unconcealed hostility of officialdom, to the great Imperial project, a marked change has now been wrought.

Since the King's Ministers have learned in a constitutional manner the convictions and purposes of Canada, Australia and New Zealand, a new spirit has been aroused, and the Home Government has hastened to do far more than was previously asked, expected, or hoped, to draw closer to each other and the Motherland, the great self-governing colonies. When the facts become known, it will be found that the authorities in London, by these last acts, have laid the over-sea portions of the Empire under obligations which, I venture to think, the latter will fully appreciate, and, at the proper time and manner, gladly and gratefully reciprocate.



APPENDIX A

THE FIRST WORLD-ENCIRCLING TELEGRAPH MESSAGE.

Two messages to the Governor General of Canada were sent from Ottawa at the same time, in opposite directions. They were despatched at 22 hours, 10 minutes, on October 31st, 1902. The first to return was transmitted eastward via Canso and the Commercial Cable. It returned to Ottawa from the Pacific next morning, November 1st, at 8 hours, 35 minutes. The time occupied in making the circuit of the globe being ten hours and twenty-five minutes. The other message, which was despatched westward, arrived at Ottawa from the east, via the Anglo-American Atlantic Cable, at 12 hours, 35 minutes (noon).

The next five pages refer to the first message to return. The second was as follows:—

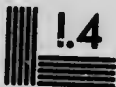
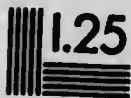
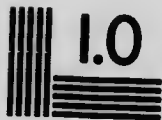
To the Governor General, Ottawa

Congratulations follow the sun around the globe via Australia, South Africa and England on completion of the Pacific Cable—initiating new era of freest intercourse and cheap telegraph service throughout the Empire,
SANDFORD FLEMING.



MICROCOPY RESOLUTION TEST CHART

(ANSI and ISO TEST CHART No. 2)



1.5

3.0

1.8

1.6

1.4

1.2

1.0

0.8

0.6

0.5

0.4

0.3

0.2

0.1

0.05

0.025

0.01

0.005

0.0025

0.001

0.0005

0.00025

0.0001

0.00005

0.000025

0.00001

0.000005

0.0000025

0.000001

0.0000005

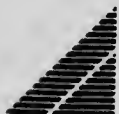
0.00000025

0.0000001

0.00000005

0.000000025

0.00000001



APPLIED IMAGE Inc

1653 East Main Street
Rochester, New York 14609 USA
(716) 482 - 0300 - Phone
(716) 288 - 5989 - Fax



The Pacific Cable Board.

Bamfeld B.C. Station.

Nov 18th 1902

Dear Sir,

I enclose slip of your
"Round the world cable", as we do
not require its return. I shall be
pleased if you will retain it as
a memento. I have marked it in plain
characters so that you will be able
to follow it. The characters in brackets
(P.) and (finish) represent the division
between address & text, text and
signature and completion of cable
respectively.

I am

Yours faithfully

Sir Sanford Fleming
Hawa

K.C.M.G. Alfred Machlan

F r o m | O t t a w a | O n t | t o | G o v e r n o r

G e n e r a l | O t t a w a (J J) R e c e i v e | G l o b e

e n c i r c l i n g | m e s s a g e | v i a | E n g l a n d

S o u t h | A f r i c a | A u s t r a l i a | a n d

p a c i f i c | c a b l e | c o n g r a t u l a t

i n g | b a n d a | a n d | t h e | e m p t y | n e | o n

c o m p l e t i o n | o f | f i n a n t | s e g m e n t

s t a t e | c o n t r o l | e d | e l e c t r i c

g i n d l e | t h e | t h a n k i n g s | o f

i n e a l c u l a b l e | a d v a n t a g e s

n a t i o n a l | a n d | g e n e r a l (s s)

S a n d f o r d | } e m i n g (p u i s h)

FIRST WORLD-CIRCLING TELEGRAPH MESSAGE

The message delivered to His Excellency Lord Minto at Government House, Ottawa, Nov. 1st, 1902, after circling the globe.

Canadian Pacific Railway Company's Telegraph

All messages taken by this Company are subject to the conditions printed on our Form 2.

10. RA. MD. R0. (39 Words) 8.35 A.M.
(via Commercial Eastern Australia Pacific)
To Governor General,
Ottawa.

Receive globe encircling message via England, South Africa, Australia and Pacific Cable congratulating Canada and the Empire on completion of the first segment state controlled electric girdle the harbinger of incalculable advantages, national and general.

From Ottawa, Oct. 31st, 1902

Sandford Fleming.

APPENDIX B

NEW YEAR GREETINGS BETWEEN CANADA, AUSTRALIA AND NEW ZEALAND.

