

VICTORIA.

ELECTRIC TELEGRAPH.

HALF-YEARLY REPORT

OF THE

GENERAL SUPERINTENDENT OF ELECTRIC TELEGRAPH,

RELATIVE TO

THE ADVANCEMENT AND PRESENT CONDITION OF THE DEPARTMENT
UP TO THE 31ST DECEMBER, 1858.

PRESENTED TO BOTH HOUSES OF PARLIAMENT BY HIS EXCELLENCY'S COMMAND.

By Authority:

JOHN FERRES, GOVERNMENT PRINTER, MELBOURNE.

CONCLUDING REPORT.

Department of Electric Telegraph,
Office of the General Superintendent,
Melbourne, 1st January, 1859.

During the past six months much has been effected toward the establishing of inter-colonial telegraphic communication generally, although the facilities are still, as you are probably aware, less perfect than could be desired, or than the true requirements of the service actually demand; but so far as the means at present available will permit, the usual business of the Telegraph is conducted with the same celerity as is ordinarily attainable by lines in other new countries.

The delay in opening communication with South Australia, casually alluded to in my Report of the 30th June last, and then attributable to a defection in a portion of subaqueous line on the South Australia section, was not finally overcome so as to admit of the line being generally available for public use until about the 21st of July following, on which date the communication was officially opened by the interchange of telegrams between the Governors of the respective colonies.

Since the last-mentioned date the line between Melbourne and Mount Gambier, the terminal or repeating station of the Adelaide line, has continued to work satisfactorily; but accidental interruptions have occasionally occurred, causing a temporary suspension of communication. During the months of August, September, and November, the interruptions to the through communication were more than usually frequent, occasioning, as they did, much public inconvenience; but as they arose, in the majority of instances, from causes for which previous provision could not perhaps have been made, and were not, in my opinion, of a more serious character than I have previously observed in establishing lines of the same extended length in comparatively unsettled districts of country, devoid of regularly-formed roads, or other similar facilities for the safety and maintenance of the lines; I do not deem it necessary here to enter into lengthened detail as to the exact particulars of each distinct interruption or cause of delay, considering it sufficient to state generally, that I believe that every effort has been used, through the facilities at my disposal, to maintain the reliability and integrity of the communication as far as practicable through the lines under my control, and that from the fact that interruptions have latterly become much less frequent, I entertain the confident hope that at least many of the most prolific causes of delay and interruption have been already overcome, and that for the future little or no inconvenience may be felt by the public at large in employing the agency of the telegraph.

I am in receipt of two reports from Mr. Todd, the Superintendent of Telegraphs for South Australia, both of a very interesting character, the last, dated 26th August, concluding the labors of that gentleman up to the date named, and containing detailed statements of the causes which led to the many disappointments experienced in fully opening the line between Mount Gambier and Adelaide, during the period extending from May 22nd until July 21st of last year. Mr. Todd attributes the main cause of the interruption to defects discovered between Pelican Point and Mundoo Island, shortly after the cable had been submerged between those points, and states

his belief that the cable had received some injury while *in transitu* from England, owing, as is supposed, to its having been exposed to a degree of heat equal to that at which it is known that gutta percha loses its property as a non-conducting substance.

The addition of a second wire between Geelong and Ballaarat was effected in the month of September last, in order to provide an additional facility for the transmission of messages destined for places beyond the western limit of the colony; thus affording a distinct line between Melbourne and Mount Gambier, having as intermediate stations, Portland, Belfast, Warrnambool, Hexham, Streatham, and Beaufort; a distinct line between Melbourne and Ballaarat, having as intermediate stations, Williamstown and Geelong, and connecting at the latter place with the line to Queenscliff.

For a time this increased accommodation was found sufficient for ordinary requirements, but as the business has continued to increase, I deemed it necessary to recommend provision for a second or distinct wire for Williamstown and Geelong, to be erected during the current year, and also a single wire direct to Geelong to connect with the line to Cape Otway and Tasmania.

