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them, with, perhaps, a boy of 14 to assist, there is a tendency to throw the whole office work, night and day, on the probationer, that the assistant may live the life of an idle gentleman.

Point No. 3.—I am no friend to office allowances at all. On arriving at a certain rank and pay, a man should be entitled to an office, and his pay should be independent of such accidents as there not being, at the moment, an office to place him over, or the closing of an office where he has charge. I think the little addition to his dignity, which an assistantship gives, and the better opportunity it affords him for exhibiting his abilities, and the greater convenience and comfort which, as the master of the house, he can command, the last consideration weighing especially with married men, will always make the charge of an office desired. But anyone may avoid the responsibility by descending a step in rank and pay, which he should be compelled to do if he showed any disinclination to take charge, whenever and wherever required.

Points Nos. 4 *and* 5.—I would have an inspector over a certain portion of line, say in this Circle from Lahore to Peshawur, from Lahore and Dera Ismail Khan to the Scinde frontier, from Lahore to Umballah and Simla, from Umballah to Agra, and from Delhi to Futtyghur through Rohilkund; in all five. Each of these portions I would subdivide into about two or three districts, each having a native artificer over it. Whether the inspectors should be called 3rd, 2nd, or 1st, would matter nothing, and is, I think, a question not at all connected with the good working of the line. It may be necessary that there should be several grades in order to reward deserving men; but I do not see any other use in them, and I think the pay of a 2nd class inspector sufficient for a man who is, in a majority of cases, simply a mechanic, and who has the easy task of seeing that two native artificers keep a couple of hundred miles of line in order, varying their unresponsible life by an occasional march from end to end of their line, during which, having all their expenses paid by the department, tentage, carriage, and servants, they are able to save two-thirds of their travelling allowance, to which allowance I am not altogether friendly, still less am I an advocate for their drawing horse allowance, which was never granted till now. You will see that I am not one of those who consider the Telegraph Department under-paid, and that in principle I am opposed to allowances, and should prefer a consolidated salary.

Point No. 6.—European artificers I do not think are required.

Point No. 7.—At every office where there is not a native artificer stationed, I would have an active, intelligent Jemadar, chiefly, if not wholly, for the line, and prepared to start in case of interruption by horse, camel-dawk, or on foot. From these ranks the native artificers should be replenished. With these and native artificers, I believe line guards might be dispensed with in all cases with advantage.

Point No. 8.—The signallers required for the efficient working of the offices in this Circle are:—

1. Attock	-	2	
2. Allyghur	-	2	
3. Bareilly	-	2	
4. Delhi	-	7	and an assistant.
5. Dera Ghazee Khan		3	
6. Dera Ismail Khan		2	
7. Jullundur	-	2	
8. Lahore	-	7	and an assistant.
9. Mooltan	-	3	
10. Moradabad	-	3	
11. Meerut	-	3	and an assistant.
12. Murree	-	2	
13. Nynee Tal	-	2	
14. Peshawur	-	2	
15. Rajunpore	-	2	
16. Rawul Pindee	-	3	
17. Shahjehanpore	-	2	
18. Simla	-	2	
19. Umballah	-	7	and an assistant.
20. Umritsur	-	2	
Total Signallers	-	60	and 4 assistants.

Where I have not named an assistant, it is meant that the assistant should himself take a share, though not necessarily an equal share, in the work.

Point No. 9.—This it is impossible to decide upon at the present moment, when a deputy superintendent's office is kept in a constant fever of work by the multitudinous demands for returns, and the care and watchfulness required by sudden and only half-explained changes in system, and the tangled condition of last year's accounts owing to Mr. Lima's (I venture to assert) absurd and useless alterations, to which this particular office may add the misfortune of being under the Punjab Government, which, as if the chief of the Department, and the Supreme Government, did not call for returns enough, sends in its demands also; and the still unsettled arrear accounts of Mr. Harington, on which I have just received a long letter from the Accountant General, calling for long and difficult explanations. At present I should be glad of two or three times my present staff, but I hope we shall soon be settled down into something like regular work when no such large number will be wanted.

Point No. 10.—I approve of the classification you suggest, only that I would make the transition from one class to another a much more important and valuable promotion than from one grade to another. But above all, and before all, neither one nor the other should be made possible to a candidate without his undergoing an examination, more and more trying as a signaller advances in rank; that for passing to another class being unmistakably more severe than that for mere ascension from one grade to another. If such a multitude

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multitude of examinations should be deemed too troublesome, then, perhaps, mere rise in the class might be made a matter of time, and the passing from one class to another be only through a successful examination, having four grades of strictness and severity. By this means we might at last get "Telegraph Masters" able to make easy calculations, to keep simple accounts neatly and correctly, to correct the mail news, made difficult by foreign names and European politics, and to decide on the sense or nonsense of a message, logically and grammatically speaking, independently of the purport, which in many cases must necessarily be known fully only to the addresser and addressee. If it be said that the lads of the Department have not the means of obtaining such instructions as would enable them to pass these examinations, I reply, that if it is made their interest, they will find the means, thus employing their money better than at present. In this very office there are boys of 14 and 15, who would in Europe be probably acting as errand boys, and glad to get two or three shillings a week, while they are here getting four, five, and six pounds a month, with nothing to pay for house rent, fire or light. For such payments the Department has a right to expect a better article than what it is at present supplied with.

I do not object to the names you suggest. The term "telegraph master" appears to me a business-like term; but this very business-like character associated with it will, I believe, disgust many of the Morse assistants, who will not relish being put upon a level with post masters, and to whose "young gentleman" notions the appellation will be "snobbish."

ADDENDUM.

I HAVE in the foregoing adopted your principle of a complete separation between line and office duties; but you will probably remember, from remarks I have made in former letters, that I am no advocate for such separation, and think that Inspectors should also be in charge of offices where they are qualified by education, and where they are not, that they should be of a lower rank, and this would give rise to a 1st and 2d class inspectorship in accordance with your scheme. Were this idea adopted, I should then be in favour of the appointment of a deputy assistant, who would take charge while the inspector made his periodical visits, say four times a year, to his line. I have been much struck in the various parts of India, which I have visited, with the idle, useless life led usually by inspectors during the major part of the year, where the lines are at all in a finished state. I have known one sit still at his head quarters with an interruption on the line for days and days, having evidently a well-rooted notion that except in actual construction his business was to sit idly still, as the A. I. C. would keep the deputy superintendent informed of what happened, and some office or other would be sure to send out a peon to restore communication. I have known one who, being ordered to make a new piece of line, could not punish himself so far as to leave his home and advance slowly to the place, inspecting his line as he went, but remained at home till the very last moment possible, and then pleaded necessity as an excuse for travelling by dawk.* Such things as these I have known happening at the very time when a deputy has been hardly able to keep his offices going at all for want of hands. As a contrast to the above, I have known an inspector urgently beg his deputy to give him office work in addition to his own.

An inspector cannot be too near his work, or to the place where he will hear of his work, and therefore I would have him in the signal room, and not located a mile or two off in the bazaar, and satisfied with making an occasional visit to the office.

From *J. H. Nowill*, Esquire, Deputy Superintendent of Telegraphs, Central India Circle, to Colonel *C. Douglas*, Officiating Director General of Telegraphs in India and Ceylon, No. 4, dated Camp Benares, the 13th July 1861.

I HAVE the honour to acknowledge your No. 87, dated the 11th May current, which was received at Rewah on the 15th ultimo, and beg respectfully to reply to the several points at issue.

1st. An assistant deputy superintendent for the C. I. C. is very desirable for its better conservancy, and to prevent its deputy being removed for months at a time from his head quarters on tours of inspection, much to the detriment of his other duties.

2d. Deputy assistants and head signallers at the offices shown below would always ensure efficiency in the several signal offices during the absence of the senior officer. There should, I think, be three classes of signal offices, with suitable appointments pertaining to each class. The following suggestions are offered for your approval and sanction if approved of:

FIRST CLASS SIGNAL OFFICES.

	Assistants.	Office Allowance.	Deputy Assistants.	Allowance.
		Rupees.		*Rupees.*
Hyderabad - - -	1	75	2	25 each.
Nagpore - - - -	1	50	1	20 "
Jubbulpore - - -	1	50	1	20 "
Mirzapore - - -	1	50	1	20 "

The

* I have known another persist in not learning the Morse, lest he should be disturbed in his tranquil existence by being set over an Office.

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The duties of the Hyderabad office are very heavy, forming as it does a branch to the three Presidencies. I do not think that less than two deputy assistants would answer.

SECOND CLASS SIGNAL OFFICES.

	Assistants.	Allowance.	Head Signallers.	Allowance.
		Rupees.		*Rupees.*
Kurnool - - - -	1	30	1	15
Chanda - - - -	1	30	1	15
Seonee - - - -	1	30	1	15
Rewah - - - -	1	30	1	15

THIRD CLASS SIGNAL OFFICES.

	Assistants.	Allowance.
		Rupees.
Wurrungull - - - - -	1	30
Chinnoor - - - - - -	1	30

These offices being seldom used except in cases of interruption, or very imperfect communication, I consider an assistant at each ample.

Two writers for the Hyderabad office are necessary (which have been engaged since the opening of the circle), and one each for the other first class offices. Writers for the second and third class stations are not required for the present.

3rd. For every 400 miles of line I would suggest there being—

One first class inspector, one second class inspector, one third class inspector; the two latter to be under the immediate orders of the former. Besides these, there should be an artificer or an assistant artificer (European or East Indian; I have no opinion of natives for these situations) for every 70 or 80 miles of line; their head quarters being, as a general rule, situated midway between two telegraph stations. Were testing instruments supplied to these subordinates, the best results would, I am sure, ensue. I am decidedly of opinion that European and East Indian artificers cannot be dispensed with in my circle without detriment to the interests of Government and the public. I have on former occasions pointed out the many natural difficulties line officers in this circle have to encounter. These are—no roads, or very bad ones, dense jungles, large rivers, and numerous unbridged streams.

4th. I think it very desirable to have foot patrols; these should be posted at every 10th or 15th mile, according to the nature of the country through which the lines pass. Mounted men would be of little or no use whatever for five months out of every 12—for the same reasons that artificers cannot be dispensed with. I may remark that foot patrols, when properly looked after by the inspectors and artificers, do their work well, regularly, and, I may add from personal experience, satisfactorily.

5th. The number of signallers required for my several offices is as follows:—

Hyderabad - - -	10	Jubbulpore - - -	6
Nagpore - - - -	6	Mirzapore - - -	6

The last named should have eight hands when the cable across the "Ganges" is at fault, as is the case now,—owing to which a temporary office has had to be opened—

Kurnool - - - -	4	Seonee - - - -	4
Chanda - - - -	4	Rewah - - - -	4

Wurrungull and Chinnoor three a piece. An extra hand at these two offices should be allowed during the rains. In the foregoing distribution of signallers I have not allowed for casualties, such as sickness, notice to leave the department, removals, leave of absence, and death.

6th. The rates of salary for signallers, as proposed in your letter under reply, are liberal, and I have nothing to suggest on this head.

7th. I have always been of opinion that the term assistant for the officers in charge of telegraph stations is the most appropriate that can be used. If it is necessary to change the designation, I beg to suggest the term "officer in charge." I think no one could reasonably object to it.

8th. The number of peons and other office servants employed at the different signal stations is all that is needed; but no further reduction on this head can be made with safety.

In conclusion—as my views do not accord with yours on several important points at issue—I trust you will not charge me with presumption in having expressed my sentiments clearly. Believe me, I have been influenced by no personal motives in what I have written and suggested; my whole and sole desire being to see our telegraph prosper, and enjoy the confidence of the Government and the public.

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From *G. H. J. Smith*, Esq., Deputy Superintendent of Telegraphs, Dacca and Arracan Circle, to Colonel *C. Douglas*, Director General of Telegraphs in India, No. 158, dated the 6th June 1861.

I HAVE the honour to reply to your letter No. 94, dated 11th ultimo.

As regards the necessity of appointing an assistant deputy superintendent to each circle, I do not think there can be the slightest doubt on the following grounds:—

In the event of the deputy being at any time compelled to proceed to any distant point of the circle, there will always be a responsible officer available to carry on the work.

From the thorough local knowledge possessed by each assistant deputy of the circle and all in it, he is enabled to check expenditure, and know exactly upon whom to attach blame in the event of the offices or line working badly.

In recommending the appointment of assistant deputy superintendent to each circle, I respectfully beg to state that their appointment should have a higher object than merely to relieve the deputy of the drudgery of office work.

I would describe their duties as follows:—

1st. That the circle be equally divided between the deputy and his assistant. That their head quarters be fixed in the centre of their division, which should be the deputy's head quarters. Thus in my circle my office would be at Chittagong, and my assistant's at Dacca.

2d. That all subordinate officers under the assistant deputy should submit their accounts, letters, &c., to him direct.

3d. The accounts are simply to be checked, registered, and forwarded on to the deputy. Letters which the assistant deputy cannot dispose of, also should be passed on to head quarters with a docket. In the event of the deputy superintendent leaving at any time, the assistant deputy could shift to head-quarters with very little inconvenience, having but few records to move.

Relative to the 2d question, as to the advisability or otherwise of appointing a deputy assistant to each office, I will answer fully when I come to the question about signallers generally.

Question 3—On the subject of office allowance, I beg to reply as follows:—For the class of men we have generally in our offices, I think the present rate of office allowance very liberal; but if it is intended to put the establishment on a more respectable footing by the employment of gentlemen as office managers, I think few would care to undertake the responsibility of an office for 20 or 30 rupees per month. 100 (one hundred) rupees would not be too much for a large office, and 50 or 75 for unimportant ones.

Question 4—Number and grade of inspectors required for the conservancy of the lines.

I agree with you in thinking that native artificers, subordinate to 1st and 2d class inspectors, are necessary for line duty; but I am in doubt about the entire abolishment of the patrol system.

I will state my reasons for it. Our offices are on the average 100 miles.

In the event of the line breaking midway, or anything like it, each native artificer will have to ride, walk, or boat 50 miles. With the miserable race we have here, this would be considered a feat if done in two days.

On discovery of the break, the artificer certainly could connect the line with copper wire, but it would take some time before he could collect coolies (or rather ryots, for coolies there are none) to repair it.

The patrol, if he goes over his beat but once in 24 hours, will see the broken line, and be able to join over, and from being a resident in that part of the country, can obtain assistance earlier to effect permanent repairs.

I am aware that the present method of patrolling is faulty—it is not the fault of the system, but the apathy of the officers entrusted with carrying it out.

1st.—The complaint is generally that the men do not patrol the line daily.

2nd.—That many absent themselves from their beats for days together, &c.

With a smart native overseer to look after them personally once a month, and an inspector to look after the overseer, this state of things would soon be remedied.

I would more particularly employ the native artificer in keeping the line in order, as the patrols are not to be trusted in this matter, as they are prone to show their zeal by running up heavy bills monthly on this account.

With reference to your remarks on the nomenclature of the various grades in the department, and the scale of pay for signallers, I respectfully concur with you with this exception—I think for the title "Telegraph Master" "Manager in charge" would be more euphonious.