Among the telegrams which passed over the Pacific Cable at the New Year period, courteous messages were received in Canada from the eight Australasian Premiers.

To the Premier and People of

Australia and New Zealand:—

“ On anniversary of formal execution of the Pacific Cable contract, a unique partnership of six British Governments, I am enabled as one result to transmit from Canada, for the first time by wire, respectful and cordial New Year’s greetings.

SANDFORD FLEMING.

Ottawa, December 31st, 1902.

1. *From the Premier of the Commonwealth of Australia.*

To Sir Sandford Fleming, Ottawa.

Your New Year’s greeting heartily reciprocated by Australian partners in Pacific Cable. May it prove an eternal bond of friendship between the two great British Federations.

BARTON.

Sydney, January 1st, 1903.

2. *From the Premier of New South Wales.*

Thanks for your message on anniversary formal execution of Pacific Cable contract. On behalf of the people of this State, I reciprocate your kind and cordial New Year’s greetings.

PREMIER.

Sydney, January 4th, 1903.

3. *From the Premier of Victoria.*

To Sir Sandford Fleming, Ottawa.

Victorian Ministers gratified with your kind greetings, and warmly reciprocate. Glad of means open for such courtesies.

PREMIER.

Melbourne, January 2nd, 1903.

4. *From the Premier of Queensland.*

To Sir Sandford Fleming, Ottawa.

Am pleased, as a result mainly of your efforts, to be enabled to transmit by wire reciprocal New Year's greetings.

PHILP, Premier.

Brisbane, January 2nd, 1903.

5. *From the Premier of South Australia.*

To Sir Sandford Fleming, Ottawa.

Heartily reciprocate New Year's greetings.

PREMIER.

Adelaide, January 2nd 1903,

6. *From the Premier of Western Australia.*

To Sir Sandford Fleming, Ottawa.

We reciprocate your good wishes, and offer you personally our congratulations, after your years of effort.

WALTER JAMES, Premier.

Perth, January 2nd, 1903.

7. *From the Premier of Tasmania.*

To Sir Sandford Fleming, Ottawa.
Cordially reciprocate kind greetings.

LEWIS, Premier.

Hobart, January 2nd, 1903.

8. *From the Premier of New Zealand.*

To Sir Sandford Fleming, Ottawa.

Greetings heartily reciprocated; the advance made binds us still closer together, and ensures the stability of our great Empire. The part that you have played in respect to Canadian Pacific and the Cable will form a golden page in the history of our Empire, and will be more fully recognized and appreciated by Canada, Australia and New Zealand in years to come than at the present moment.

R. J. SEDDON.

Greymouth, January 2nd, 1903.

APPENDIX C

STATE-OWNED CABLES AND TELEGRAPHS GIRDLING THE BRITISH EMPIRE.

The letter which follows is frequently referred to in the foregoing chapters. It may be regarded as the complete development of a dominant idea, and presents the subject of an Empire-girdling, State-owned system of telegraphs in a concrete form for the first time. The communication was made public about five years ago ; it attracted much attention in the press of the United Kingdom, Canada, Australia, and New Zealand. The editor considers that the volume would be incomplete without it.

Ottawa, October 28th, 1898.

The Right Honourable Joseph Chamberlain,
Secretary of State for the Colonies.

Sir,—I had the honour, on the 28th of December of last year, to address Sir Wilfrid Laurier respecting the proposal to establish a State-owned Pacific cable. Circumstances have since arisen which impel me to ask permission to address you on the subject of a State-owned system of cables for the British Empire.

In the remarks which follow, the subject will be discussed on its merits. I venture to think that the arguments advanced will make it clear that such a service is extremely desirable, and is fast becoming a necessity. The telegraph is an essential ally of commerce, and is indispensable to the full and satisfactory development of trade and shipping. The trans-Pacific steamship lines which have been established are heavily handicapped by the absence of any direct means of telegraphy between the ports with which trade is carried on. The Pacific Cable would serve the purposes of trade between Australasia and Canada, but these countries are debarred from establishing independent telegraphic connection with Hong Kong, the terminal port of some of the steamship lines. Under an agreement, dated 28th October, 1893, the Eastern Extension Telegraph Company strengthened its monopoly by having Canada and the Australasian Colonies telegraphically excluded from Hong Kong, and forbidden to lay, or assist in laying, any new cable to that port for a period which does not expire until twenty years from the present date.

There remains only one way of gaining telegraphic connection with Hong Kong freed from exacting charges, and that is through the Home Government. In granting to the Eastern Extension Company exclusive privileges, Lord Ripon, then Colonial Secretary, reserved to Her Majesty's Government the option to take possession

of the cable between Singapore, Labuan and Hong Kong, by giving twelve months' notice and paying the Company £300,000.