The completion of the works indicated will, I think, afford sufficient facilities for all the communication likely to be required for many years to come between the places named, but I cannot overlook the fact that it will ultimately be necessary to provide an additional wire as far as Portland, in order to do full justice to the claims of that and the two other western ports, Belfast and Warrnambool, the business of which is frequently retarded through pre-occupation of the present single wire, by the transmission of inter-colonial despatches, and *vice versa*; but as so large a sum (£39,600) has been placed upon the Estimates for the current year to defray the cost of completing the works previously determined upon, I do not feel justified in asking for any increased provision at the present time, trusting that the existing accommodation may be sufficient to meet ordinary wants, allowing of course for occasional inconvenience from the cause last mentioned, until the Estimates for next year may come under consideration, when I purpose bringing the subject forward with a view of proposing that a sum may be introduced sufficient to carry a single wire direct from Melbourne *via* Geelong, Winchelsea, Colac, Camperdown, and Warrnambool, to connect at Portland with the line to Mount Gambier, thereby affording exclusive lines for the local and inter-colonial business respectively. With such ample facilities I would confidently look forward to a greatly augmented revenue, and I have no doubt that a considerable reduction in the rates of charges might then be safely ventured upon, which latter movement would in itself naturally tend to increase the business of the telegraph in almost a two-fold ratio, and would also greatly extend the acknowledged benefits of such a means of communication.

The Victoria and New South Wales division of the inter-colonial lines was opened direct to Sydney on the 29th October, on which date congratulatory telegrams were successfully exchanged between the Governors of the respective colonies. The lines have continued to work satisfactorily, subject of course to occasional stoppages from unavoidable causes. The business has continued steadily to increase, and the general working of the lines is quite satisfactory; the retardation in transmission being much less frequent than has been experienced on the western line, owing to the fact that there is but one station (Beechworth) at which a sufficient amount of local business can ordinarily be originated to create any extraordinary interference with the passage of inter-colonial messages, the delays from such a cause being of unusual occurrence. It will no doubt be necessary, however, that a second wire should ultimately be provided between Melbourne and Albury, in order to meet the increasing requirements of the service after the establishment of communication with Tasmania, as well as to meet the demands of the increasing business interests of places along the line.

I regret to have to state that much and unexpected delay has occurred in the construction of the line between Geelong and Cape Otway, principally occasioned through difficulties experienced by the Public Works department, in concluding a satisfactory contract for the execution of the work; but so far as I have been able to learn, I believe that the principal obstructions have now been removed, and that the line will be completed, if not by the time when it is proposed to lay the cable to Tasmania, at least within a week or ten days thereafter.

The other lines alluded to in my last report are rapidly approaching completion, and immediately after the requisite supply of instruments may have been received, will be opened for public use. The line to Echuca has, as I have already informed you, been opened (December 30th), and in the event of a supply of instruments not arriving during the present month so as to admit of the remaining offices, Maryborough, Dunolly, &c., being opened at once, I shall adopt measures for procuring the manufacture of the necessary apparatus under my own directions here, in order that the least possible amount of delay may ensue in rendering the communication generally available.

My attention having been lately much occupied with the consideration of the possibility of rendering the several lines of telegraph under my charge as permanent and durable in their character as it might be possible to attain without incurring too great expenditure, and having as early as the year 1854 endeavored to procure the introduction into this colony of a species of wood indigenous to portions of New Zealand, and known as Totara (*Podocarpus*), which in its general character has received the highest encomiums from those best acquainted with its valuable qualities in that country, as being a wood nearly imperishable in its nature, and peculiarly adapted for positions where it would be so much exposed to the action of the elements, combined with the effects usually produced upon ordinary timber while partially embedded in the earth, as is the case with the posts of the telegraph, but having failed to obtain the expected supply at the time referred to, and in view of the fact that a number of new posts will be required upon the route of the Geelong line during the present season, I have deemed it advisable again to propose that a second endeavor should now be made to obtain a small supply of the timber named, in order at least that its qualities may be tested, and for this purpose I have prepared a specification of the sizes and description of spars required, a copy of which I purpose forwarding to you in the course of a few days, with a suggestion recommending the issue of notices for tenders which might be opened and decided upon immediately after the Estimates for my department may have passed the Parliament, thus securing the earliest moment for the despatch of the necessary instructions to New Zealand in order that as little delay as possible may occur in the fulfilment of the contract. I am of opinion that the introduction of the Totara would prove a decided advantage in point of durability, and from all I can learn, I do not anticipate that the cost of the posts delivered here would be much, if at all, in excess of the expense for similar posts of ordinary Australian woods such as have hitherto been employed.