The classification might be as follows:—

Manager in charge	*Rs.*	120	1st Group.
Assistant in charge	„	100	
Head Signaller	„	80	
1st Class Signaller, 1st Grade	„	70	2d Group.
Ditto 2d „	„	60	
Ditto 3d „	„	50	

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2d Class Signaller, 1st Grade - - -	*Rs.*	45	3d Group.
Ditto - 2d „ - - -	„	40	
Ditto - 3d „ - - -	„	35	
3d Class Signaller, 1st Grade - - -	„	30	4th Group.
Ditto - 2d „ - - -	„	25	
Ditto - 3d „ - - -	„	20	

The other information, called for in your letter under reply, will be found in the accompanying tabular statements.

From *H. Man*, Esquire, Deputy Superintendent of Telegraph in Scinde, to Lieutenant-Colonel *C. Douglas*, Officiating Director General of Telegraphs in India; No. 503, dated Kurrachee, the 5th June 1861.

I HAVE the honour to acknowledge the receipt of your No. 86 of 11th May, and to forward my opinion on the various subjects therein mentioned.

1st. An assistant deputy would be a great assistance to the deputy, particularly if he was well versed in accounts; at present the deputy's time is fully taken up in his office.

2d. In 1st class offices a deputy assistant would be of great service. I do not consider the appointment requisite in minor offices.

3d. I consider 50 rupees office allowance for 1st class offices, and 30 rupees for 2d class offices, sufficient—(the present rate); the deputy assistant for a 1st class office should receive 20 rupees.

4th. Two 1st class inspectors, two 2d class, and four 3d class are required for this circle.

5th. Ten native artificers wanted, to be on duty at the offices—these men to be allowed camels or horses, as at present in Scinde circle.

6th. I consider it advisable to have at least two European artificers, (unless the grade of 3d class inspectors is kept on); these men having been, I presume, promoted from the grade of artificers, should be well acquainted with line work in case of any emergency.

7th. In consequence of the line in Scinde circle passing over a considerable distance of Runn, it is necessary, for this season at least, that 10 horse or camel patrols be kept on, especially for the bad districts. If during this season the line stands after the repairs are executed, this number of guards can be much decreased.

8th. The following is the report of number of signallers required at each office in Scinde circle:—

	Signallers.	Probationers.		Signallers.	Probationers.
Kurrachee -	4	2	Shikarpore -	1	1
Kotree -	2	1	Jacobabad -	2	1
Hyderabad -	6	2	Kusindre -	3	1
Tarooshah -	1	1	Buddeena -	2	1
Sukkur -	3	2	Nug. Parkur	3	1

9th. Writers are not employed in telegraph offices in this circle; the present establishment is quite sufficient of other servants, as also the pay.

10th. I beg to suggest the following designations for the offices of the department:—

Lines -	Superintendent - - -	Circles (now Deputy Supdt.),
	Deputy Superintendent	
	Inspectors - - - -	1st, 2d, 3d Class.
	Artificers - - - -	All Natives.
Offices -	Message - - - -	Controller.
	Assistant	
	Signallers - - - -	1st, 2nd, 3d Class.

Remarks.—I believe in many instances 2d class inspectors have been promoted without having any knowledge of line duties. On this account I have recommended the 3d class inspectors being kept on, provided they are promoted from the grade of artificers.

Line guards have been some time dispensed with in Scinde, except in the Runn—the system has been to keep camels at each office ready to start out on interruption being reported.

When the lines pass through a very bad country, I think testing houses should be erected at each, 80 to 100 miles or about—by stationing a mounted guard, with a 3d class inspector, signaller, or probationer, on duty to test the line at certain periods, cause of interruption would be soon ascertained and remedied. This plan has been adopted in the Runn between Buddeena and Nug. Parkur and Deesa, and will be fully tested this season.

Signal Branch.—In Scinde provisions are very high, and the signallers are disadvantageously placed with regard to other circles on the same pay.

The rates quoted by you are, I believe, sufficient to induce respectable hands to join—the difference between the 2d and 3d class pay to signallers (say 60 and 50 rupees) should, I consider, be given with regard to seniority and due capability on the part of those now serving.

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From Major *C. Douglas*, Officiating Director General of Telegraphs in *India*, to the Officiating Deputy Superintendent of Telegraphs in *Bengal*, and the Deputies of all other Circles, No. 95, dated the 11th May 1861.

GOVERNMENT having called upon me to prepare a schedule having in view the fixing on a permanent scale the establishment of all grades in this department, I shall be glad of your confidential opinion on the following points:

1. The necessity of appointing an assistant deputy superintendent to each deputy superintendent who might relieve the deputy of much of the drudgery of his office work, and allow him more time to devote to his lines.
2. The advisability of appointing a deputy assistant in each office to insure the presence of either the assistant or his deputy constantly in the signal-room.
3. The amount of office allowance for the assistant and his deputy you consider would be a sufficient inducement to assistant and others to hold such appointments.
4. The number and grade of inspectors you consider necessary for the conservancy of the lines in your circle.
5. The number of artificers you consider necessary in your circle, stating whether Native or European.
6. Whether you are of opinion that any inconvenience would result from abolishing entirely the grade of European artificers.
7. The number of line guards and patrols you consider necessary, and whether they might not be entirely dispensed with by having good native artificers posted at every office.
8. The number of signallers you consider necessary for the efficient working of your offices, detailing these separately, giving the number of signallers necessary for each.
9. The same with regard to writers and office servants, and their scale of pay.
10. A convenient classification of the various grades in the department.

Remarks on the above.

4. It appears to me that 1st and 2d class inspectors with native artificers are alone necessary for line duties.

6. I consider that European artificers might with advantage be dispensed with. The real working man on the lines is the native, and the superintendence of his work would be better in the hands of inspectors. The sum allowed to European artificers is not sufficient to secure the service of respectable men for these appointments.

7. I am very doubtful of the desirability of entertaining line guards and patrols. If the repairs and working condition of the line are efficiently controlled by the inspector in charge, it appears to me there is nothing to apprehend from interruption but the breaking of the line or posts by some sudden accident. In such cases the interruption is immediately known at both stations between which it has occurred; and if at these stations a native artificer was placed under the orders of the office assistant with the means of proceeding out on the line at any moment, I am of opinion that communication would be restored more rapidly than by the agency of line guards who can know nothing of these occurrences; they pass the scene of the mischief, and even then it appears doubtful whether they would be able to repair it.

10. My own idea of the classification is as follows:

Deputy superintendent one per circle.
Assistant deputy superintendent one per circle.
1st and 2d class inspector in sufficient numbers for line duty only.

Signal Branch.

Rates of pay as follows, exclusive of office allowance for Europeans and East Indians, and half these rates for natives:

120	70	45	30
100	60	40	25
80	50	35	20

It seems desirable that these grades should be broken up into groups of 2, 3, or 4 each group, characterised by a distinctive appellation,—thus assuming the groups to be of four in number, the first group might be termed office assistants, or "Telegraph Masters," being of the 1st, 2d, and 3d class, and it is intended that these classes should hold by right the chief or subordinate charge of offices.

The 2d group might be termed "Head Signallers," and the 3rd group, "Signallers," and the 4th group "Probationers," each group having three classes.

I am by no means satisfied with the convenience of these names. It must be borne in mind the public appear to have been always at a loss for a term by which to address the officers in charge of a telegraph office, messages for despatch are frequently addressed to the "Superintendent," to the "Deputy Superintendent," to the "Manager," or the "Chief Clerk," to the "Clerk in charge," to the "Gentleman in charge," to the "Signaller in charge," to the "Baboo in charge," to the person in charge, and it is therefore very desirable that some unmistakable term should be adopted for designating the head of the signal office,—"Telegraph Master" appears to me such a term, the only objection is its apparent uncouthness, but its analogy with "Post master" would, I think, tend to lead to its ready acceptance and adoption by the public.

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Memorandum.

HAVING in my No. 1263, dated the 20th August, submitted in original replies from the various deputy superintendents of this department to a letter from me, having reference to the proposed revision of establishment, it appears desirable that that letter should also form an accompaniment to the proposed scheme; a copy is now therefore forwarded.

C. Douglas, Lieut. Colonel,
5 September 1861. Officiating Director General of Telegraphs in India.

EXTRACT from the Proceedings of the Government of India, in the Financial Department (No. 14,578); dated 10th December 1861.

EXTRACT from the Proceedings of the Government of India, in the Home Department (Electric Telegraph), No. 3364, under date the 6th November 1861.

READ again Extract from the Proceedings of Government in the Financial Department, No. 5039, dated the 24th of April, calling for a revised schedule of the establishment of the Electric Telegraph Department.

Read again letter to the Officiating Director General of Electric Telegraphs in India, No. 926, dated the 8th of May, on the subject.

Read reply of the Officiating Director General of Telegraphs in India, No. 1263, dated the 20th of August, and its accompaniments.

Lieutenant Colonel Douglas' Report shows that the present sanctioned cost of the Telegraph Establishments is *Rs.* 92,432 5 *a.* 6 *p.* per mensem. This he proposes to reduce to 87,526 rupees, being a saving of *Rs.* 2,906 5 *a.* 6 *p.* The saving this year, however, it is estimated, will be *Rs.* 4,906 5 *a.* 6 *p.* as the proposed increase of salaries will not be immediate, but progressive.

The principal features of the Director General's scheme are:

1. An alteration of the present designations of the higher officers, and an increase to their salaries and numbers in some cases.

2. The abolition of the grade of European artificers, the work of construction having ceased.

3. The abolition of the Foot Line Guards and Horse Patrols, and the creation of a class of native artificers, who will reside at the offices, and be under the immediate orders of the assistants in charge.

The alterations in the designations and salaries proposed by Lieutenant Colonel Douglas, are as follows:

1. The three present "Superintendents of Divisions," drawing one a salary of 600 rupees a month, and the other two, 500 rupees a month, to be replaced by three "Directors," one of whom is to receive 1,000 rupees* a month, and the other two, 800 rupees a month.

* These are Staff salaries drawn by Military officers.

2. The ten "Deputy Superintendents of Circles," to be styled in future "Superintendents," and to be increased to 15, divided into classes as follows:

			Rs.
One 1st Class Superintendent	- - - - - -		700
Two 2d	ditto,	at 600 - - - - -	1,200
Four 3d	ditto,	at 500 - - - - -	2,000
Five 4th	ditto,	at 400 - - - - -	2,000
Three Extra Superintendents,		at 350 - - - - -	1,050

The Director General proposes to assign to each superintendent of a circle an assistant superintendent upon 300 rupees per month. The object of this appointment is to admit of either the superintendent or his assistant constantly superintending the arrangements on the lines. Lieutenant Colonel Douglas considers this an important feature of his scheme.

3. The next grade of superior officers is that of inspector. These officers are at present divided into four classes, known as 1st class; 2d class A.; 2d class B.; and 3d class. The simpler designations of 1st class, 2d class, 3d class, and 4th class, are proposed. The salaries of the classes continue as before, but their position is improved by a re-adjustment of the proportions assigned to the different classes, and their number is increased from 85 to 100. The proposed changes in this branch are shown below:

Present.		Salary.	Proposed.	
17	1st Class - - -	250 - - - -	20	1st Class.
12	2d Class A. - - -	200 - - - -	30	2d Class.
20	2d Class B. - - -	150 - - - -	40	3d Class.
36	3d Class - - -	100 - - - -	10	4th Class.

Lieutenant Colonel Douglas suggests in his 18th paragraph, that the Director General should be vested with power to make any promotions or changes below the grade of inspectors which he may consider necessary without reference to Government, provided that they are within the sanctioned limit of expenditure; and that a copy of his departmental orders may be accepted as sufficient authority for such changes by the Audit Department.

Remarks.

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Remarks.—The Governor General in Council is of opinion that the officiating Director General has shown good ground for the several changes which he recommends, and that they may all be safely adopted. It is understood that some of the reductions have for some time been in progress. His Excellency in Council, however, greatly doubts whether the salaries proposed for the three superintendents or directors, as Lieutenant Colonel Douglas would now call them, are sufficient. He thinks that the two junior superintendents, commencing on 700 rupees a month, should receive in the second year of their appointment, and in every following year, an increase of 50 rupees a month up to 1,000 rupees, which should be the maximum, and that the senior superintendent, commencing on 1,000 rupees a month, should receive in the second year after his appointment as senior superintendent, and in every succeeding year an increase of 100 rupees a month up to 1,500 rupees. These salaries, as regards future incumbents, should be consolidated without reference to military rank, if they are held by officers of the army. The Governor General in Council has no objection to vesting the Director General with the authority proposed in the 18th paragraph of his letter in regard to promotions in the lower grades of the Department.

ORDERED, that the case be referred to the Financial Department for further consideration of the proposed Establishment, with reference to Extract from that Department, No. 5039, dated the 24th April 1861.

Financial Department, Fort William, the 10th December 1861.

RESOLUTION.

THE Governor General in Council is pleased to sanction all the above proposals.

Copy forwarded to the Home Department for information, and for the issue of farther necessary orders.

Copy forwarded also to the Auditor General of India, in the Telegraph Department, for information and guidance.

(No. 183.)

FORWARDED to the Director General of Telegraphs in India, with reference to his letter No. 1263, dated the 20th August last.

By Order,

Home Department,
10 January 1862.

(signed) *A. M. Monteath,*
Under Secretary to the Government of India.

(Home Department.—Electric Telegraph.—No. 6, of 1865.)

To the Right Honourable Sir *Charles Wood*, Bart., G.C.B., Secretary of State for India.

Sir,

Simla, 7 July 1865.

IN continuation of our Despatch, No. 2, dated the 6th October 1864, we have the honour to transmit, for your information, the accompanying copy of reports submitted by Colonel Douglas on the defective working of the Telegraph Department, and on the measures required for promoting its efficiency, together with a copy of our reply to that officer, and of the other orders that we have issued on the subject.

From Colonel Douglas, No. 2939, dated 1st February 1865, with App. A. to F.
From Colonel Douglas, No. 269, dated 23rd May 1865, and enclosures.
To Colonel Douglas, No. 1626, dated 17th June 1865.
To Secretary to Government of Bengal, Public Works Department, No. 1935, dated 29th June 1865.
Resolution to Financial Department, No. 1937, dated 29th June 1865.
Resolution, from Financial Department, No. 1178, dated 3d July 1865.

We have, &c.

(signed) *John Lawrence,*
W. Mansfield,
W. Grey,
G. N. Taylor,
W. N. Massey,
H. M. Durand.

From Lieutenant Colonel *C. Douglas*, Director General of Telegraphs in India, to *E. C. Bayley*, Esq., Secretary to the Government of India (No. 2939); dated 1 February 1865.

YOUR No. 1344, of the 13th July, in reference to the many complaints of the defective working of the Telegraph Department, invites my attention to the necessity of considering whether there are any measures "which may be likely to promote the practical efficiency

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of the Department," suggests, in view to that result, the abolition of the grade of directors and the constitution of smaller circles, each controlled by a superintendent on a superior rate of pay, vested with larger powers, and directly responsible to the Head of the Department; and observes that, if in this, or in any other direction, I may deem it expedient to propose changes involving increased expenditure, I will point out whether such additional expenditure can be met, either by reductions in other directions, or by increasing the scale of charges for the transmission of messages. Your letter further suggests a closer and more effective supervision over both the lines and offices.