My letter of December last to Sir Wilfrid Laurier (copy enclosed) sets forth the position and the attitude, to Canada and the Australasian Colonies, of the Eastern Extension Telegraph Company. The proposal now submitted would undoubtedly interfere with the rich monopoly which that company enjoys, and to some extent, and for some time, diminish its profits; but I venture to hold that no private company, however rich and influential, should be allowed to stand in the way when great Imperial interests are at stake. It must be borne in mind, too, that telegraphy is one of the most astonishing results of science, and that the facilities which it offers, if not shackled by hindrances, may be rendered of greater and greater value to the human race.

The advantages of cable connections and low charges increase with distance in an accelerated ratio. It is impossible, therefore, to set a limit to the commercial, social and political benefits which would result to the Empire from a State-controlled cable service reaching every British possession. In the following remarks I point out that the Pacific Cable, established as now proposed, will prove to be the key to such a service, and practically its forerunner.

BRITISH EMPIRE CABLE SERVICE.

The action recently taken in London in adopting the principle of cheap Imperial postage suggests that the time has arrived when the expediency of establishing a complete telegraph cable system throughout the Empire may be considered on its merits. The advantages which will inevitably follow the adoption of universal penny postage appear to be generally recognized, and I venture to think the public mind will be prepared to entertain favourably another proposal not less important. It is not necessary in the least to undervalue cheap postage or detract from its immense importance, in order to show

that a cheap telegraph service on a comprehensive scale is easily attainable, and that it would prove an effective means of speedy communication for an Empire such as ours.

The transmission of letters has always been a function of the Government; indeed, it has been wisely held throughout the civilized world that the postal service should be controlled by the State. The electric telegraph is a comparatively modern introduction. In the Mother Country private companies were the first to establish lines of telegraph, but in 1868 it was found to be in the public interest to have them taken over by the State and placed under the Post Office Department.

A committee of inquiry had reported to Parliament: "That the telegraph service as managed by companies, (1) maintained excessive charges, (2) occasioned frequent and vexatious delays in the transmission of messages, and inaccuracies in sending them, (3) left a large number of important towns and districts wholly unprovided for, and (4) placed special difficulties in the way of that newspaper press which had in the interest of the public a claim, so just and so obvious, to special facilities." The transfer was effected in 1870. Changes and improvements were immediately made; the telegraph service, previously confined to lines connecting great cities where business was lucrative, was extended to many towns and districts previously neglected, and, notwithstanding the fact that the charges on messages were greatly reduced, the business developed to such an extent that the receipts progressively increased. Before the transfer it cost about six shillings to send an ordinary message from London to Scotland or Ireland. The rate was reduced to a shilling, and subsequently to six pence (the rate at present charged), and for that sum a telegram can be sent from any one station to any other station within the limits of the United Kingdom, without regard to distance.

It was early discovered by every country in Europe that so efficient a servant to trade and commerce, so im-

portant an aid to the State itself, should become a national institution. France, Austria, Prussia, Russia, Sardinia, Italy, Spain, Portugal and Belgium each established a State telegraph system, and, as in Great Britain, experience has shown that they have done this, not only with advantage to the various administrative necessities, but with benefit to the public at large.

Such being the unanimous conclusion, is not the application of the principle of State ownership on a larger scale than hitherto attempted a fit subject for inquiry? Is it not desirable and expedient that the whole British Empire should have a State-controlled telegraph system?

The conditions of the Empire are totally different to what they were some years back. When Her Majesty ascended the throne there was not a single mile of electric telegraph anywhere. There was not an iron ship of any class afloat, and mail steamships were practically unknown. From that period the conditions have been continually changing, and the process of growth and development still goes on. True, change has met with resistance from individuals and companies and classes, but resist it who may, the law of development follows its steady course, and continually makes demands on science and skill to meet the ever changing conditions. We are living in an age of transformation; the spirit of discovery and enterprise, of invention and achievement, has extended and expanded the British Empire from the small islands on the coast of Europe to new territories, continental in extent, in both hemispheres. The development of the mercantile marine has carried the flag of our country over every mile of sea to meridians far distant from the Motherland. In these distant territories, communities have established themselves under the protection of that flag. They have drawn riches from the forest, the soil and the mine. They have caused noble cities to spring up, rivalling in the splendour of their streets and buildings the finest cities of the old world. These young nations, full of hope and vigour, have made progress in every direction; they are imbued with lofty

aspirations, and their most ardent desire is to give their energy and strength to the building up of a greater British Empire, on the firm foundation of common interest and common sentiment.