As an illustration of the reported enduring qualities of the Totara, I may take the liberty to mention that I have been informed by a gentleman of high standing who has long resided in a portion of New Zealand where the Totara is found in large quantities, that in many of the native "pa's" or villages, the defences of which are usually composed of Totara, and which are stated by the natives to have been in existence for more than fifty years without the timber having been renewed, the Totara logs have been found, upon examination, to be now apparently as sound as when first prepared. The wood is also, I understand, extensively used in New Zealand for fencing purposes, and in similarly exposed situations in the country districts where much durability may be desirable.

Since the date of my last report, October 25th, 1858, relative to the progress of works in connection with the Bass Straits submarine line, I have received through Mr. McNaughton, of Launceston, many highly interesting details respecting the manufacture of the cable, its great perfection under varied and severe tests, and the excellent arrangements which had been completed for conveying the cable to these shores, and subsequently to place it in its final position.

The construction of the entire cable, 240 miles in length, had been completed on the 12th October last, in a most satisfactory manner, and a fine new screw steamer, the *Omeo* of 900 tons, was about to be prepared for receiving the coils on board, and would, after the completion of the shipment, be despatched for this port with the least possible delay. The arrival of the *Omeo*, may therefore be safely anticipated during the latter part of February or the beginning of March at latest, and should the weather be propitious, it is altogether probable that communication with Tasmania may be opened during the month of March, or early in April next, but great certainty in this particular cannot, of course, be relied upon, as much will depend upon the nature of the weather for the safe deposit of the several sections, and it will, no doubt, be conceded by every one acquainted with the navigation of the Straits, that it would be advisable rather to incur any reasonable amount of delay, than to jeopardise the ultimate success of the undertaking by attempting its prosecution during a season of unsettled or variable weather.

The cable had been carefully manufactured by Mr. J. T. Henley, who is well known as an electrician of high standing in London; and during the process of manufacture had been occasionally inspected and approved by Sir Charles Bright, director of the Red Sea telegraph, and by other gentlemen interested in the advancement of science, more particularly in its bearing upon submarine telegraphs; the cable, it was stated, had "stood the tests most perfectly," and no fear of any change was entertained, as the largest portion of the entire cable had been constantly submerged for upwards of three months, during which period the tests had remained unaltered.

The following letter forwarded to me by Mr. McNaughton is from a gentleman long conversant with submarine telegraphs in Europe, and vouches strongly for the perfect condition of the cable for Bass Straits:—

London, 20th October, 1858.

GENTLEMEN,

I have carefully examined the 238 miles of cable manufactured for Australia by Mr. Henley, and have repeatedly tested it, both during its manufacture and since its completion.

It is extremely well manufactured, and tests perfectly in every respect, more so indeed than any similar cable I have ever seen.

Its insulation is so perfect, that it will retain a visible charge of electricity for several minutes, and it may be worked through with one pair of plates.

Yours very faithfully,

(Signed)

LATIMER CLARK.

Messrs. BROWN, DUNN, SALMON & Co.,
31, Threadneedle-street.

Not the least interesting information relative to the Bass Straits cable is the fact that Professor Hughes, who has lately patented a beautifully arranged system of printing telegraph, said to be superior to House's invention, or to any other system yet devised, had passed telegrams through the cable, by means of his instruments, with most perfect success, at the rate of twenty (20) words per minute; and Mr. Butcher, formerly the Superintendent of Telegraphs in Tasmania, but who resigned his appointment in order to proceed to England as an agent for the contractors for the cable, writes that it is his intention to bring with him on his return to Australia two of Mr. Hughes' admirable instruments, with a view to their being introduced upon

some of the lines in this country. I may add, that should the instruments prove in practical working to be so great an improvement on our present system as has been stated by the home journals, I shall feel great interest in placing the printing telegraph of Mr. Hughes on the leading lines in the colony, and also in recommending its adoption by the superintendents of the lines in the adjoining colonies, but previous to deciding upon any change in the existing system, it will of course be necessary that most unmistakable proofs of superiority in every particular should be fully evidenced, otherwise it might happen that a seeming advantage in one or two respects had been allowed to outweigh those of the greatest value, which are already understood and appreciated under present arrangements, but which might not be so readily attainable in a system the most striking feature of which is that it will transmit and print its messages in plain Roman characters at either extremity of the conducting wire.