2. The working of certain of the lines of the Department, during the past rains, has been unsatisfactory, beyond my experience, of any former year. I attribute this to the following causes:

1st. The incomplete state of many of the lines.

2d. Defective insulation.

3d. An insufficient strength of the signalling establishment.

3. As respects the first-mentioned cause, the bad working was not general, but was, as a rule, limited, either to lines still temporary, such as those of the Punjab circle, or to those in which, although the temporary supports had been replaced by iron standards, as in the case of the Indore, Bombay, Scinde, and Dacca circles, the change had, nevertheless, in consequence of the bad quality of the wooden top-pieces, sent from England with these posts, proved the reverse of advantageous; the risk of interruptions from breakage of the line, and of bad working from leakage of currents, having both been thereby largely increased.

4. This will be better understood when it is mentioned that, in these re-constructions, a 16-feet in length of generally sound and fairly serviceable wood had been replaced by the 3½-feet English wooden top-pieces of the Hamilton Standards; and that, along with the drawback of less than one-fourth of the original insulating power, obtainable from the wood itself, there was this further drawback, that, while the original posts were sound, and therefore, during rain, wet skin-deep merely, the 3½-feet tops, which replaced them, were, in consequence of their sponginess from rot, wet to the heart. Where, however, the Brooke insulators had been set up on these rotten posts, the leakage of current was usually sufficiently moderate to render work possible, with an exception that will be mentioned further on.

5. The second of the causes of the bad working, was bad insulation. Where the ordinary wooden posts in sound condition are used, as on temporary lines, insulation with a single line is not imperative; and it is rarely the case that signalling has to be entirely suspended, even during heavy rain. The signalling may be slow, it may entail repetition at every station, with the delays and errors which this process gives rise to; and it may require very large battery-power at one end of a line to get a perceptible current through to the other; yet signalling still goes on. The case is, however, far otherwise when more than one line is carried on the same set of posts; in such case, defective insulation leads to cross leakage, the "sent" signals returning to the sending station by the other wires, and being received at all the other instruments in the sending office, and *vice versâ*; and the signals along the various wires become so entangled at the receiving station, as to render receiving impossible through more than one wire at a time. Both in Calcutta and Bombay, the former having eight the latter five wires on the same supports, great inconvenience was felt this year from cross-leakage from the moment the rains had fairly set in, as only one line could then be worked at a time. Of the lines radiating from Calcutta, but two were, from the amount of business on them, of any great importance, viz., that to Agra, and that to Madras; but of those radiating from Bombay, there were three of great importance, viz., the line to Agra, and the coast lines north and south of Bombay, all as heavily worked as the direct line hence to Agra, and the impediments to work arising from cross-leakage were, in proportion, greater in Bombay than here.

6. The remedy for the cross-leakage, arising from defective insulation, which was then adopted, was two-fold:—The insulators had no provision for keeping the surface of the insulating material dry; and it is, I may say, exclusively over this surface, and not through the mass of insulating material that leakage takes place; it is true that, as merely the under-surface of the insulator was exposed, its position might be viewed as a sufficient protection; and, assuming the drainage from the lower edge of the iron outer-bell not to be diffused along the insulating surface, which is flush with this edge, but to fall clear of it, then this surface might, under ordinary falls of rain, remain dry; but such could not be expected to occur during heavy rain, as the rebound of the rain from the flat upper surface of the bracket would then be sure to wet thoroughly the portion of the insulating surface immediately above it, and thus the greater part of the insulating power would be lost. In order, then, to prevent this, and to ensure a zone of dry insulating material between the wire and the earth, under even the most unfavourable circumstances of weather, the sulphur cement was removed to a depth of one inch, both from the space between the inside of the outer iron bell and the ebonite cup; and from that, between the inside of this latter and the surface of the iron supporting-stalk of the insulator, so as to leave an air space, across which escape of current would be impossible, and to interpose a surface length of 2¼ inches of insulating material between the iron outer-bell and the iron

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iron stalk, a portion of which surface was pretty certain, under the most adverse circumstances, to remain dry. The diagrams will assist in explaining this. (*See* Appendix A.)

7. By the change mentioned, a materially longer path had to be traversed by the current ere it could pass from the outer-bell to the central iron stalk, and thence by the iron post to earth; and, what is of even greater moment, a zone of dry insulating material was obtained; for, as the space from which the sulphur was removed, though one inch in depth, is but one-eighth of an inch wide, the chance of rain reflected from the bracket, reaching the entire extent of the excavation, is very small indeed.

8. The possibility of cross leakage, under any circumstances, was prevented by the application of a wire between the iron bracket, which is common to each pair of insulators, and the upper end of the iron standard which carries them. It is clear that, under this arrangement, the leakage of current, instead of passing from each wire to its neighbour, must all pass direct to the earth; and that, consequently, none can pass out of any one wire to any other on the same post, and interfere with the signals passing through it.

9. The benefit resulting from these changes on this side of India was magical; all confusion of signals from cross leakage at once ceased, and the necessity of limiting work during bad weather to one only of the several wires occupying the same set of posts ceased also, and throughout the rains there has always been direct automatic communication with Agra, with instrumental aid at three intermediate points only, viz., Burhee, Benares, and Cawnpore, instead of at the eight stations following, viz., Burdwan, Raneegunge, Burhee, Dehree, Benares, Allahabad, Cawnpore, and Futteghur, at which instrumental aid had, in every previous rainy season, been found necessary.

10. Had these changes been as successful in the neighbourhood of Bombay as on the line hence to Agra, it is more than probable that there would have been no expression of public dissatisfaction with the working of the Department on that side of India. It is certain that the work was negligently or ignorantly executed; and it appears also certain that the superintendent took no such personal interest in the operation, as in an experiment of the kind was indispensably necessary to ensure a good result. The director of the division, Mr. Galbraith, did everything in his power, when the failure of the experiment proved it had been carelessly or ignorantly made, to have it better carried out; but Mr. Galbraith had his own work to attend to, and had not sufficient time for supplementing the short-comings of the Bombay superintendent.

11. The third cause of defective working was the insufficient strength of the signalling establishment, which was more marked in Western India than elsewhere. This insufficiency has characterised the Department almost from the beginning, and has continued throughout in spite of the efforts which have been made to render the service more popular. As instances of these efforts, I may mention that the pay of the junior grades has been improved, and a special allowance has been granted by Government to the signallers employed in the expensive province of British Burmah, as well as to those who have to suffer the inconvenience of living in temporary offices on the banks of rivers on occasions of the failure of the cables or air-spans crossing them; and a definite scale of pay has been laid down, depending on character and length of service. The treatment of signallers has also, in many respects, been rendered more considerate. A limit has been placed on the powers of superintendents to punish by fine, as also on the aggregate of fine which may be inflicted in any one month. The removal of signallers from the neighbourhoods where they were first engaged, or from the offices to which they may have been first posted, except at their own request, or in consequence of departmental necessity, has been prohibited, and every latitude has been permitted for exchanges amongst themselves. Copies of the circulars which affect signallers are given as Appendix B.

12. That some satisfaction has been felt by the signallers from these and other changes may be assumed from the absence of the complaints in the newspapers, at one time so frequently made by this class. Nevertheless, although a general permission has been given to train in every office where a probationer can be obtained, some difficulty as respects numbers still exists, and the establishment of signallers is still below the requirements of the Department. Along with the difficulty experienced in obtaining fit lads as probationers, there is also a difficulty in retaining their services when they have become qualified for the post of assistant or deputy in charge of an office. The extent to which this difficulty is felt in the Bengal Circle may be judged of from the circumstance that, whereas in 1862 the average pay of the signallers of that circle was *Rs.* 49. 12. 1. each, it was in 1864 *Rs.* 40. 15. 6. only each. (*See* Appendix C.)

13. As no change in the proportioning of salary to departmental standing had intermediately been made, it is clear that this decrease in the average of salaries is due solely to a lower average of departmental service; arising, to a material extent, from the voluntary resignation of many of our most valuable hands, of from four to five years' service, for the purpose of entering better paid service elsewhere; and it is to the retention of this class of signallers that efforts should be directed. Were the difficulty felt equally throughout the Department, the proper and sufficient remedy would be a general increase of pay, but it is not so; the difficulty seems limited to the Bombay, Punjab, and Dacca Circles, to the main line hence to Bombay, and to the local lines in the neighbourhood of Bombay and Calcutta, and would not appear to be much felt in Southern India, or as to East Coast, or in Pegu. Some increase of pay to the signalling grades throughout the Department

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will be recommended, but what would suffice in this direction would, I fear, be inadequate to meet the partial difficulty I have mentioned; and some special allowance should, therefore, be granted, perhaps in the form of a main line allowance, to signallers employed on the more heavily worked main lines, as a compensation for the extra labour required on such lines, and for the skill in signalling which their efficient service demands. By these means, and by the grant of an allowance, as suggested in my Annual Report for 1861, to the signallers who may assist in the charge of offices open for continuous day and night service, the services of the valuable class above referred to would probably be retained.

14. Though not enumerated as one of the causes to which I attribute the recent bad working of the Department, I think that a generally insufficient scale of pay in the higher grades, not so decidedly present as past, is not entirely innocent of the result. The Department has been stinted throughout, not so much as respects the men at present in it, but as a Department. And I may mention that out of the 70 gentlemen appointed to it in England in 1857, only 26 now remain, five having died, six having been dismissed, and 33 having resigned, either to return to England or to join other appointments in this country.

15. The result of this early economy has been to load the inspecting grades with very inferior men; and at this moment there is no one in the grade of First Inspector of such mark or promise as to encourage me to recommend him to Government for promotion to the rank of assistant superintendent. The men in question, with perhaps two or three exceptions, know that they have no chance of promotion, and they are a barrier in the way of an improved establishment of inspectors, which probably death or pension will alone remove. The arrangement for recruiting the higher grades from England will bear good fruit in time; but if the supply is to continue, the inducements to join the Department, both immediate and prospective, must not be less than those presented by the Police and the Public Works Departments.

16. It will, therefore, be necessary to raise the scale of pay throughout the higher ranks generally. These increases, however, having for their object the encouragement of a superior class of men, it would be unnecessary that they should affect any of those inspectors who have already risen as high as their education, or character, or departmental utility warrants; and, in consequence, the increase in these grades should be conditional, on a certain test of qualification being satisfied. The details of the proposed increases will be given in the Proposition Statement, Appendix D.

17. As respects the remedies for the defects to which I charge the recent bad working, the first of these, namely, the incomplete state of many of the lines, will be remedied during the present working season. The following is a list of the principal reconstructions necessary, all of which are in progress:—

	Miles.
Punjab Circle.	
Umritsur to Peshawur	305
Rawul Pindee to Murree	41
Meerut to Rajpore	120
Roorkee to Hurdwar	19
Indore Circle.	
Indore to Bhoreghur	100
Pachora to Muxee	50
Central India Circle.	
Beizwara to Hyderabad	167
Hyderabad to Kamptee	425
Benares to Rewah (a part)	25
East Coast Circle.	
Dowlaishwaram to Coconada	32
Jellasore to Ballasore	30
Berhampore to Beizwara (a part)	150
Bombay Circle.	
Bombay to Broach (a part)	20
Poona to Sattara	64
Sattara to Mahableshwar	30
Poona to Ahmednugger	73
Sattara to Bellary	344
Belgaum to Vingorla	59
Madras Circle.	
Calicut to Kelaperamba	100
Scind Circle.	
Rajunpore to Kusmore	65
Kusmore to Jacobabad (a part)	10
Taroosha to Hyderabad (a part)	40
Hyderabad to Buddeena (a part)	50
Buddeena to Deesa	256

18. I have

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18. I have mentioned that although certain lines had been furnished with Hamilton's ¾ standards, and were, therefore, what is termed "permanent," nevertheless, in consequence of the rotten state of the English top-pieces, such lines were in reality in a much more insecure condition than those they replaced. But as all that is necessary to render this class of line permanent is a change of top-pieces, of which there is an abundant provision available at the working points, no anxiety need be entertained on their account.

19. The second cause of bad working, namely, defective insulation, will similarly be remedied under the sanction lately accorded by the Government to the employment of Captain Mallock in providing insulators. Captain Mallock is well aware of my views on the very important subject of insulation. He is aware of the defects of the insulators hitherto in use, and has been furnished with a list of the conditions which any insulator intended for our Indian lines must meet; but previous to detailing these conditions it will be well to point out the defects which the Brooke pattern of bracket and insulator has been found to possess.

20. Both bracket and insulator are too weak, and great numbers were broken through rough treatment on being first put up; with a little experience, however, the necessity of care was learnt, and these "construction" fractures ceased, but neither bracket nor insulator are well adapted to their work. Their breaking strengths are 3 cwt., and 5¾ cwt., respectively; whereas the breaking strength, necessary to have suited them for employment on our lines, should not have been less than 7½ cwt., that being the breaking strain of the Hamilton's ¾ standards; and, as has already been mentioned, no provision exists in the bracket against the splashing of rain from its surface into the insulator, nor in the insulator itself, for securing a zone of dry insulating surface.

21. The conditions to which I have referred as those indispensable with the brackets and insulators, which Captain Mallock will provide, are, as respects both, a breaking strength of not less than 7½ cwt. As respects the bracket only, a diameter suited to our top-pieces and such a section at the part which clasps the top-piece as will permit of hard screwing up without fracture, and which, in the event of such hard screwing up, will allow of the swelling of the wooden top-piece without a greater strain being thrown on the bracket, then it may be readily rendered capable of resisting; a condition which has been proved necessary, by the fracture of many of the Brooke pattern of bracket at the part in question from the cause just mentioned, each such accident causing an interruption to communication, and a heavy expense in travelling charges and labour for restoring communication. Provision, without the necessity of screws or other special additions to the bracket, against its tendency to turn round on the post, under unusual strain, or in the event of excessive shrinkage of the top-piece in dry weather. Provision for readily applying a wire-stay or a timber-strut on either side of the post. A gable-shaped section of the bracket arm, or at least of that portion which is in the immediate neighbourhood of the insulator, in order to remove all tendency to the wetting of the latter by the splashing of rain upward from it.

22. As respects the insulator the conditions are:—An amount of dry insulating surface not below a stated minimum. Provision for carrying the wire on the top of the insulator, and not below it, as in Siemen's plan, or on one side as in Varley's,—neither of these plans being suited for heavy wire. The iron outer-bell to be provided with a rain-guard for the purpose of leading the rain, which would in heavy showers and under certain accidents of position of the insulator, form a continuous stream between its lower edge and the arm of the bracket, clear of the arm and to each side of it; and provision by means of side crutches for supporting the wire on the side of the insulator at places where the line makes angles; by which provision, the leverage and the heavy cross strain which in such cases is thrown on the insulator, and especially on the cement joints connecting its various parts, is rendered much less than would otherwise be the case.

23. All these conditions are met by a bracket and insulator which I have designed, but I think it unnecessary to limit the supply to any one pattern of insulator; and, accordingly, I have instructed Captain Mallock to obtain insulators of the best varieties in present use in England—excluding Siemen's, which I consider to be mechanically vicious in construction, and deficient in insulating power—and provided the makers can so modify their patterns as to meet the conditions I have laid down, or at least the more important of them.