At an earlier period of the world's history, it would have been difficult to conceive the possibility of any lasting political union between countries so widely separated by intervening seas. The problem is, however, being solved, not by old methods, but by the application of wise principles of government, aided in a wonderful way by the highest resources of modern science. Steam has made the separating oceans no longer barriers, but the general medium of union. Electricity has furnished the means by which the British people in all parts of the globe may exchange thought as freely as those within speaking distance. These twin agencies of civilization are pregnant with stupendous possibilities. Already the one, as the prime factor in sea-carriage, has rendered universal penny postage possible. The other has made it equally possible to bring the British people, so widely sundered geographically, within the same neighborhood telegraphically.

Imperial penny postage will have far-reaching consequences; it is undoubtedly a great onward movement in the career of civilization, and in the development of wider national sympathy and sentiment. But great as are the benefits to follow the adoption of universal cheap postage, the first result, and not the least, will be to make plain that a postal service, however cheap and comprehensive, is in itself insufficient for the increasing daily needs of the now widely-distributed British peoples. It will be seen that in addition to an ocean penny postal service, the circumstances of our world-wide Empire demand a cheap ocean cable service, extending to every possession of Her Majesty.

The carriage of letters at any known speed consumes time, and the length of time consumed depends on the distance traversed. The telegraph, on the other hand, practically annihilates space, and in this one respect has

immeasurably the advantage over the ordinary postal service, especially in the case of correspondents who are separated by the greatest distances.

We can as yet but faintly appreciate the extent to which the telegraph may be employed, because its use heretofore has been restricted, on long-distance messages, by almost prohibitory charges. If messages be exchanged between places not far apart, let us say between London and Edinburgh, or Toronto and Montreal, the gain in time by the use of the telegraph is inconsiderable. But if the points of connection be far separated, such as London and Melbourne, or Ottawa and Cape Town, the comparison between a postal and a telegraph service brings out the distinct value of the latter. In either of the cases last mentioned, while it would require the lapse of eight or ten weeks to obtain an answer to a letter by post, if the telegraph be employed, a reply may be returned the next day, or even the same day.

Existing long-distance cables are little used by the general public; it may be said, not at all, except in emergencies. They are used in connection with commerce, the growing needs of which demand more and more the employment of the telegraph, but owing to the high charges exacted, its use is limited to business which would suffer by delay. These cables are in the hands of private companies, striving chiefly to earn large dividends, and who adopt the policy of charging high rates, in consequence of which trade and commerce are unduly taxed, and their free development retarded. Were the cables owned by the State, large profits would not be the main object, and precisely as in the case of the land lines of the United Kingdom, it would be possible greatly to lower rates, and thus remove restrictions, and bring the telegraph service within reach of many now debarred from using it.

When the Government assumed control of the inland telegraphs of the United Kingdom, it was found possible greatly to reduce charges. In 1869, the year before the transfer, less than seven million messages were carried.

At the transfer the rate was reduced to one shilling per message; the traffic immediately increased nearly 50 per cent., and continued increasing, until, in the tenth year, twenty-nine million messages were transmitted, with a surplus of revenue over expenditure of £354,060. In another decade, the total annual business equalled ninety-four millions, the operations still resulting in a surplus of £251,806, although the charge for a message had been meanwhile reduced from one shilling to six pence. It is indisputable that high charges restrict the utility of sea cables as well as land lines, while low charges have the opposite effect. A few years ago the tariff of charges between Australia and London was nine shillings and four pence per word. The proposal to establish the Pacific Cable, and the discussion which followed, led to the cheapening of the rate to four shillings and nine pence per word. In 1897, the year before the rates were lowered, the gross business consisted of 827,278 words. Last year (1897) it had increased to 2,349,901 words. In 1890, with high charges, the revenue was £331,468. In 1897, with reduced charges, the revenue was £567,852, or £236,384 in excess of 1890, when the highest rates were exacted.

The utility of the telegraph may be measured by the time gained over the post, and the success of the telegraph service of the United Kingdom must be accepted as convincing evidence of its utility and value, for the gain in time is, in this case, measured by hours only. Its striking success in this instance may be largely owing to State control, but whatever the cause, it is obvious that if, under similar conditions, weeks were gained instead of hours, the utility of the telegraph would be proportionately increased, and its value as a means of communication correspondingly enhanced. There is another immense advantage, not generally known to the public, which can be claimed for telegraphy; It is the fact that, within certain limitations, the actual cost of transmission is but little affected by distance. While the cost of carrying letters is in proportion to the distance traversed,

the same rule does not apply to the electric wire. With a properly equipped telegraph system, the actual expenditure incurred in transmitting a message thousands of miles is practically no greater than in sending it ten miles. Obviously, therefore, the principle of "penny postage," that is to say, a low uniform charge for all distances, is applicable even more fully to ocean telegraphy than to the Imperial postal service. With these considerations before us, a moment's reflection leads to the conviction that this wonderful agency—the electric wire—places within our reach, if we have the wisdom to accept it, an ideal means of communication for the world-wide British Empire.