Having, in compliance with the request of His Excellency Sir Henry Barkly, submitted a report, dated 11th November last, conveying my views respecting a proposition which had been received from an association in England, contemplating the establishment of a telegraphic connection between Great Britain and Australia *via* India, I now take the liberty of embodying in this statement such portions of my report of the 11th of November as adverts to the particular suggestions which I had at that time the honor to forward to His Excellency, and in reference to which I would now beg to add, in alluding to the possibility of establishing telegraphic connection between Adelaide and King George's Sound, that even if it were ultimately found that the difficulties in the way of a land line between those points appeared of such a formidable or insurmountable character as to necessitate the abandoning of that course, I think it will be admitted that no very serious difficulties would be likely to be met with in laying a properly constructed submarine cable across the Australian bight, and that such an undertaking might be successfully carried out at a comparatively moderate outlay there can scarcely be a doubt.

The following is the extract referred to:—

I would venture to submit as, in my opinion, a feasible course for adoption:—

1. That the Governments of the six colonies, viz., Western Australia, South Australia, Victoria, New South Wales, New Zealand, and Tasmania, should combine in a public offer, open to the most eligible tender for a stated period, say twelve months, securing to the successful person or persons tendering a yearly subsidy amounting to, say five per cent., upon the total consumption of capital.

2. The Governments to have the right of free transmission of all despatches on the public service, and the option of purchasing the line at a reasonable valuation to be decided by arbitration, or as might be provided.

3. The tenderers to state the particular route by which the intended connection would be made, and the tenders to be upon the condition, that unless the work, or the submarine portion of it, be completed within a period of say eighteen months from the date of the contract, the Governments to retain the right, through their agent or otherwise, of terminating the agreement, and to exercise a similar option should it appear that reasonable progress had not been made at the end of six months from the same date.

4. The tenderers to be guaranteed the exclusive right of establishing and maintaining telegraphic connection between the colonies of Australia and Great Britain, *via* India, or intervening lands up to 153° E. longitude, for the term or period of twenty years.

5. The land sections of the line in the territory of Australia to be constructed and worked, up to the point of junction with the submarine division, at the joint expense of the various Governments interested.

6. The regulations for the transmission of messages, scale of fees chargeable, and all other necessary details connected with the working and management of the line or lines, to be subject to the approval of the several Governments.

Many other matters of minor importance, which could not well be conveyed in a public notice without rendering it unnecessarily voluminous, would of course require provision on finally determining the contract; but I am of opinion that a course such as I have taken the liberty of suggesting would be the most advantageous, both for the interests of the respective colonies and for those of persons who might propose to perform the service referred to.

With reference to the best route for the line, I feel that the subject is one of such magnitude and importance, involving as it must, if ever brought to a practical test, a very large

and hazardous expenditure, that in adopting any particular course the greatest amount of care and prior investigation will necessarily be requisite before a decision of real value may be arrived at.

From a casual consideration of the several points specially involved in proceeding with the work, I am inclined to the belief that a very feasible route might be found by laying down a short cable from Tanjore, which I believe is one of the stations on the lines of the East India Company, to the island of Ceylon; there to connect at Point de Galle with a submarine line, which might be laid in two sections, *via* the Cocos or Keeling Islands, direct to Freemantle, Western Australia, from whence a land line might I think be carried, *via* King George's Sound, to Adelaide. The advantage of this route would be the comparative ease with which the cable might be laid in two sections, which collectively would be little more than the distance spanned by the Atlantic cable, and the increased probability of exemption from injury by aborigines.

Another route might be found by laying a cable from Singapore to a point on the coast of Sumatra, proceeding thence by land to the most favorable point on the south-western side of that island, thence by submarine cable to some suitable landing on the coast of Western Australia, thence, as already indicated, by land to King George's Sound and Adelaide.

A third route would exist *via* Sumatra, Java, and the intervening chain of islands in Torres Straits to Cape York, thence by land to Moreton Bay and Sydney; but I consider the obstacles upon this route of such a serious and almost, if not quite, insurmountable character, that an attempt to carry the line upon the last-named course would, I feel convinced, only terminate in absolute loss and disappointment.

The principal difficulties which would be likely to present themselves, would be the certainty of interruption and damage from the predatory hordes of savages constantly infesting the coasts of Java, Flores Islands, Timor Laut, Borneo, and along the entire northern coast of Australia; the difficulty of repairing any damage sustained by the line in remote districts, the inhabitants of which commonly practise cannibalism, and who have generally been reported by explorers as most inveterate enemies to the whites; the unsuitable nature of the bottom, it being, so far as I have learned, mostly composed of coral intersected by sharp angular ledges of the same material occurring suddenly and in unexpected positions; and lastly, the difficulty of maintaining the integrity of the line between Moreton Bay and the north coast, owing to the mischievous habits of the aboriginal inhabitants. The same obstacles would militate against carrying a line directly through the continent, even if it should be possible to overcome the difficulties likely to be presented in attempting to cross the barren wastes of the interior, as has been already proposed in connection with a scheme for a tramway to a point on the Victoria River; constant liability to molestation from the incursions of hostile native tribes, the nearly total absence of suitable timber for several hundreds of miles, want of natural fodder for beasts of burden, and the scarcity of water, would all tend to raise such difficulties as would, I fear, entirely disarrange and ultimately destroy the best prepared plans before any material progress could have been effected.