24. A reference to what precedes will show these conditions to be four only, of which the first is indispensable in every effective form of insulator; the second necessary where heavy wire is concerned; and the remaining two slight improvements, costing nothing, the first improving the insulator as such, and the second adding to its convenience, but neither of them obligatory, and both therefore omissable, should sufficient reason be shown.

25. However numerous the varieties of insulator may be, there will be but one pattern of bracket, the various patterns of insulator fitting it indiscriminately, and permitting of their indiscriminate use. By this arrangement, should a variety of pattern of insulators be supplied, a conclusion respecting their relative good qualities may readily be arrived at, and no countervailing inconvenience be incurred.

26. The subject of brackets and insulators has occupied more space in this letter than I at first intended; but perhaps not more than its very great importance excuses, for with

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good insulation on substantial lines, but with no other departmental change whatever, satisfactory working will be the almost certain result. An excellent illustration of this occurs in the following comparison between the working of the Bengal Circle during the months of July of the present and of the past year.

27. A reference to Appendix E. will show that, whereas in the month of July 1863, the interruptions in the Bengal Circle aggregated 61 in number; these, in the corresponding month of 1864, after the lines and insulation had been improved, became reduced to eight; and this with no changes in the Establishment of the Circle, or in its higher officers, and in spite of the reduction in the average rate of pay of the Signalling Establishment which has already been referred to in parapraph 12.

28. From the Appendix above referred to it will also be seen that, whereas the mean time-interval for messages on the line from Calcutta to Agra was, in July 1863, 55 h. 50 m., and the minimum 20 h. 56 m., these became reduced in the corresponding month of the present year to 7 h. 36 m. and 0 h. 21 m., results solely attributable to substantial lines provided with adequate insulation.

29. In what precedes, I have pointed out the defects of the Brooke insulator and bracket, but it must not be supposed that the defects mentioned exist exclusively in that pattern. Insulators of various patterns approved in England have been successively tried on the Indian lines, and have failed chiefly from want of strength. One of the most approved forms of English insulator, viz., that of Mr. Latimer Clark, supplied to the Eastern Bengal Railway, was found defective in this respect, and had to be altered previous to employment on the lines of that railway; and, in fact, at this moment I do not believe that an insulator suitable as respects strength for the Indian lines, and at the same time possessing good insulating properties, can anywhere in Europe be obtained.

30. I have no doubt that when the insulators which I have designed, and which Captain Mallock is now procuring, or which may have been modified from existing English patterns to meet my views, are applied to our lines, they will be the strongest and most effectively insulated lines in the world.

31. In the letter under reply two suggestions have been made,—the first, to abolish the rank of Director; the second, to diminish the extent, and increase the number of Circles.

32. As respects the first of these suggestions, I cannot believe the change would be found a desirable one; it would certainly effect a nominal saving of 2,150 rupees a month in salaries, this being the amount at present paid to the three Directors; but if it has been suggested as the necessary complement of the proposal to increase the number of Superintendents, and that the cost of the measure may more easily be met in this manner than in any other, then I think I can presently show that any such provision is unnecessary.

33. I look on the idea as a most undesirable departure from the principle of division of labour and of personal responsibility. The necessity of some such division of labour and responsibility as that involved in the employment of three superior officers as Heads of Groups of Circles is not peculiar to this Department, but is felt and acted on in every public department throughout the civilized world, and in every private establishment large enough to permit of the whole of one man's time being employed in a distinct section of its work. If the saving could be made, and if the expenditure of the Department could be as closely scrutinized, its business as promptly conducted, the working of its lines as closely watched, and the difficulties and obstacles to good working as quickly met and removed, without directors as with them, then there might be good reason for the change; but it is certain that if the work of the three directors were transferred to the Head of the Department, it could not be as promptly done as at present; and further, the responsibility could not be transferred, the personal presence would be wanting, as well as the local experience of places, men, and things. Contingent expenditure would increase, and probably a much larger sum would be thus indirectly lost than could be directly gained by the proposed change.

34. I have not considered the saving in office establishment which the abolition of directors would give rise to, because that would be probably more than met by the cost of extra clerks in the Director General's Office, seeing that in his office some such subdivision of the Department as at present into two or more parts would be necessary for efficiency, and at the head of each a clerk of superior ability, on a salary such as is paid to the higher class of clerks in the larger public offices. The proposition, in fact, amounts to this: to obtain the profits of a business while escaping the expenses necessary for properly conducting it, or at least a part of them. Had the principle been feasible, its first application would have been scarcely left to a government.

35. The second of these suggestions, namely, that for reducing the extent and increasing the number of circles, has doubtless originated in the idea that the bad working which characterized certain circles during the past rains was due to their inordinate extent. I think it may be gathered from what precedes that any such idea is superfluous, other sufficient reason for the bad working existing in the condition of the lines themselves; but to meet this view still more directly, I will take the case of the Bengal Circle as it stood in the year 1860 and as it stands now.

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36. In 1860 the Bengal Circle, which was one of the largest, had 2,302 miles of line, with 27 offices, and was managed by a superintendent unaided by any assistant superintendent, and was managed well. At present the extent of that circle is 1,725 miles, with 21 offices, and beside a superintendent, it has an assistant superintendent as well. The case as respects extent is, where extent is a question, and as respects the assistant superintendent, the same in all the other circles. There are not now, as in 1860, any very large circles, their dimensions having in 1863 been as much as possible equalized. I may put the case, however, yet more strongly. During the past 12 months the Bengal Superintendent has had, in addition to his own circle duties, the superintendence of the constructions going on in Assam, aggregating 667 miles, but entailing far more labour than is represented by the mere mileage, the accounts especially giving him much trouble; and during the whole of this period not only has he had no assistance in the control of this extra work, but he had not even the aid of his own assistant superintendent for the management of his own circle duties, the exigencies of construction on the Cis-Berhampooter lines having necessitated the employment of this officer in construction duty on them.

37. Thus I have shown, in disproof of the supposed desirability of reducing the dimension, and in increasing the number of circles, that these are actually smaller now than they were in 1860; and that while then the superintendent was unassisted in the management, he has now an assistant superintendent to help him.

38. I have now to consider what those changes in the establishment of the department are, which would be likely to increase its efficiency.

39. First, as respects numbers, no change is required in the rank either of director or superintendent.

40. As respects this latter rank, the establishment of superintendents, as sanctioned under the re-organization scheme, is 15, of whom 10 were for employment in circle charge, one for the charge of stores, one as personal assistant to the head of the department, and three to fill any temporary vacancies that might occur.

41. Since the above establishment was sanctioned the following changes have been ordered or suggested. By Home Offices, No. 6597 of the 15th October 1863, it was directed that the superintendent of the Ceylon lines should be borne on the Indian list of superintendents; and my No. 2015 of the 13th November 1864 suggested that, in consequence of the new constructions in Assam, and between Agra and Deesa, two additional circles should be created.

42. The new line, Ajmere to Deesa, having been completed, it is most desirable to make the changes constituting it a new circle at once; and although the lines in Assam will not be completed until about the commencement of next official year, it is still, I think, desirable, to transfer the control of their construction to the officer who will eventually hold charge of the circle, and at once; the assistant superintendent, who was placed in charge of the construction, having broken down in the matter of accounts. In a late reference to the Government it was decided that temporary vacancies in the establishment of superintendents, such as those occasioned by sick absence to Europe, or by employment in other departments, should not be provided for by an addition to the permanent strength of the grade in which the vacancy had occurred, as in the re-organization scheme of 1861, but by officiating promotions from grades below. Under this ruling the three superintendents, provided in that scheme to meet such cases, must be excluded, the establishment of this grade will, therefore, remain as at present, the superintendents to be provided for the Ceylon lines, and for the two new circles absorbing these three extra superintendents.

43. As respects assistant superintendents, I propose increasing the number in this rank by one.

The number sanctioned under the re-organization scheme was 10, subsequently increased to 13 by the appointment of three supernumerary assistant superintendents under sanction of Home Office No. 2 of the 2nd January 1864. It will not be necessary to provide an assistant superintendent for Ceylon, and therefore the number necessary for circle duty will be 12 only; but I think it is very desirable to provide an officer of this rank for duty in my own office, as well as one for the store branch, the work in which is heavier than either Captain Mallock, or the present officiating superintendent, can do justice to.

44. As respects inspectors. Under the re-organization the number of this rank was as follows:

	Number.
1st grade	20
2nd „	30
3rd „	40
4th „	10
Total	100

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Since the date of sanction to this establishment, the extent of the lines of the department, calculated as they will stand at the beginning of next official year, will have increased from 11,030 to 14,170 miles, or by 28·45 per cent.; and were the number of inspectors proportionally increased, the total of this rank would now be 128. Instead, however, of increasing the inspector's rank to 128, I propose retaining it at its present strength, viz., 90 in the first three grades, absorbing those at present in the 4th grade, into a new rank, viz., that of overseer, for the reasons mentioned in my No. 2 of the 1st May 1863, and employing the money economized by the limitation of numbers in the inspector's rank, as above, in the payment of the overseers, so far as it will go.

45. As respects signallers. The strength of the department in this rank, as sanctioned for the department under the re-organization was as follows:

Europeans or East Indians - - - - -	660
Natives - - - - - - - - - -	160
Total - - -	820

being at an average of 581 per office. Since that period the number of offices has been increased from 141 to 171, a number, which, on the completion of the Assam lines, probably by the 1st of May, will have been increased to 175. The strength proper for the signalling establishment, based on the proportion per office existing in 1861, would, therefore, be 1,018. I propose to limit it to 1,000.

46. Passing now to salaries, I consider that a general increase in the salaries of all ranks, from director downwards, is desirable.

47. The establishment of directors consists of three officers: the senior, Lieutenant Colonel Stewart, being on 1,500 rupees per month; the two juniors, Captain R. Murray and Mr. J. T. Blissett, being on 1,000 rupees each.* Both these officers are, I think, for the positions they hold, inadequately paid in comparison with officers holding appointments of similar importance and responsibilty in other branches of the public service; and I would suggest that in each case the maximum pay of a junior director should be raised from 1,000 to 1,200 rupees, commencing with 800 rupees a month, instead of 700 rupees, as at present, the increases being by annual steps of 100 rupees each, instead of 50 rupees as at present. Colonel Stewart has never joined his appointment as senior director, and it is not at all reasonable to expect that he will ever do so; and in consequence of his absence, Mr. Galbraith has officiated in the Western Division now for more than two years on a salary actually less by 25 rupees than he would have been drawing had he retained circle charge. I trust therefore that, in justice to this very deserving officer, he may be placed on the full salary of a junior director. His case has already been detailed in my No. 870 of the 29th July 1863.

48. At present the highest rate of pay in the rank of superintendent is 700 rupees. This I consider sufficient; but I would suggest that the lowest rate, at present 350 rupees, should be raised to 500 rupees. The numbers on each rate of pay now, and as I would recommend, are as follows:

At present.		*Recommended.*	
One - - on Rupees	700	Three - - on Rupees	700
Two - - „	600	Five - - „	600
Four - - „	500	Seven - - „	500
Five - - „	400		
Three - - „	350		

49. The pay of the rank of assistant superintendent, at present 300 rupees, I would increase to 400 rupees; and that of the three grades in the inspector's rank, at present 250, 200, and 150 rupees, I would increase to 350, 300. and 250 rupees respectively. I had intended recommending that the pay in these grades should be 300, 250, and 200 rupees, but when it is considered that the full salary, if sanctioned, will only be drawn conditionally on the passing of certain tests of qualification, I think the Government may congratulate itself if the full amount, as now recommended, should be expended.

50. Hitherto, if I may except the 4th inspector's grade, the designation of which grade was, under sanction of Home Office, No. 4789 of the 28th September 1863, changed to overseer, there has been no rank of European officer below that of inspector, with an exception to be mentioned; and, as a consequence, when the services of men of a lower class have been required for line construction, it has been necessary to employ them temporarily, paying them out of the estimate for the construction, and dismissing them on the construction being completed. The exception I have referred to is that of certain "artificers," as they were then termed, who it was intended to dismiss at the time of the re-organisation, but whose dismissal was not then found possible, because the full complement

* The pay of a junior director commences on 700 rupees a month, rising by 50 rupees a year to the maximum of 1,000 rupees. Mr. Blisset, under this arrangement, now draws 800 rupees; but Captain Murray is at present drawing a staff salary of 700 rupees, under Home Office, No. 3813 of 17th June 1864, which will rise by 100 rupees a year, so long as he continues to officiate for Colonel Stewart, until the maximum salary of a senior director, viz., 1,500 rupees, is attained. The maximum pay of his substantive appointment is, however, 1,000 rupees, consolidated pay.

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ment of sanctioned inspectors was not at that time complete; and as these artificers had rendered good service to the department, they were retained to supplement the deficiency in the inspector grades. The number of this class at present in the department is 29, which number I propose including in the overseer rank, increasing the number in that rank to 40, and dividing them into three grades, on 150, 120, and 100 rupees per month, the number in each grade being 10, 10, and 20, respectively.

51. There were then also 13 natives holding appointments as artificers. This number I propose increasing under the new designation of native overseer, to 20, on salaries at half the rates given to European overeers, viz., 75, 60, and 50 rupees, the number in each grade being 5, 5, and 10, respectively.

52. I have now to consider what improvement in the rate of pay to the Signalling Branch is desirable. That some improvement is, in the interests of the department, required is, I think, conclusively shown from the following facts:

53. The total number of persons in this branch was on the 31st July last, that is to say approximately, in the middle of last calendar year, 814; of which number 129 were probationers, that is to say, signallers under tuition who had never joined office, leaving 685 as the total number of working signallers.

54. The number of casualties in this number, during the calendar year just ended, has been as follows:

From deaths	8
From resignations	51
From dismissals and services dispensed with	53
And from desertions	6

55. Omitting the item of deaths, the total number of casualties has been 110, equal to 16·06 per cent., or to the 1–6·23rd part of the whole, and had probationers been included in the total the casualties from causes other than death would have risen to 139, or to 17·08 per cent.

56. In the detail of casualties I have included native signallers, as well as European, and East Indians; but the number of casualties among the native signallers is comparatively small; their number is also small, so that casualties occurring amongst them cause comparatively little inconvenience, and if these are omitted the casualties among the European and East Indian signallers, from the various causes mentioned, are as follow:—

From death	7
From resignation	42
From dismissal and services dispensed with	49
From desertions	6

Omitting the item of deaths, the total number of casualties equals 97 on a total of 605, or 16·03 per cent.

57. The present rates of pay may, from the number of dismissals, be perhaps assumed as insufficient to attract the better specimens of the classes from which our signallers are drawn, and certainly as insufficient to retain in the department such as have qualifications fitting them for employment in other better-paid paths of life.