Thirty years ago the British Parliament, for reasons the soundness of which experience has fully confirmed, determined that the State should assume control of the inland telegraph system of the United Kingdom. To-day there are incomparably stronger reasons for State control being exercised over a cable system for the whole Empire.

The proposal is not altogether new. If the proceedings of the Colonial Conference of 1887 be referred to, it will be found that an Imperial telegraph service was foreshadowed in the discussions. To these I would refer, and especially pages 225 to 228, 339 to 341, and 513 to 520. In these discussions the delegates from the Cape of Good Hope, Natal, Australia, New Zealand, Newfoundland and Canada took part. Again, at the Colonial Conference of 1894, the proposal was set forth in some detail, and the advantages of an all-British system of telegraphy around the globe pointed out. On that point I beg leave to direct attention to the proceedings of the Ottawa Conference, and more particularly to pages 88 to 90, inclusive. Likewise to the proceedings of the second Congress of the Chambers of Commerce of the Empire, and more especially to a letter from the Ottawa delegate (July 1, 1892) to the President. Sir John Lubbock.

The proposal to complete the telegraphic circuit of the globe has no doubt suggested itself to many persons.

Among those who have written on the subject may be mentioned, Sir Julius Vogel, at one time Postmaster General of New Zealand; the late Mr. F. N. Gisborne, Superintendent of Telegraphs for the Canadian Government; Sir George Baden-Powell, M.P., London; Mr. J. C. Lockley, of Nhill, Australia; and the veteran postal reformer, Mr. Henniker Heaton. At the Cape, Mr. Jan Hendrick Hofmeyer has given the matter his strongest support.

PROJECTED CABLE SYSTEM.

It may be laid down as an essential condition of an Imperial cable service, that none of the lines should touch foreign soil, and that they should be placed so as to avoid shallow seas, more especially those seas in proximity to any country likely at any time to prove unfriendly. In describing generally the route which would best comply with these conditions, I shall commence at Vancouver, for the reason that up to this point telegraphic connection with the Imperial centre in London is already assured, without being dependent on any foreign power. First, we have direct telegraphic connection across the Atlantic by a number of cables, and it is a mere question of cost to lay additional trans-Atlantic cables, to be State-controlled, wherever they are wanted. Secondly, we have a transcontinental telegraph from the Atlantic coast to Vancouver, extending along the line of the Canadian Pacific Railway, and all practical telegraphers will recognize the great advantage of this position. By having the wires hung within sight of passing trains, the telegraph can be frequently inspected with the greatest possible ease, and faults, when they occur, can speedily be repaired.

Commencing at Vancouver, the cable would cross the Pacific to New Zealand and Australia; from Australia the main line would cross the Indian Ocean to South Africa; from South Africa it would traverse the Atlantic to Canada, where it would connect with the trans-Atlantic lines. Such a system of cables would complete the tele-

graphic circuit of the globe, and would constitute a base for connecting every one of Her Majesty's possessions and naval coaling stations (Gibraltar and Malta excepted) by the most perfect means of conveying intelligence at our disposal. Moreover, the connection would be formed by a system of all-British deep-sea cables, in the position where they would be least vulnerable. This Imperial cable system may be considered in three divisions.

(1.) *Cables in the Pacific Ocean.*

The cable from Vancouver would first find a mid-ocean station at Fanning Island, second at the Fiji Islands, third at Norfolk Island; at Norfolk Island it would bifurcate, one branch extending to New Zealand, the other to the eastern coast of Australia.

There are many islands in the Pacific, some under British, others under foreign flags; in course of time these islands could be served by branches as circumstances may require. The land lines of Australia would complete telegraph connection with the western coast, or it may be deemed expedient to substitute a cable for the land lines over that portion of the interior between Adelaide and King George's Sound.

(2.) *Cables in the Indian Ocean.*

From King George's Sound, or other point in Western Australia, the cable would extend to Cocos Island, thence to Mauritius, and thence to Natal or Cape Town, as may be found expedient. Cocos would become an important telegraphic centre; it would be a convenient point for connecting Singapore by a branch cable. Singapore is already in connection with Hong Kong by an all-British cable via Labuan, and Her Majesty's Government can take possession by giving 12 months' notice. India could be reached by a branch from Cocos to Colombo or Trincomalee in Ceylon. At Mauritius a connection would be formed with the existing cable to Seychelles, Aden and Bombay.

(3.) *Cables in the Atlantic Ocean.*

In order to avoid the shallow seas along the west coast of Africa, Spain, Portugal and France, it is proposed that the cable should extend from Cape Town to Bermuda, touching at St. Helena, Ascension and Barbadoes as mid-ocean stations. At Bermuda a connection would be formed with the existing cable to Halifax, and at that point with the Canadian and trans-Atlantic lines, or a cable could be laid from Bermuda direct to England.