Upon the whole, therefore, I would record my advocacy in favor of a connection *via* Western Australia, as already pointed out, as I believe that route would be found in the end preferable to any other of which I am at present aware. The land portion of the line I would propose to construct in the ordinary manner with the additional advantage of larger posts, and using rods of iron three-eighths of an inch in diameter instead of the ordinary wire.

The following is the financial return and balance sheet for the last half-year:—

STATEMENT showing the General Business of the Telegraph Department in Victoria during the Half-year ending the 31st December, 1858.

Year.	Month.	Number of Private Messages.	Number of Messages on Public Service.	Value of Messages on Public Service.	Total Cash Receipts.	Total Number of Messages Transmitted.
				£ s. d.	£ s. d.	
1858	July ...	9,065	1,537	880 6 9	1,234 1 11	10,592
	August ...	10,579	1,782	1,033 17 11	1,371 2 9	12,361
	September ...	11,223	1,804	1,100 8 4	1,422 19 1	13,027
	October ...	11,967	1,989	1,256 9 8	1,626 14 1	13,956
	November ...	12,177	2,142	1,333 14 5	1,980 11 4	14,319
	December ...	12,341	2,231	1,469 13 7	1,945 5 5	14,572
	TOTAL ...	67,352	11,475	7,074 10 8	9,589 14 7	78,827

GENERAL ABSTRACT.

The gross expenditure for salaries and expenses incidental to the working and maintenance of the lines during the period included in the foregoing return amounts to £9739 17s. 6d.

DEBTOR AND CREDITOR STATEMENT.

Dr.

Cr.

	£	s.	d.		£	s.	d.
Total expenditure for working and maintenance, from 1st July to 31st December, 1858	9,739	17	6	Balance 30th June, 1858	5,805	3	6
Balance	12,729	11	3	Revenue for the transmission of private despatches	9,589	14	7
£	22,469	8	9	Value of the despatches on public service...	7,074	10	8
				£	22,469	8	9

The foregoing shows an increase in the business of the first half of 1858, in private telegrams, of 21,052; Government despatches, 5116; increase chargeable on account of the latter service, £4022 5s. 6d.; increase in total cash receipts, £2704 11s. 4d.; increase in total number of messages transmitted, 26,168.

As it will be found, on examining the statement, that the increase has in each particular item been steadily progressive from month to month, I am inclined to view it as peculiarly gratifying, and as tending rapidly toward the success which I confidently predicted for telegraphic communication in Australia during my early endeavor to introduce the system into this colony in the beginning of the year 1853.

Allowing the classification of the value of despatches transmitted on Government service to be included in the actual cash receipts, a course which I think will be considered only reasonable and just, considering the nature of the services which the telegraph ordinarily renders to every branch of executive administration, the balance upon the total transactions of the year will afford, in addition to defraying all working expenses, interest upon the present total outlay (£70,000) at the rate of seven per cent. per annum.

In the month of August last, the services of Mr. Ellery, the Superintendent of the Astronomical Observatory at Williamstown, were transferred, together with the instruments, &c., under his charge, to the department of the Surveyor General; under the direction of which officer, I believe, Mr. Ellery has since been instructed to proceed with the preliminary work for the proposed Geodetic Survey, and in which particular branch I have every reason to believe that Mr. Ellery will render most efficient and practically valuable services to the colony.

In conclusion, I would beg to add, that I consider, upon looking at the present advancement, and the actual results daily observable from the progress of telegraphic communication generally throughout the colonies, that the service is performed as efficiently as the available facilities will permit, and I look forward to a considerable increase, both as regards revenue and utility, when the lines between the four colonies, New South Wales, South Australia, Tasmania, and Victoria, may have been fully completed and placed in practical working order.

I have the honor to be,

Sir,

Your obedient servant,

The Honorable
The Postmaster General.

SAML. W. MCGOWAN.