58. The proportion of casualties amongst the European and East Indian signallers, from causes other than death, in the various circles, is distributed as follows:

1. Dacca	6 in	18 = 33·33	per cent. or	1–3rd.
2. Bombay	23 „	78 = 29·48	„	1–3·39th.
3. Indore	5 „	22 = 22·72	„	1–4·4th.
4. Punjaub	14 „	84 = 16·67	„	1–6th.
5. Madras	14 „	85 = 16·47	„	1–6·07th.
6. Bengal	20 „	123 = 16·26	„	1–6·15th.
7. Central India	6 „	55 = 10·91	„	1–9·16th.
8. Scind	2 „	33 = 6·06	„	1–16·50th.
9. East Coast	4 „	72 = 5·56	„	1–18th.
10. Pegu	1 „	35 = 2·86	„	1–35th.

59. From the above it will be seen, that, from whatever causes, the signallers of the Dacca Circle are in process of entire change in every three years, those of the Bombay Circle in about three-and-a-half years, and those of the Indore Circle in rather under four-and-a-half years. Now, as a service of at least two years is required to complete the training of a signaller, and a service of five years to render him in all points thoroughly efficient, it is obvious that no great efficiency can be expected in those three circles under such adverse circumstances,

60. The great disproportion in the per-centages of casualties in the various circles, may I think be accounted for by local surroundings. The Dacca Circle, where the heaviest per-centage of casualties exists, has a bad character from its reputed unhealthiness; and instances have occurred of resignations in that circle having been withdrawn, on the promise of transfer to some other circle.

61. In the Bombay, Punjab, Madras, and Bengal Circles, the better educated and more intelligent signallers obtain better paid employment in the police, and in the various openings that are constantly occurring, owing to the great developement of public works and private enterprise throughout India, which creates a demand for just the class of young men composing our signalling branch.

 62. The

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62. The proportion of casualties in the Scind and East Coast Circles from the cause just mentioned is comparatively small, but in Scind no public works of any importance are at present, I believe, in progress; and in the East Coast the only competitor for the services of our signallers is the Irrigation Company; further, both circles are separated from the more active commercial areas by considerable extents of country which cannot be traversed, except at an expense too considerable to be worth the while, on the chance merely of obtaining better paid employment, for it is rather through offers of higher pay on the spot, than from any contingent expectation of benefit at a distance, that the resignations of signallers occur.

63. There are not in Pegu any great public works in progress, nor has any sudden great expansion of trade occurred as in Bombay, and there are besides obstacles to a removal from the district, all of which circumstances have doubtless had their effect in keeping the proportion of casualty low; but I am very sure that the grant in 1861 of a local allowance has had a large share in the result. There is no longer now, as before the grant, the dissatisfaction with the service, and the consequent misconduct of the signallers and constant endeavour to be sent back to India; and I think that were this measure of a local allowance sanctioned to circles, in the form of full or three-quarters or other fractions of the Pegu scale of local allowance, the scale being as it were slid up or down, as the necessities of circles might appear to require; and if in some cases a main line allowance were also given, the position of the signallers could probably be improved to the extent required, at less cost than by any other scheme that occurs to me.

64. It must be remembered that the better pay I have proposed, does not mean a higher price for the same article, but the means of commanding a better article, and in obtaining from even the same article a more efficient service, that an increase in the pay of the signallers may not necessarily mean an increase in the total expenditure of this nature in the proportion of the increase, but an increase in the pay of that smaller number only of signallers, who, with better pay, would be content to carry on the work efficiently. In fact, it means efficiency in a greater proportion than is measured by the proportional increase in the money payment.

65. There is, however, another improvement in the position of signallers, which is, think, most desirable to insure efficiency. It is known to the Government that in the majority of officers the work is continuous; now to see that this work is efficiently performed, there is an assistant in charge, who, as a remuneration for the responsibilities of office charge, pecuniary and otherwise, has, what is termed an office allowance, the allowance ranging from 75 rupees, in the offices in Calcutta and Bombay, to 16 rupees, as in some of the minor offices. It is obviously impossible that the assistant in charge who draws this allowance can personally superintend the work of the office for more than one-half of the 24 hours, and he thus leaves the responsible charge for the remaining 12 hours to a signaller, who, for his extra trouble and responsibility, and liability to fine, has no special reward. It is certainly desirable that these deputy assistants, as they may conveniently be termed, should receive some remuneration, that it may be an object to undertake this responsibility, instead of being, as at present, an object to avoid it. I would, therefore, in general terms, propose that the present office allowances, the majority of which were fixed in 1859, should be revised and better proportioned than now to the relative responsibilities of office charge, and that an allowance equal to half of that drawn by the assistant in charge should be given to his deputy in all continuous service offices. Such revision must, however, form the subject of a separate reference.

66. The present sanctioned monthly payment to assistants in charge of offices under the head of "office allowance," and the increase I consider to be now required, are as follows:—

	No.	*Rs.*
Total number of offices, the allowances of which were sanctioned by Government in December 1859	146	4,635
Deduct—Allowances of offices subsequently closed	29	1,240
Present number of offices, the allowances of which were sanctioned by Government in 1859	117	3,395
Offices, the allowances of which were sanctioned by the Director General, and by the Director, Eastern Division, subsequent to 1859	13	260
Total of offices now drawing the allowance, and of allowances drawn	130	3,655
Offices for which no allowance has yet been sanctioned, but the allowances of which may be roughly estimated at an average of 30 rupees each	51	1,530
Total of the offices which should draw the allowance, and of the amount which should be drawn	181	5,185
Deduct—Amount sanctioned by Government in December 1859, as mentioned above		4,635
Difference or approximate amount now required in excess of sanction of 1859		550

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67. Assuming that three-fourths of the offices at present open are open for continuous service, and that to the allowances for these offices one-half more is added as remuneration to the deputy assistant, then the total increase under this head will be 2,494 rupees, as follows:—

	Rs.
Approximate amount of office allowance required as above for assistants in charge	5,185
Half ditto to deputy assistants, for three-fourths of the offices in the department	1,945
Total office allowance required both for assistants and for deputy assistant	7,130
Deduct amount sanctioned in 1859	4,635
Difference or approximate total increase now required	2,495

68. What measure of increase may be necessary towards the joint objects of securing a better class of signallers, and of inducing such when obtained to select the department, not as a temporary means of livelihood, but as an employment for life, cannot be estimated from any *à priori* considerations. The process of increase must be a tentative one; for the present, and probably also for the next two years, I consider that a total increase at the rate of about 20 per cent. on the present sanctioned expenditure in the salaries of this branch of the department would suffice. The present authorised strength of the department in signallers is 820, on an aggregate salary of 36,745 rupees, which, increased by 20 per cent., would raise the expenditure under this head to 44,094 rupees; and if the number is increased from 820, as at present sanctioned, to 1,000, as proposed in paragraph 45, and if the pay is also increased in like proportion, then the total expenditure under this head will become 53,774 rupees.

69. Assuming the pay and number of ministerial officers and of menial servants to remain unchanged, then the increase of monthly expenditure, arising out of the increases I have proposed, will be as follows:—

	Rs.
Increase in the pay of two directors	400
„ „ the superintendents	1,650
„ „ the assistant superintendents	1,700
Increase in the pay of the inspectors composing the present authorised establishment *	8,000
Increase in the pay of the European and East Indian overseers now in the department; also pay of the number I have proposed to add to it	2,206
Increase in the pay of the native overseers now in the department, and pay of the number I have proposed to add to it	555
Increase in the pay and number of signallers	17,029
Increase under the head Office Allowance	2,495
TOTAL	34,035
Now the present income of the department, as calculated for the official year just ending, is	9,36,000
And the present working expenses of all natures	14,23,000
Leaving a deficit of 52·08, or which is equivalent to 40,583 rupees monthly.	4,87,000

Including this deficit, the sum additional to present monthly expenditure for which provision must be made is about 74,618 rupees.

70. The Government letter under reply propose, as a means for meeting an increased expenditure, an increase in the charges on messages; and there may, perhaps, be other indirect modes of increasing the departmental revenue from messages, such as the simplification of the rules and rates of charge, and their publication and extensive circulation, provision for obtaining an acknowledgment of the arrival of a message at moderate cost, the greater extension of the system of telegraph stamps, and possibly the construction of some short lines, such as those to Muttra and Hingunghat, as suggested in my No. 3,890 of the 8th April 1864.

71. If to these means be added a reduction in the number of unremunerative offices such as that at Loodiana, which collects 7 rupees and expends 67 rupees, and if the number of continuous service offices is reduced, as with improved insulation would be possible, then the raising of revenue to the level of expenditure might be effected without so heavy an increase in the charges on messages as would without these aids be wanted.

72. I now proceed to point out what changes are desirable in the existing rules of the department respecting messages.

73. It

* On the assumption that the pay drawn during the coming year will be, on an average, a mean between the present rate and proposed maximum rate.

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73. It is known that, in those rules, certain words in the address are sent free; that the unit of number for charge is the single word, and that the unit of distance is 400 miles; that no advantage is given to the sender of a message over a long distance, although such can be sent at a relatively less cost to the department than is involved in messages over short distances. It is also known that porterage is not paid by the sender but by the receiver.

74. In what immediately follows, several points for consideration must be taken up, not in connection with any specific method of charge, but separately, for some are applicable to one system of charge but not to another.

75. As respects the method of charge, I would propose to count for charge every word except, in the address, the words "To" and "From," and the name of the "Station from"; thus assimilating the counting to what is in use on the Indo-European line, and on the lines worked in accordance with the rules of the Brussels Convention.

76. As respects the unit of number of words for charge, the present system of charging by the word does not lend itself to other than very coarse changes in the rates, for the present charge could not be conveniently raised otherwise than from one anna to one and a half, or two annas, per word per 400 miles; and the difficulty of modifying the existing rates thus arising becomes very much increased, when, instead of a distance unit of 400 miles, such smaller unit as 100 miles is adopted.

77. I would, therefore, propose to substitute the system of charging by groups of words, a system common to almost all the lines in the world, except those of India; and I would adopt the group of 20 used by the telegraphs working under the rules of the Brussels Convention, but I would so far modify that system as to permit of the receipt of a message being acknowledged, if limited to 10 words, at a half rate charge. Considering the uncertainty of the telegraph, and the importance of the interests entrusted to it, such a modification as that just proposed would be certain of proving satisfactory to the public.

78. The unit of distance in India is 400 miles, and the charge is for successive integer multiples of that unit, giving consequently no advantage to messages over long distances. In this latter respect the system of charge is opposed alike to the practice of most telegraph systems, including those working under the Brussels Convention, as to equitable treatment of the sender.

79. It will be understood that there are certain fixed departmental expenses common to all messages alike, whatever their length or the distances over which they have to be conveyed, such, for instance, as the one I have mentioned for porterage, the cost of registering at the receiving and delivering offices, as well as charges which must be incurred in order that the sender may, if he choose, ascertain and prove the delivery of his message, there are also the costs of establishments for checking the receipts on messages, and for attending to inquiries and complaints respecting them; and there are besides certain words equally required in all messages, such as departmental instructions, the office date which under Government orders has for the past three years been given free to the sender, &c. The effect of these fixed expenses common to all messages is, to render the transmission of messages over long distances proportionally more profitable than those over shorter ones, if the charge for distance is proportioned to the distance.

80. As a reasonable concession, therefore, to senders over the longer distances, it is the practice generally in Europe to charge by a scale in which, for each successive equal increase of charge, a successively increasing interval of distance is covered. Thus, under the Brussels Convention, the charges for distance, and the successive distances covered by each successive rupee of charge, are pretty closely as follow:—

Charge per 20 words, in rupees - -	1	2	3	4	5	6
Corresponding distances, in kilometers * -	75	190	340	525	750	1,015
Successive distances in kilometers covered by each successive rupee of charge -	75	115	150	185	225	265

81. The only objection that could reasonably be offered to this system of charge for distance is, that the sender has no simple rule by which to calculate the cost of his message as affected by the distance over which it is to be conveyed, but such an objection is more apparent than real, for the distance in miles, the basis of the present system of charge, can rarely be known to the sender; and the tables, to which he must consequently in such cases refer, may as well tell him the money charge on a message of 20 words between the places, as the number of single rates given in the polymetric tables under the present system.

82. The system, however, renders polymetric tables imperative; but these have the convenience of permitting of the rates of charge along the various lines being varied with reference to the traffic on them, a lower rate being levied on messages along fully worked main lines, as that to Bombay,† than on such scantily employed lines as that between Lahore and Peshawur.

83. Should

* The kilometer, equal to 62-100ths of a mile, or nearly 5-8ths of a mile.

† Omitting all charges for general superintendence, and all interest on block, the returns are, on the main line between Calcutta and Bombay, 100·2 per cent. on the working expenses.

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83. Should it, however, be considered desirable to retain the present system of charge for distance unchanged, this might be done, with some fairness to the senders over the longer distances, by levying, in addition to the charges for length of messages and distance, a fixed pay of one or two rupees.

84. When this principle of charge first suggested itself to me I had no stronger justification for the innovation than its obvious fairness; but it was suggested that the public might reasonably object to a method of charge which, on every message, levied a fixed fee of one or two rupees, besides a distinct charge for number of words and distance. The amount which occurred to me as suitable for this latter charge was four annas per every 100 miles of distance, on a message of 20 words.

85. In reality, however, the adoption of a minimum distance of 400 miles, and I may add, that of a minimum number of words as 20, although messages might frequently be sent in fewer words, is an embodiment of the same principle; but I have since found that a direct charge of a fee on every message was the practice of the French Government lines in 1861, and probably still continues so. The charge in France on a message of 20 words, consisting of a constant fee equivalent to 0-1-34 rupees, and of a variable charge equivalent to 0-10-8 rupees, per 100 miles of distance.

86. Under the system just proposed a much smaller unit than the present, such as 100 miles, may be chosen for distance. Taking, as examples of the application of this system, the cases of Burdwan and Benares, the one under 100 and the other 400 miles from Calcutta; the cost of a message from Calcutta to each of those places is, under the present system alike, namely, one rupee; but under the system above suggested, the cost, with a one rupee fee and a four anna charge for every 20 words, would be, in the first case, 1-4 rupees, and in the second case 2-4 rupees; both more in proportion to the service done than are those under the present system.

87. The present system of taking the distances for charge, as that by the direct line between the places, is unjust to the department. As well might the charge by railway be similarly regulated. The charge should certainly be in accordance with the shortest distances along the telegraph lines, by which it is possible to convey the message.

88. Hitherto no charge has been made for the delivery of messages, unless in cases where the delivery was at a distance exceeding two miles from the telegraph office; the charges for distances in excess of two miles being for the excess only. Practically this was equivalent to the delivery of the majority of messages at the cost of the department. The practice was copied from what is customary in Europe, and doubtless arose from the difficulty in collecting small sums for porterage from the receiver. The charge of the East Indian Railway Company for delivering a message is, if over half a mile from the telegraph office, two annas per mile, according to distance. Messages are only delivered free under half a mile of the telegraph office. In the rules of the Brussels Convention, which regulates the traffic on the Indo-European line, the delivery of messages at distances not over one mile is free, but beyond that distance the charge is at the rate of eight annas per mile, up to five miles, beyond which messages are not conveyed by the telegraph porters.