Much prominence has been given to a proposal to connect England with the Cape by a line of cable touching at Gibraltar, Sierra Leone or Bathurst, Ascension and St. Helena. I pointed out in my letter of last December to Sir Wilfrid Laurier, that there are great objections to the northern half of that route, as "the cable, of necessity, would be laid for some distance in shallow seas, where it would be exposed to injury from various causes, and where, too, the agent of an unfriendly nation, or, indeed, an evil-disposed fisherman, would have it in his power to destroy the cable with ease, totally unobserved. For hundreds of miles it would be exposed to such risks."

The route now proposed from Ascension to Great Britain is certainly less direct, but the cable would be much less in jeopardy, and to this may be added the advantage which would result in bringing the West Indian possessions within the Imperial telegraphic circuit.

In order that some estimate may be formed of the cost of such an undertaking, I submit the following approximate distances which each group of cable would require to cover:—

(1.) In the Pacific Ocean, from Vancouver to Australia and New Zealand.....	7,150 knots.
(2.) In the Indian Ocean, from Western Australia to South Africa—	
Main line	6,500
Branch to Singapore	1,100
" Colombo	1,500
	————— 9,100 knots.

(3.) In the Atlantic Ocean, from South
Africa to Bermuda 6,600 knots.

22,850 "

The total distance for which new cables would be required (of which 20,250 knots would be in the main line, and 2,600 knots in branches) may be roughly placed at 23,000 knots, and the cost (including the branch to Hong Kong) between £5,000,000 and £6,000,000.

I have long advocated the first division of the proposal, the establishment of a cable from Canada to Australasia as a State work. I have felt that it would be the forerunner of an all-British telegraph system embracing the whole Empire. As a State undertaking, I am satisfied that the Pacific Cable would be a complete commercial success, and that so soon as it so proved, the cable extension to South Africa and India would follow.

One advantage peculiar to a globe-encircling system of cables will be apparent: each point touched would be in connection with every other point by two routes extending in opposite directions. This feature is of special value, as it practically constitutes a double connection in each case. The projected system of all-British cables with its branches, would thus doubly connect the following fortified and garrison coaling stations, namely:—Hong Kong, Singapore, Trincomalee, Colombo, Aden, Cape Town, Simon's Bay, St. Helena, Ascension, St. Lucia, Jamaica, Bermuda, Halifax, Esquimalt, King George's Sound and Thursday Island. The following "defended ports" would likewise be connected, namely:—Durban, Karachi, Bombay, Madras, Calcutta, Rangoon, Adelaide, Melbourne, Hobart, Sydney, Newcastle, Brisbane, Townsville, Auckland, Wellington, Lyttleton and Dunedin.

Would it not be in the interest of a great commercial people to have these, and all such points in the outer Empire, connected by a means of communication so perfect as the electric telegraph? Is it not a matter which

vitality concerns every British community around the globe? Is it not in their common interest that they all should be placed in possession of the speediest means of conveying intelligence the one to the other, free from the burden of high charges?

That a State-owned Pacific Cable is the key to the situation, I am firmly convinced. Exhaustive examinations have proved its entire practicability. Its financial aspect has been minutely investigated by business men of the highest rank. The Canadian Government appointed Lord Strathcona and the Hon. A. G. Jones for this purpose, than whom there are no men with stronger business insight. Their report is in the possession of the Government, and it takes the most favourable view of the project. As a State undertaking it would be self-supporting from the first year of its establishment, and would admit of charges being lowered year by year. That the final outcome of the laying of this cable would be an Imperial telegraph service, there can be little doubt. I am satisfied that the Pacific Cable would prove to be the entering wedge to remove forever all monopoly in ocean telegraphy, and free the public from excessive charges; that it would be the initial link in a chain of State cables encircling the globe, with branches ramifying wherever the British Empire extends, and that it would be the means of bringing into momentary touch every possession of Her Majesty.