89. The trouble of collecting porterage charges, and of ensuring their being properly accounted for by peons, would be escaped by making a charge of say four annas for porterage, a standard item in every bill, whatever the distance, which can rarely be known at the office of original despatch. In the event of the distance exceeding five miles, which will rarely happen, the sending-out office should then levy a charge upon the receiver of the message of two annas for each mile beyond five miles. As the total number of messages during the past calendar year was 316,753, the profits from the pre-payment of porterage alone may be expected to amount to nearly 8,000 rupees monthly.

90. The existing deficit on the working of the department has been taken at 40,583 rupees per month. If to this is added 34,035 rupees on account of the increase in numbers and salaries which I have proposed, then the total sum to be made good monthly by increased charges on messages is 74,618 rupees.

91. The question now arises, how much of this deficit should be covered by additional charges on messages. It might, at first sight, be assumed as just that the public generally who use the telegraph should be required, by a proper scale of charge, to relieve the general public of India from all burdens for its support; but, in reality, the telegraph has not been constructed in view to meet solely the convenience of the public, a large number of offices having been opened in various parts of India for purposes of pure Government. I may mention the offices temporarily opened at the various temporary head quarters of Government, as Darjeeling, Murree, Parell, Malabar Point, Dapoorie, and those at the various civil and military stations, all of which are, I think, a fair charge on the general finances of the country.

92. The deficiency of departmental income, therefore, to be made good ought not, as it appears to me, to be the whole sum by which the departmental income falls short of its expenses, but a portion only of this. Leaving this consideration, however, aside, and assuming that it is desired that the full amount of the deficiency shall be made good by the increased revenue derived directly from messages, then, as the present monthly receipts

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from messages are 78,000, these must be increased by 74,618 rupees, or by 95·66 per cent.

93. That the charges on messages might be reasonably increased is evident from the following considerations. The cost of materials, owing to the distance from Europe, whence all our stores are obtained, and the expense of conveyance consequent on the general absence of railways, is, at the working points, certainly 50 per cent. in excess of the cost of such stores in Europe. The extent of line, as compared with the business done over it, is probably tenfold what it is in Europe generally (excluding Russia, and countries in a similarly backward state). In England and Belgium the average distance between contiguous offices is 10 and 11 miles respectively; and, of course, these offices are all profitable, or at least self-supporting, for there is no telegraph necessity for such close neighbourhood. In this country the distances of paying offices apart is constantly in excess of that which, with our present arrangements, we can cover without the aid of an intermediate office as a pure telegraph necessity, and a burden on the finances of the department. I may instance Dehree, which I succeeded last year in dispensing with, and Burhee, which it is still necessary to retain; and even were we able electrically to dispense with such intermediate offices, the difficulties of communication in many parts of India—travelling being possible on the East Coast, for instance, during the rains, at the rate of only one and a half miles an hour—renders it desirable to shorten the distance to be passed over by the Line Conservancy, in view to quicker restoration of communication after an interruption.

94. As to the extent to which such increase of charge might reasonably be carried, this may be, perhaps, most satisfactorily measured by a comparison of the present Indian charges with those of other countries. The present charge on a message of 16 words nominal, but of probably 20 words actual, the words in the address being counted, if sent from Calcutta to Bombay, a direct distance of 980 miles, but a line distance of 1,573 miles, is three rupees; or at the rate of three annas and 0·6 pie for 20 words, all counted, per 100 miles of line. The cost of a similar message from Calcutta to Benares, a direct distance of 400 miles, but a line distance of 420 miles, is three annas and 9·7 pie per 20 words per 100 miles of line distance.

95. In England the charge is on a message of 20 words, with 10 words allowed free as address. This may be taken as equivalent generally to something under 30 words; assuming, however, a length of 30 words, then the proportional cost on a message of 20 words, the shilling being taken at eight annas, was, according to the "Telegraph Guide" of February 1863, as follows:

Distances in miles -	- 50	100	150	200	300	400
Charges in rupees -	- 0·333.	0·500.	0·666.	0·833.	1·000.	1·333.

96. In France the charge is on a message of 20 words, address inclusive; and consists of a fee of two francs with a charge of 1–10th franc for every miriameter. Taking the franc as 5–12ths of a rupee, and the miriameter as 6·2 miles, these charges, reduced to miles and rupees, are as follow:

Distances in miles -	- 40	100	150	200	300	400
Charges in rupees -	- 1·16.	1·50.	1·83.	2·16.	2·83.	3·50.

97. Under the Convention between Prussia, Belgium, and France, signed at Brussels on the 30th June 1858, and still, I believe, in force, the charges on a message of 20 words, reduced to miles and rupees, are as follow:—

Miles -	62	155	279	434	620	837	,085	1,364	1,674	2,015
Rupees -	0·625	1·250	1·875	2·500	3·125	5·750	4·375	5·000	5·625	6 25

98. In Russia, the minimum message is of 30 words, including the address; and the proportional rates reduced to 20 words, and to rupees and miles, are as follow:—

Miles - - -	46 ½	118	211	335	480 ⅓	620
Rupees - - -	0·94	0·88	2·83	3·77	4·72	5·66

99. In America, the charges on messages are chiefly influenced by the rate of salaries paid to the signallers, and by the amount of business done on the lines; and it is stated by Shaffner ("Telegraph Manual," page 758), that few lines can pay any dividend out of the local traffic, depending for this on the through business only. In the New England States, the pay of signallers ranges from 26 rupees to 43 rupees per month; whereas in the Southern States the pay is from 43 rupees to 65 rupees, and the materials of the lines are also dearer in the Southern than in the Northern States.

100. I have not been able to ascertain the American rates, except in a few cases; as examples of the lowest rates, I may mention that the cost of a message of 20 words, including address, from New York to Boston, a distance of 240 miles, is 0·40 dollars; from New York to Washington, a distance also of 240 miles, 0·50 dollars; and from New York to Pittsburgh, 350 miles, 0·75 dollars. All these are in the Northern States.

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101. In the Southern states, the rates are, from New Orleans to Jackson, 190 miles, 0·75 dollars; New Orleans to Savannah, 650 miles, 1·40 dollars; New Orleans to Louisville, 720 miles, 1·40 dollars. Reduced at 2 rupees per dollar, these rates are —

In the Northern States:

Miles	240	350	
Rupees	0·8 to 1·0 and 0–12–10 to 1–0–0	1–12–10	

In the Southern States:

Miles	190	650	720
Rupees	1–8–0	2–12–10	2–12–10

102. The rates on messages of 20 words by the new Indo-European lines are as follow:—

In India:

From Kurrachee

	To Bombay.	To Calcutta.	To Rangoon.
Miles	870	1,720	2,643
Rupees	4–12–0	4–12–0	6–12–0

In Asiatic Turkey:

Miles	400	703	959	1,214	1,462	1,737
Rupees	4–13–0	6–0–0	7–4–0	8–7–0	9–10–0	11–0–0

In Persia:

Miles	160	413	666	913	1,113
Rupees	1–4–0	2–12–0	4–4–0	6–0–0	8–0–0

103. From what precedes, a good general idea may be obtained of the comparative rates of charge on very variously circumstanced lines. To assist in giving a clearer idea on this subject, the preceding information has been exhibited by diagram in Appendix (F).

104. From the diagrams, it will be seen that, accepting the preceding data as correct, the Indian telegraph is the cheapest in the world.

105. A comparison of its rates with those of the European lines working under the Brussels Convention proves that, in general terms, the Indian rates, up to 800 or 1,000 miles, might be at least doubled, and still be as low as those of the lines in question.

106. In paragraph 92, it was shown that, to place the income of the departments on a level with its expenditure, the returns from messages must be increased by 72,300 rupees, or by 92·70 per cent.

107. Three methods have been sketched out under which the increased charges might be regulated. The first is that in present force on the Government lines in India; and under it the increased charges might be at once brought into operation, it being merely necessary to direct that, from the date fixed on, the charges for distance shall be levied on every 200 miles, instead of every 400 miles, as at present. A charge of four annas on every message for porterage might also, perhaps, be levied. As the method of charge just sketched is, as I have shown, radically defective, I would suggest that its introduction should be temporary, and pending the arrangement of some more perfect system.

108. The second method of charge is that in use on the French lines, viz., a fixed fee on the message, with an additional payment regulated according to distance. Were this system adopted, I would fix the amount of the fee at two rupees, and the distance charge at four annas for every 100 miles; but as the proportional increase would, on the above scale of charge, fall materially short of what is required, it would be proper to levy the charge for distance not on the direct distance, as at present, but on the distance as measured along the line; and even under this modification of the system, and assuming the increase in rates to occasion no decrease either on the number or in the average length of messages, the income produced will fall short by about 1½ per cent. of what has been assumed as necessary.

109. This system does not, like the first, recommend itself as being capable of immediate introduction, as it involves the preparation either of maps with the mileage between the various telegraph offices entered, or of polymetric tables; nor is it so equitable to the sender as the one which follows; but it has the doubtful advantage over this last of permitting

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mitting a sender himself to calculate the cost of his message, with the aid only of a map of the telegraph lines.

110. The third, and by far the most perfect method of regulating charges, is that described in paragraph 80, in which an advantage is given to messages over the longer distances; but the method renders tables of the rates from every telegraph office to every other indispensable; and these could not, I think, be prepared and circulated to signal offices in less than three months, comprising, as they would do, 36,000 entries.

111. The amount of fixed fee, and of variable charge for distance, to be levied under the second of the preceding systems, was ascertained after a detailed examination of all the messages passed through the department during a particular day; but it is not possible to make any such estimate as respects the third mode of charging until after the normal rates for distance on lines in average work have been fixed, and the proportional increases or decreases on these normal rates, to meet the circumstance of scantily used lines, as those in Assam, or of those fully employed, as the lines from Bombay to Calcutta and Kurrachee, have been decided on.

112. To give, however, a general idea of the scale I should be disposed to recommend, I have drawn it on the sheet of diagrams as an interrupted line.

113. The curve adopted is that of the common parabola; and it will be seen to give rates somewhat larger than, but very similarly proportioned to, those of the Brussels Convention; and it would be easy, by means of a constant multiplier, to increase these rates, to meet the case of scantily used lines; and similarly, by a divisor, to decrease the rates, to meet the opposite case.

114. I may as well, perhaps, mention that my reason for selecting this curve as that for exhibiting the rates was in view to the ease with which the rates may be taken from a table of the square roots of numbers; for if we take the series of common numbers, 1, 2, 3, &c., and consider them as representing 100, 200, 300, &c., miles of distance, we have in the square roots of these numbers the ordinates of curve representing the rates; and it was in this manner that the curve of rates shown in the diagram was laid down. I mention this, because where a very large number of rates are to be ascertained, it is of great importance to have a method of determining them which is sufficiently simple to be employed by an ordinary clerk; and which, by permitting of the use of existing printed tables, saves all the labour and risk of error which calculations without such assistance involve. I am here assuming that the rates will be given, not for the nearest 100 miles, but for the exact distance between the places.

I have, &c.
(signed) *C. Douglas*, Lieut.-Colonel,
Director General of Telegraphs in India.

From Lieutenant Colonel *C. Douglas*, Director General of Telegraphs in India, to *E. C. Bayley*, Esq., Secretary to the Government of India (No. 269); dated 23 May 1865.

Captain R. Murray, Director of Telegraphs, Eastern Division.
J. T. Blisset, Esq., Director of Telegraphs, Southern Division.
C. Galbraith, Esq., Officiating Director of Telegraphs, Western Division.
B. C. Bailey, Esq., Superintendent of Telegraphs, East Coast Circle.
J. H. Lane, Esq., Superintendent of Telegraphs, Bengal Circle.

In continuation of my No. 2939, of the 1st February last, I forward the confidential reports of the officers noted in the margin.

2. These reports will give the Government of India the opportunity of forming its own opnion of what changes in the constitution and system of the department are, in the opinion of some of its ablest officers, desirable.

3. The reports were furnished in reply to an endorsement on copy of Home Office, No. 1344, of the 13th July 1864, a copy of which is given below.

"*Confidential.*—The Director General will be glad to receive your early opinion on this important reference. The utmost freedom of discussion is invited."

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From Captain *R. Murray*, Director of Telegraphs, Officiating Eastern Division, to Lieutenant Colonel *C. Douglas*, Director General of Telegraphs in India (No. 63-969); dated 31 August 1864.

I HAVE to acknowledge the receipt of your docket, No. 981, dated 27th July 1864, forwarding copy of letter, No. 1344, dated Simla, 13th July 1864, from the Secretary to the Government of India, in the Home Department, and requesting my opinion on the important reference in it made.

2. In discussing the several points of the Government Letter, No. 1344, I think it will be convenient to treat of them under the following heads:—

(I.) The present defective and inefficient working of the Department, the causes of it, and the measures necessary to remedy and remove the existing defects and evils, and to attain the desired efficient working of it.

(II.) Whether a closer and more effective supervision of lines and offices would produce results which could not be otherwise obtained, except at considerably greater expense.

(III.) The abolition of the grade of director with a re-engagement and greater number of smaller circles under the charge of superintendents on higher rates of pay vested with increased powers, and directly under and responsible to the head of the department.

(IV.) The means of providing for the additional expenditure on account of the increased number of superintendents with higher salaries either by reduction in other directions or by increasing the scale of charges.

3. The present working of the department is inefficient and not satisfactory. The causes of its being so are: first, the existing very bad state of many sections of the lines; secondly, the inefficiency and insufficiency of the signalling establishment; and, thirdly, in some instances the want of a stricter supervision by superintendents and assistant superintendents of the working of the offices.

4. Up to the present date many sections of the lines of the department have not been constructed in a permanent manner; most of them are still not insulated. Till they are permanently constructed and efficiently insulated, the working of the department will not be efficient or satisfactory. As an illustration, I will instance the present state of the main lines of the Punjab Circle. From Agra to Umritsur the lines are constructed with Hamilton's three-quarter standards unfortunately provided with English top pieces (except on the section Delhi to Kurnaul which has country-made top pieces), and all insulated as far as Umballah with Brooke insulators attached to the top pieces by means of the cast iron caps. All the English top pieces are unserviceable from dry rot and the ravages of the white ants, which appear to have a particular partiality to the beech wood, of which the tops are chiefly composed, and are so frequently breaking that no reliance can be placed on the lines. The caps, as a means of attaching the insulators to the standards, are wholly unsuited for the purpose, and so inefficient that the insulators fall out of them with very little vibrations of the wire, allowing the wire to come in contact with the iron standards, thereby causing an interruption, or at least imperfect communication, till the line rider from the office on either side arrives at the spot and replaces the wire on the post. The utter inefficiency and uselessness of the caps have been so thoroughly proved, that the employment of them as a means of attaching the insulators to the posts has very wisely been directed to be discontinued.

5. New teak top pieces and brackets for carrying the insulators for this division of the circle are now in the course of distribution, and I see no reason why the line from Agra to Umritsur should not be in a thoroughly efficient state before the 1st of January 1865.

6. Of the sections of the lines of the Punjab Circle to the north-west and south-west of Umritsur it may be stated that they are generally unserviceable in consequence of the decayed and ant-eaten condition of the fir posts supporting the wire. These supports have in most instances been spliced and replanted oftener than once, are now nearly useless, and when it rains, become so saturated that almost all the current escapes, thus causing imperfect communication, with its accompaniment bad and difficult working, if not interruptions. The supports on the line from Lahore to Mooltan are literally rotten. For the reconstruction of these lines, Hamilton's three-quarter standards, with Brooke insulators and caps were indented for in January 1863, but in consequence of the arrangements made for their carriage from Bombay to Mooltan, the last of them are now only arriving at Mooltan. Top pieces of babool obtained on the spot, and brackets for carrying the insulators, ar being provided for these lines. Every exertion is being made to have the lines beyond Umritsur reconstructed and insulated during next working season, and I am sanguine about having them all in good order before next rains.

7. If other circles of the department stand as much in need of permanent reconstruc-

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tion and insulation as the Punjab Circle, it is not difficult to arrive at the chief and primary cause of the present inefficient and not satisfactory working of the department.

8. I have entered into this comparatively lengthened statement of the lines of the Punjab Circle chiefly as an example of how much remains to be effected before satisfactory or efficient working can be expected. That good and satisfactory working may be looked for and attained when the lines are permanently constructed and efficiently insulated is proved by the fact that since the line, Calcutta to Agra, has been permanently constructed and insulated, though not in a thoroughly efficient manner, the interruptions have been very few, and the working so good, that even in rainy weather Calcutta very often works direct with Agra; and when the lines of the Punjab and other circles are reconstructed in a similar manner and insulated, I see no reason why they should not work as well as the line Calcutta to Agra, and give a general result very different from that at present obtained.

9. I enclose a statement of the maxima and minima time intervals of messages received in the Agra Office from the offices at Calcutta and Bombay for the months of May, June, and July of the years 1863 and 1864, and some few of the same months of 1862, from which it will be seen that the maxima time intervals from Calcutta have decreased from an average of 36 hours 15⅔ minutes in 1863, to an average of 9 hours 6⅓ minutes in 1864; the minima time intervals from Calcutta have decreased from an average of 9 hours 4⅔ minutes in 1863, to an average of 34⅓ minutes in 1864; the maxima time intervals from Bombay have increased from an average of 27 hours 15⅓ minutes in 1863, to an average of 64 hours 8⅔ minutes in 1864; and the minima time intervals from Bombay have increased from an average of 3 hours 28⅔ minutes in 1863, to an average of 20 hours 38⅓ minutes in 1864, giving a general average from Calcutta of 22 hours 40 minutes in 1863, reduced to 4 hours 50⅓ minutes in 1864; while the Bombay general average of 15 hours 22 minutes for 1863 has been increased to 42 hours 23⅓ minutes in 1864.

10. The above is, I consider, proof of the great improvement in the general working of the line, Calcutta to Agra, in consequence of its being permanently constructed, and I expect a further reduction of the maxima and minima time intervals over this line, particularly the former, as soon as the insulation of those portions of it which are multiple or double is rendered less imperfect and defective than it now is; for at present, in consequence of the imperfect insulation, hardly a day passes without contacts taking place, when for the time being, the multiple and double lines can only be used as single lines, which, as a matter of course, are much cut in upon for the transmission of local messages, whereby the transmission of the through messages is somewhat retarded.

11. The cause of the very great increase of the time intervals of messages from Bombay to Agra is, I conclude, the present state of the lines of the Indore Circle, consequent on the unfortunately extensive use of rotten English top pieces for the new Hamilton standards lately erected.

12. I have stated that the inefficiency and insufficiency of the signalling establishment is the second cause of the not satisfactory working of the department.

13. For every instrument in a repeating office through which messages are passing night and day, 2½ signallers per instrument is not more than sufficient; where the work is higher, the rate may be reduced to two, one and a-half, or even one signaller per instrument, exclusive of the inspector or assistant in charge, and the deputy assistant, where the latter is allowed. Up to the present time I doubt if any of the circles of the eastern and western divisions have anything like the number required to provide signallers to their offices at the before-mentioned rates.

14. Of late, in the eastern division, the number of signallers has been on the increase; but as it has been almost entirely by probationers trained in the school at Barrackpore, and in the offices of the divisions, the increase to the efficiency of the establishment has not been in proportion to the increased number of hands, for, as a rule, the boys taken on as probationers cannot be considered as anything like efficient signallers till they have been at work in an office for one year.

15. During the years 1860 and 1861 in the western division, and for the last two years in the eastern division, the training schools for probationers have been more or less under my immediate orders, and I have been much surprised at the very grant want of education, even in its most simple forms, displayed by the greater number of the boys, and in some cases young men who have presented themselves as candidates for the vacancies in the Signalling Establishment. At first it was directed that candidates would not be entertained unless able to write a sentence of English from dictation in a good and legible hand with accuracy and correctness, and to solve questions in arithmetic, including the rule of simple proportion. In consequence of the very small number of boys who could pass the above examination, the number of vacancies to be filled up, and the urgent demand for signallers, the tests had to be reduced, till now the only one required is capability of writing a sentence of English with but moderate accuracy and in an indifferent hand, in reality

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reality leaving the education of many of the boys to be commenced and finished by the Department; yet, as a rule, this appears to be the extent of education possessed by the class of boys who on this side of India present themselves as candidates for the existing vacancies, and from it the greater proportion of our signallers are obtained. It is true, in the course of a few months, with the instruction the boys receive in the school and offices, many of them pick up and improve wonderfully, and as the work in a Telegraph Office has in some respects a tendency to sharpen the wits and to bring out what may be in a boy, not a few become expert and good signallers; but by the time they are so, and of value to the Department, the period of two years for which they are at first bound to serve, has nearly expired; when, not having received any increase of pay, and the yearly increases to be expected under the rules of the Department within the next two years following, should they continue to serve, being but small, they seek and frequently obtain better paid employment elsewhere, and for it leave the Department, and the less intelligent and inefficient boys behind them in it. So that, after having been educated and paid by the Department for two years, but without having rendered any adequate service in return, many of those who are most likely to turn out good and efficient signallers leave it; the consequence is the present dearth, not so much of signallers as of efficient and experienced ones.

16. On the 1st July 1862, on the 1st March 1863, and on the 1st March 1864, general increases of pay were granted to the signallers all through the Department. The result of three such general increases of pay within two years would, it may be supposed, have raised the average rate of pay to the signallers at present in the Department; but taking the Bengal Circle as an instance, I find the contrary; for in 1862, 96 signallers drew *Rs.* 4,770 8. per mensem, being at the average of *Rs.* 49 11. 1. each; while in 1864, 108 signallers drew 4,345 rupees per mensem, being at the average rate of *Rs.* 40 3. 8. As under the existing rules as to the grant of increases of pay the higher paid signallers are generally and correctly considered the most experienced and efficient, it follows from the foregoing that the number of older and more experienced and efficient signallers has decreased, while the number of the younger and less experienced and efficient has increased.

17. In Madras the class of boys who present themselves as candidates for the situation of signallers is, as far as I have had an opportunity of judging and ascertaining, in all respects very much superior to those from which the supply of signallers is obtained in the Eastern and Western Divisions. As a rule, the boys are two or three years older, and are very much better educated; but then, in consequence of Madras being a much cheaper Presidency than either Bengal or Bombay, 30 rupees per mensem, a passed probationer's pay, is there worth considerably more than it is in either of the other two Presidencies. This is, I believe, one of the chief reasons why boys from Madras so often endeavour to get back to it.

18. The minimum age at which boys can be entertained as probationers is 12 years, and is, I consider, much too young. Under 14 years boys are in reality but children in all respects; without education as a rule, and, from their tender age, wholly unfit for and incapable of the performance of the duties required from signallers in offices where night work has to be performed, or when sent to temporary offices on the banks of rivers during the monsoon season. A young boy cannot keep awake; neither punishments inflicted, nor the dread of fines, have any effect in making him remain awake at night if left to himself. Many messages are, I have no doubt, lost through young signallers being placed on night watches and falling asleep at the instrument; for when called by a distant station to receive, being sleepy, indifferent, and not thoroughly roused, instead of receiving and writing down the message they simply give the understood signal after each word, at the end of the message, their names, and then, without having taken down one word of the message, resting their heads on the desk fall asleep again. For these reasons I am of opinion that no boy under 14 years of age should be entertained; and, if possible, that no signaller of less than one year's service should be placed alone on a night watch in an office where night work is the rule.

19. I am of opinion that it would tend considerably to the improvement of the signallers if they were always furnished with better accommodation than is now in many offices provided for them; such accommodation to include a separate room for them to take their meals in, and to remain in when not on duty. In many offices the signallers are too much crowded together. For persons of their age, who from the nature of their duties, are obliged to pass the greater portion of their time at work, necessitating their being constantly in doors and in attendance at the instruments, ample accommodation becomes necessary, and should be provided.

20. The Signalling Establishment requires to be increased, and the education of it raised to a higher standard before it can be thoroughly efficient for the correct and satisfactory working of the Department; but I see no chance of either of these ends being attained without some increase of expenditure.

21. The signallers who were taken on at the School at Ootacamund in 1859 and 1860

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were so on 50 rupees a month, and were bound to serve for five years. Some of the signallers taken on at Madras within the last two years were bound to serve for five years, their pay being 30 rupees a month from the day on which they passed as signallers, with an annual increase of 5 rupees per mensem up to the maximum of 50 rupees. The signallers entertained in the Eastern Division are so under deeds to serve for two years and three months, their pay being 30 rupees a month from the day on which they pass as signallers, but without any guaranteed increase of pay; and by your New Series Circular No. 29, a signaller of average character and ability is only entitled to an annual increase of 3 rupees a month, the first increase commencing after two years' service.

22. If boys of a better class and education will take employment in this Department on pay at 35 or 40 rupees a month from the date on which they pass as signallers, with the annual increase for average character, as laid down in your New Series Circular No. 29, commencing at the expiration of their first year's service, I think the experiment might be tried. The bonds to be for four years.

23. During the past working season, in consequence of many of the Assistant Superintendents having been employed on construction duties instead of inspecting and rectifying errors, &c., in the working of the offices, it has not been possible for them or the Superintendents to effect so strict a supervision of the offices as is considered necessary. This, however, will rectify itself as soon as the lines are reconstructed, when the necessity for Assistant Superintendents being employed on duties other than those of inspection and supervision will cease.

24. For most of the Circles of the Department, as at present arranged, a Superintendent and Assistant Superintendent appear to be quite sufficient for the effective supervision of the lines and offices, always provided the former are permanently constructed, and that there are no arrear accounts to be adjusted requiring from the Superintendent a large portion of the time which should be solely devoted to his more important and legitimate duties, namely, the management and supervision of his Circle.

25. The abolition of the grade of Director is not advisable, but I am of opinion that the appointment of Director, by being vested with enlarged and definite powers and responsibility, is susceptible of being rendered of very much greater use and benefit to the Department than as at present constituted.

26. A Director has power to entertain probationers, and to increase their salaries up to the maximum amount specified in their bonds or deeds, to dismiss signallers under three years' service, to inflict fines on signallers equal to one-fifth of their pay, to order and sanction changes within the Division, to grant privilege leave to Inspectors and others in grades below that of Inspectors, to sanction expenditure within the limit of 500 rupees for any one charge, and of 1,000 rupees for the entire Division for any one month, but only on working account. While, if a charge be but for one rupee on account of petty repairs to a line consequent on an interruption, the Directors' sanction is not considered sufficient authority: this is anomalous.

27. As the appointments of Director General, Directors of Divisions and Superintendents of Circles in the Telegraph Department are relatively similar to the appointments of Chief Engineers, Superintending Engineers, and Executive Engineers of the Department of Public Works, and of the Director General, Post Masters General and Post Masters in the Postal Department, it appears that it would be but consistent to confer on the Directors of Divisions of the Telegraph Department the same powers and authority as are vested in Superintending Engineers in the Public Works Department, and in Post Masters General in the Postal Department, within the limits of which all orders issued by Director to be considered as sufficient authority, but to be submitted to the Director General for his information through the medium of the Diaries as at present instituted, should it be considered expedient and necessary. A modification of this nature and to the above extent would, I am of opinion, much facilitate the working of the Department at large, and by relieving the head of it from the necessity of examining into and disposing of minute details, would afford him more time for the many matters of importance constantly calling for his consideration and disposal.

28. In the Eastern Division some alterations in the boundaries and reductions in the extent of the Circles would be advisable. The lines to Darjeeling and Assam should be formed into a separate Circle, as without them the Bengal Circle is as large as it ought to be, and cannot be reduced in any other direction without placing the main line, Calcutta to Agra, under the orders of two Superintendents; a measure the contrary of advisable. The Punjab Circle commencing at Futtyghur and Agra to South-East, and extending to Peshawur, Dehra Ishmael Khan, and Rajunpore to the North-West, covers an immense extent of country, and has its extremities at so great a distance from its Head-quarters, whether they be stationed at Lahore or Umbellah, as to be very difficult of management and supervision. It will, I consider, be advisable to reduce its extent, and to make Umballah the station at which it terminates; forming all the lines and offices to the South-East of that station into a separate Circle with its Head-quarters at Meerut. Both the Circles formed out of the present Punjab Circle to be 3rd Class Circles. If this

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this cannot be effected then two Assistant Superintendents should be appointed, one for the Cis, the other for the Trans-Sutlej Divisions of the present Punjab Circle.

29. The salaries of the appointments of the Telegraph Department below that of Director General are much less than those of similar appointments, having a like amount of work and responsibility of the other Civil Departments of the Government Service. A comparison of the salaries of the Postal Department with those sanctioned for the Telegraph Department will show that the former are very much in excess of the latter, while the work, &c., of the appointments in the Telegraph are at least as great as those of the Post Office. When this is the case, the reason for the very great difference in emoluments is not easily understood.

30. At present the rates of pay of Superintendents are from 350 to 700 rupees a month. These, particularly the lesser rates, are too low; nor is there sufficient difference between the lowest rate of pay of a Superintendent and that of an Assistant Superintendent, the one being 350, the other 300 rupees a month. I think it would not be too much if the maximum and minimum rates of Superintendents' salaries were respectively increased from 700 and 350 to 900 and 500 rupees a month; Assistant Superintendents' salaries being increased to 400, 1st Inspector to 300, 2nd Inspector to 250, and 3rd Inspector to 200 rupees a month.

31. The revenue of the Department is increasing steadily, and may with safety be calculated to continue doing so. This of itself will provide for a certain portion of any additional expenditure on account of increased salaries, and more than the difference can at once be provided for without any additional expense to the State, by slightly raising the charges for the transmission of messages. An increase of 25 per cent. on the present charges would at once provide 2,25,000 rupees to meet increased salaries.

32. In India the cost of the materials, construction, maintenance, and working of a Telegraph is greater, I believe, than in almost any other country in the world; yet instead of the charges for the transmission of messages in India being greater in proportion to the cost of constructing and working the Telegraph, they are understood to be less than in Europe and America. This is reversing the custom which generally obtains in regulating other charges in India, which, as a rule, are at rates seldom less but often more than double those made in Europe.

33. Referring to the 9th paragraph of this letter, I also forward diagrams of the interruptions on the two sections of the main line, Calcutta to Agra, for the years 1862-63, and the first seven months of the year 1864; from which will be seen the very great reduction in the aggregate duration of the interruptions since the lines have been permanently constructed.

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MAXIMA TIME Intervals of Messages from *Calcutta* to *Agra*.