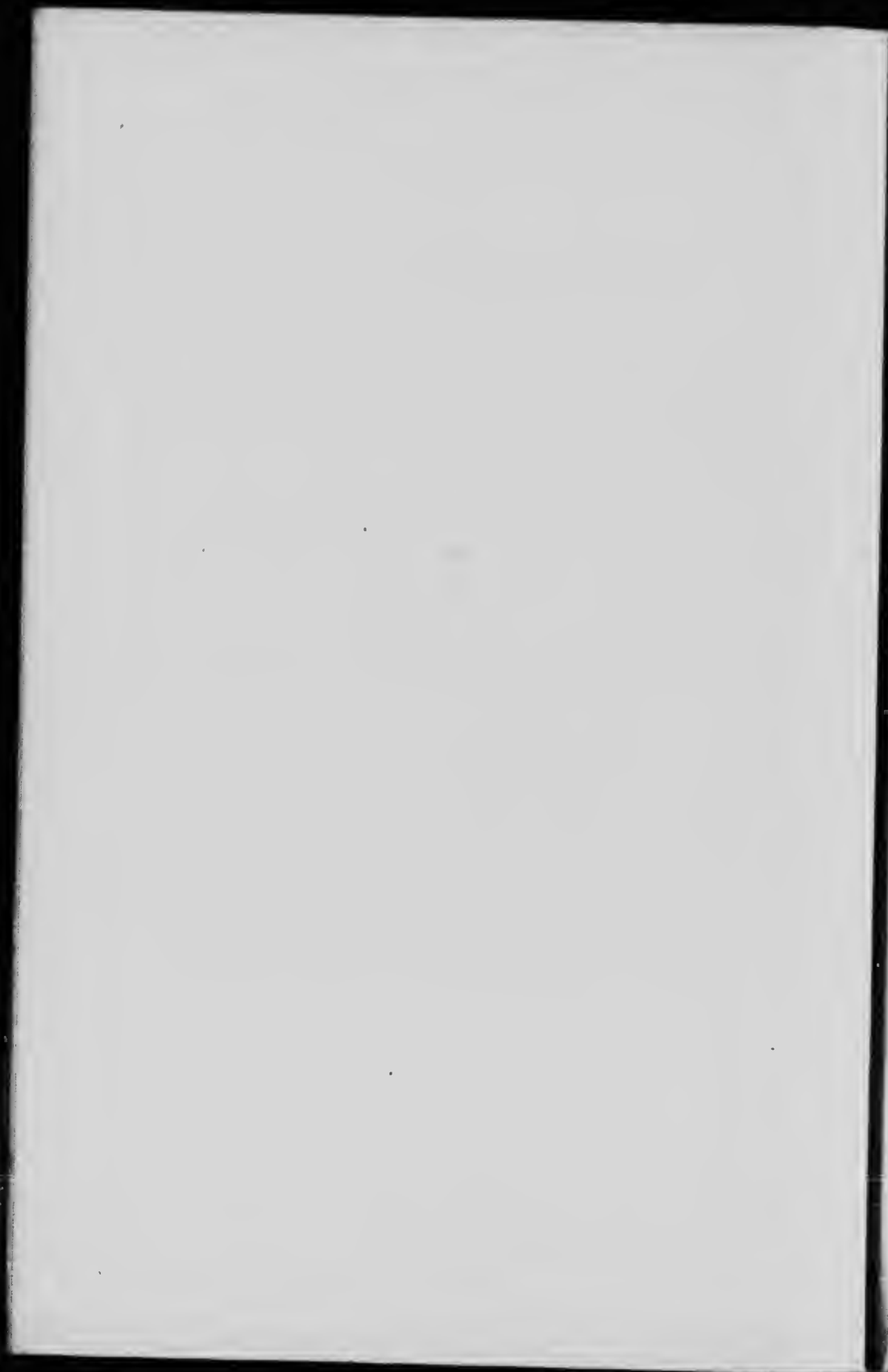
In 1837, Rowland Hill, in advocating uniform penny postage for the United Kingdom, pointed out how desirable it would be to have the same low rates as on inland letters charged on letters passing to and from the colonies. This remarkable man concluded with the memorable words: "There is, perhaps, scarcely any measure which would tend so effectually to remove the obstacles to emigration, and maintain that sympathy between the colonies and the Mother Country which is the only sure bond of connection, as the proposed reduction on the postage on colonial letters."

Had Sir Rowland Hill known of the means of instantaneous communication which, since his day, has been placed at our command, he assuredly would have viewed it as the most civilizing agency of the century. He would have seen that while promoting the activities of trade and commerce, and improving the well-being of the human race, nothing would more tend to deepen the sympathies of our people, and make firm the foundations of the Empire, than the adding to a universal penny postage, the incalculable advantage of a State-controlled ocean telegraph system encircling the globe.

Holding the views which I have ventured to submit, I feel that in the public interest I should greatly err if I failed to seek an opportunity of giving expression to them.

I have the honour, &c.,

SANDFORD FLEMING.



APPENDIX D

TELEGRAPH TRAFFIC BETWEEN AUSTRALIA AND EUROPE

In a foot-note on page 102, the Editor alluded to the telegraph business between Australasia and Europe, for eight consecutive years, 1894 to 1901 inclusive, 1894 being the year immediately following that in which the Canadian Minister of Trade and Commerce visited Australia, and 1901 being the last year for which full returns have as yet been received. The actual telegraph business in each of these years was as follows:—

NUMBER OF WORDS TRANSMITTED.

Year	Words	Authority
1894.....	1,381,400	} Sir Charles Todd, Post Master General of South Australia.
1895.....	1,450,446	
1896.....	2,110,917	
1897.....	2,349,901	
1898.....	1,865,503	} Furnished by Lord Strathcona High Commissioner for Canada. Oct., 1902.
1899.....	2,155,693	
1900.....	2,282,243	
1901.....	2,330,515	

Total words... 15,926,618 transmitted in eight years.

In the blue-book, "Mission to Australia," laid before the Canadian Parliament in 1894, the Minister of Trade and Commerce furnished a detailed account of his visit to Australia the previous year, and among other things, he reproduces at length (page 66) a memo-

randum prepared by Sir Sandford Fleming, at Sydney, dated October 11th, 1893. This memorandum furnishes an estimate of the number of words which, in his opinion, would be comprised in the telegraph business between Australasia and Europe for a series of years. He submitted it with these words: "I wish to avoid extravagant statements and too sanguine estimates. I would, in submitting my opinion, particularly desire to keep strictly within reasonable probabilities. If we base estimates on the existing volume of business merely, we must anticipate that there will be no great advance over the business of 1891-92 for a few years, if the charges on messages are again raised, as they already have been to some extent. In the calculations which follow, I shall, therefore, assume the business to be at a standstill for three years; that is to say, I shall assume that the business in 1894 will not be greater in volume than it was in 1891-92, and that thenceforth the normal increase of not more than 14 per cent. per annum shall apply." Worked out on this principle, his Estimate, proposed in October, 1893, was as follows:—

ESTIMATE OF CABLE BUSINESS.

Probable business in the year	1894	—	1,275,191	words.
"	"	"	"	"
"	"	"	1895—1,453,716	"
"	"	"	1896—1,632,244	"
"	"	"	1897—1,810,772	"
"	"	"	1898—1,989,298	"
"	"	"	1899—2,169,826	"
"	"	"	1900—2,346,352	"
"	"	"	1901—2,524,878	"

Total estimated business for 8 years—15,202,277 "

If this estimate, made eight years in advance, be placed in juxtaposition with the actual business done during the same period, that is to say, the 15,202,277 words estimated, against the 15,926,618 words transmitted, we have evidence of the moderation, foresight

and general accuracy which characterize the views of an earnest advocate of the all-Red Line. The words actually transmitted year by year vary from the estimate, but the total result for the whole period confirms, in a remarkable way, the soundness of his opinions and the accuracy of his predictions. For himself, on being questioned, he speaks of the closeness of the estimate with actual results as being largely a matter of accident, as he made no pretensions to such extreme accuracy, but the fact remains, his calculations have been completely verified. In submitting his views in 1893 to the people of Australia and New Zealand, it was his "wish to avoid extravagant statements and too sanguine estimates"; it was his "particular desire to keep strictly within reasonable probabilities." Does not this singularly close estimate in itself tend to inspire confidence in the well-considered statements and thoughtful patriotic predictions of one who has given more study to this great Imperial problem than any other man? His latest utterances (already mentioned), "The meaning of the Pacific Cable," appear in the last number of "Queen's Quarterly," from which we may appropriately take a sentence or two to conclude the volume:—

"The expense of laying and maintaining cables would be a mere insignificant bagatelle compared with the incalculable gain to the public resulting from a State-owned ocean telegraph system. The principle of the penny postage, a low uniform charge for all distances, would be once more signally vindicated. Cable rates at first at one shilling, later at sixpence a word, without regard to distance, would undoubtedly produce an enormous expansion of traffic,—eventually such a surplus as would probably warrant a further reduction in rates."

To sum up the commercial, social and political exigencies of the Empire demand with ever increasing urgency a system of imperial telegraphy. The whole

course of postal development throughout the Victorian era points in the same direction. In establishing such a system, we should be merely extending the operation of principles which have already been approved by conspicuous success. A considerable part of the undertaking has already been achieved in the construction of the Pacific cable. Can we doubt that it is sure to reach full consummation? Can we doubt that not 7 years will pass before the realization of a Pan-Britannic telegraph service will bring the ends of the earth within speaking distance of each other, and knit all men of British blood, the whole world over, into a national union as effective as now prevails within the British Islands themselves?"

That is the obvious meaning of the great undertaking now completed. That is the true purpose of the outcome of a joint arrangement entered into by six British governments on the last day of the century. A partnership unique in history and a date co-incident with the close of the glorious Victorian era. Now we find ourselves the inheritors of an accomplished fact pregnant with beneficent consequences, not for the Empire only but for humanity generally.