Date.	MAY. 1862.	MAY. 1863.	MAY. 1864.	JUNE. 1862.	JUNE. 1863.	JUNE. 1864.	JULY. 1862.	JULY. 1863.	JULY. 1864.
	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	-	11 22	13 01	-	12 20	13 55	34 30	-	5 38
2	-	16 21	32 35	-	9 10	25 38	37 45	-	6 48
3	-	7 19	9 22	-	14 04	15 06	-	57 30	1 10
4	-	6 58	19 25	-	25 09	3 20	-	43 20	-
5	-	7 56	6 15	-	43 54	6 30	-	74 00	2 41
6	-	36 09	1 25	-	31 14	5 21	96 00	-	11 26
7	-	14 38	7 04	-	37 58	8 41	45 45	74 55	8 14
8	-	26 50	5 30	-	28 49	12 37	11 45	100 02	11 47
9	-	45 20	0 55	-	51 20	8 14	-	52 32	19 39
10	-	15 49	0 56	-	38 41	7 19	-	44 49	2 29
11	-	8 22	7 12	-	57 11	10 17	-	63 47	1 08
12	-	3 37	17 28	-	58 10	11 13	68 00	42 40	5 17
13	-	11 34	31 19	-	26 20	5 24	-	22 40	7 18
14	-	25 27	47 39	-	47 38	5 56	-	-	8 56
15	-	22 22	17 45	-	11 07	6 51	-	-	8 14
16	-	4 54	8 40	-	28 20	8 10	-	49 30	4 52
17	-	19 28	8 43	-	33 51	5 07	-	-	3 05
18	-	30 32	14 36	-	33 10	4 52	128 00	97 09	2 38
19	-	42 10	12 09	-	-	6 35	72 00	-	2 29
20	-	10 20	10 25	-	-	1 58	78 46	131 25	7 56
21	-	9 48	12 05	-	26 55	11 20	82 00	-	6 58
22	-	41 16	7 33	-	86 45	10 43	47 30	90 08	25 55
23	-	10 00	0 59	-	31 55	6 21	50 30	46 49	14 05
24	-	4 20	4 58	-	39 26	7 36	-	52 35	8 28
25	-	51 43	1 51	11 49	34 42	3 38	79 00	35 47	0 29
26	-	8 00	2 23	18 51	79 43	12 12	96 00	21 16	11 20
27	-	6 38	7 20	-	67 17	14 30	126 00	42 50	12 48
28	-	2 20	4 09	36 13	11 55	2 55	129 00	40 45	2 20
29	-	7 30	11 26	25 30	5 35	12 12	-	28 00	3 47
30	-	28 36	14 12	11 30	17 20	11 40	168 00	38 45	12 29
31	-	7 55	7 12	-	-	-	158 00	33 00	15 43
TOTAL	-	545 34	345 52	103 53	989 54	256 11	1,508 31	1,284 14	228 7
Number of Days	-	31	31	5	28	30	18	23	30
General Average	-	17 36	11 11	20 47	35 21	8 32	83 48	55 50	7 36

	1863.	1864.
	H. M.	H. M.
May - - -	17 36	11 11
June - - -	35 21	8 32
July - - -	55 50	7 36
	108 47	29 19
Average for the Three Months	36 15¾	9 6¼

MINIMA TIME Intervals of Messages from *Calcutta* to *Agra*.

Date.	MAY. 1862.	MAY. 1863.	MAY. 1864.	JUNE. 1862.	JUNE. 1863.	JUNE. 1864.	JULY. 1862.	JULY. 1863.	JULY. 1864.
	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	-	0 03	0 01	-	0 12	0 01	18 00	-	0 15
2	-	0 03	13 12	-	1 15	0 47	29 00	-	0 16
3	-	0 03	0 14	-	0 38	0 22	-	32 40	0 05
4	-	0 03	0 15	-	9 50	0 02	-	31 20	-
5	-	0 26	0 01	-	0 26	0 09	-	38 52	0 01
6	-	5 34	0 02	-	1 36	0 12	7 00	28 52	0 01
7	-	0 25	0 03	-	6 36	0 14	10 20	40 14	0 01
8	-	7 40	0 01	-	2 46	0 16	2 45	20 40	0 06
9	-	7 32	0 14	-	1 35	0 14	-	19 05	0 21
10	-	3 36	0 13	-	16 12	0 12	-	17 15	0 12
11	-	2 08	0 01	-	1 55	0 01	-	0 55	0 44
12	-	0 17	0 44	-	2 37	0 06	11 30	8 00	0 05
13	-	0 03	0 52	-	16 17	0 34	-	8 08	0 13
14	-	0 43	0 19	-	1 27	0 18	-	-	0 20
15	-	0 52	2 37	-	4 33	0 01	-	-	0 01
16	-	0 27	0 01	-	3 15	0 43	-	-	0 26
17	-	3 42	0 01	-	-	0 09	-	-	0 01
18	-	0 05	0 07	-	0 18	0 14	20 00	70 04	2 20
19	-	1 01	0 08	-	-	0 10	1 22	-	0 01
20	-	0 05	1 30	-	-	1 00	21 00	24 36	0 06
21	-	0 08	0 05	-	8 15	0 16	20 00	-	0 36
22	-	0 05	0 12	-	16 43	0 03	4 00	27 04	0 25
23	-	0 25	0 08	-	11 55	0 12	0 30	12 05	0 27
24	-	1 28	0 10	-	2 05	0 05	0 30	0 08	0 16
25	-	2 12	0 20	-	3 34	0 05	2 00	0 43	0 29
26	-	1 10	0 20	38 39	1 22	1 30	3 30	7 48	0 27
27	-	0 56	0 01	-	6 32	0 06	0 42	18 55	0 28
28	-	0 17	0 19	2 03	1 00	0 09	0 42	19 45	0 09
29	-	0 13	1 00	0 50	0 45	-	-	20 15	0 05
30	-	0 56	9 36	0 45	9 00	0 20	47 00	17 07	1 14
31	-	0 54	1 01	-	-	-	1 15	16 53	-
TOTAL	-	43 32	33 48	42 17	132 39	8 31	201 06	481 24	10 11
Number of Days	-	31	31	4	27	29	19	23	29
General Average	-	1 24	1 5	10 34	4 54	0 17	10 35	20 56	0 21

	1863.	1864.
	H. M.	H. M.
May - - -	1 24	1 5
June - - -	4 54	0 17
July - - -	20 56	0 21
	27 14	0 43
Average for the Three Months	9 4½	0 14½

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Maxima Time Intervals of Messages from *Bombay* to *Agra*.

Date.	MAY.			JUNE.			JULY.		
	1862.	1863.	1864.	1862.	1863.	1864.	1862.	1863.	1864.
	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	- -	4 5	25 43	-	2 35	15 02	-	-	195 40
2	- -	2 5	33 56	-	5 54	21 08	-	-	172 41
3	- -	5 15	49 13	-	7 00	54 11	-	9 00	176 11
4	- -	10 45	50 44	-	6 42	56 05	-	97 49	133 53
5	- -	8 26	35 25	-	6 02	54 52	-	74 37	7 33
6	- -	5 19	11 10	-	31 23	18 47	-	-	27 29
7	- -	15 17	8 52	-	38 20	4 42	-	39 41	14 08
8	- -	7 45	9 55	-	-	26 20	-	19 08	10 45
9	- -	5 20	10 31	-	-	-	-	9 10	17 57
10	- -	5 3	2 55	-	23 10	-	-	30 02	35 28
11	- -	2 13	38 32	-	83 15	79 53	-	28 13	-
12	- -	3 20	9 25	-	63 45	80 15	-	42 44	-
13	- -	8 45	13 9	-	57 34	52 15	-	2 23	82 39
14	- -	12 40	36 30	-	25 26	94 23	-	12 14	104 04
15	- -	4 11	40 4	-	-	95 05	-	21 51	75 59
16	- -	4 20	33 35	-	63 27	48 21	-	29 50	70 59
17	- -	6 48	9 25	-	-	41 37	-	-	-
18	- -	8 30	9 3	-	-	82 20	-	9 59	109 14
19	- -	3 15	12 2	-	-	66 48	-	-	-
20	- -	3 20	6 54	-	79 40	48 14	-	31 45	118 59
21	- -	3 9	5 35	-	56 30	-	-	-	143 46
22	- -	3 45	16 15	-	104 55	-	-	3 57	-
23	- -	12 10	16 59	-	101 05	-	-	7 28	148 13
24	- -	14 46	10 38	-	106 50	-	-	14 25	113 08
25	- -	14 42	27 48	-	113 58	146 34	-	30 20	100 20
26	- -	8 55	7 12	-	63 56	100 03	-	29 47	-
27	- -	14 58	17 56	-	69 01	-	-	12 30	92 54
28	- -	12 38	16 10	-	28 13	-	-	9 30	147 43
29	- -	4 6	22 54	-	18 18	139 16	-	10 36	151 35
30	- -	6 13	31 17	-	52 53	132 08	-	10 05	178 47
31	- -	9 17	30 41	-	-	-	-	23 39	199 32
Total	- -	231 21	650 28	-	1,197 52	1,459 19	-	610 38	2,629 27
Number of Days	-	31	31	-	24	22	-	25	25
General Average	-	7 27	20 59	-	49 54	66 17	-	24 25	105 10

	1863.	1864.
	H. M.	H. M.
May - - -	7 27	20 59
June - - -	49 54	66 17
July - - -	24 25	105 10
	81 46	192 26
Average for the Three Months	27 15⅓	64 8⅔

Minima Time Intervals of Messages from *Bombay* to *Agra*.

Date.	MAY.			JUNE.			JULY.		
	1862.	1863.	1864.	1862.	1863.	1864.	1862.	1863.	1864.
	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.
1	- -	0 40	1 09	-	0 42	7 7	-	-	133 32
2	- -	0 35	2 12	-	0 35	0 47	-	-	2 42
3	- -	0 42	1 01	-	0 22	34 59	-	-	1 12
4	- -	0 55	0 51	-	0 52	1 36	-	25 12	0 43
5	- -	0 55	0 43	-	0 46	0 52	-	1 35	0 57
6	- -	0 42	0 49	-	9 23	2 25	-	1 34	1 48
7	- -	1 02	0 40	-	3 15	1 03	-	7 10	1 35
8	- -	0 08	0 40	-	-	1 35	-	2 52	0 20
9	- -	0 24	2 15	-	-	-	-	3 00	1 21
10	- -	1 00	0 50	-	22 14	-	-	2 32	22 46
11	- -	0 45	5 46	-	6 49	4 21	-	1 30	-
12	- -	0 43	1 00	-	4 00	19 46	-	0 50	-
13	- -	0 30	0 50	-	1 00	1 20	-	0 40	24 21
14	- -	0 31	4 30	-	0 44	1 44	-	2 10	2 10
15	- -	0 25	0 53	-	-	49 07	-	0 52	1 27
16	- -	0 42	3 14	-	17 40	18 25	-	0 42	1 00
17	- -	0 10	0 45	-	-	9 00	-	-	-
18	- -	8 30	0 41	-	-	5 29	-	1 05	49 17
19	- -	1 00	0 35	-	-	4 55	-	2 02	-
20	- -	0 06	0 45	-	3 01	29 08	-	8 46	50 56
21	- -	1 00	1 21	-	19 52	-	-	-	53 24
22	- -	1 38	0 38	-	15 10	-	-	0 36	-
23	- -	1 04	1 15	-	3 01	-	-	0 35	91 10
24	- -	1 29	0 39	-	5 42	-	-	2 33	70 10
25	- -	1 00	6 11	-	1 42	93 33	-	1 38	76 55
26	- -	0 36	0 47	-	21 07	71 36	-	1 20	-
27	- -	1 00	1 25	-	0 56	-	-	-	-
28	- -	0 40	0 55	-	0 05	-	-	1 29	47 18
29	- -	0 03	1 15	-	12 03	100 52	-	2 58	32 14
30	- -	0 30	31 01	-	1 40	111 23	-	1 30	65 02
31	- -	0 46	0 50	-	-	-	-	3 05	-
Total	- -	30 11	76 26	-	152 41	571 3	-	78 16	772 20
Number of Days	-	31	31	-	24	22	-	25	23
General Average	-	0 58	2 28	-	6 21	25 57	-	3 7	33 30

	1863.	1864.
	H. M.	H. M.
May - - -	8 58	2 28
June - - -	6 21	25 57
July - - -	3 7	33 30
	10 26	61 55
Average for the Three Months	3 28⅔	20 38⅓

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App. No. 2.

From *C. Galbraith*, Esq., Officiating Director of Telegraphs, Western Division, to Lieutenant Colonel *C. Douglas*, Director General of Telegraphs in India (No. 756); dated Bombay, 20 August 1864.

Mr. Bayley's letter, No. 1344, of 13th July last.

2. It is asked, would not a closer supervision of the working of the department by the Director General be likely to result in improved practice?

3. I hardly think it possible that one man could keep up a close supervision on the chances and changes incident to 12,000 miles of line, and something like 350 instruments; unless—

1st. He were placed at a central point.
2nd. He had a special wire for supervisional purposes.
3rd. That he devoted himself to that branch of the business.

4. As these conditions were impracticable, three directors were appointed.

5. Their duties were never clearly laid down; but, for my part, I assumed the office with the deep conviction that my business would be to keep up a "close supervision" over the telegraph work, as distinguished from clerical work, useful and even necessary, yet not the business of the department.

6. If close supervision could have been effective, there would have been little to find fault with in this division; but to make that supervision effective, it was required:

That the director should in this division be a director general; that superintendents should regard him as such, and in business generally look no further than to him, and be, as it were, unconscious of any one beyond him; that he should be as unquestionably the superior of the superintendent, as the superintendent of the inspector.

7. If this cannot be ventured upon, then I do not hesitate to say, abolish the office.

8. If it be said that the director already has the rank and position here claimed for him, that no other director complains, and that the fault must be in myself, I reply, it may be so, and that in such case my preference some time ago avowed for a superintendentship, should, in the interests of the department, be gratified. But it may, on the other hand, be, that other directors have had to deal with more business-like men, or it may be that they have not participated in my monomania, as they might style it, for vigorous, prompt supervision of telegraph work, current supervision as distinguished from retrospective, and that, taking things more easy, they have excited less opposition.

9. My portraiture of what a director is, as regarded from a superintendent's point of view, I have not now for the first time to draw, my No. 1662 of 12th November 1863 might almost be substituted for that which I am now writing.

10. A close supervision then is, in my opinion, the one thing needful; current supervision I mean as distinguished from retrospective; and provided the directors are worthy the high position I desire to see them enjoy, their supervision cannot, I think, fail to be more effectual than that of any one man can possibly be; the difficulty is in finding men to keep it up. The qualities required are not common; if they were, there would be little need for directors or director general as superintendents would themselves suffice. But I repeat, one circumstance is essential to a director's efficiency, namely, that he shall feel himself and be acknowledged to be a real potentate in the department. It might be advisable even to choose directors from a higher class of men, as for instance from the covenanted service.

11. Should the circles be smaller?

12. This, as everything else, is a question of men, not systems and arrangements. One man will drop dead in harness, rather than the departmental carriage shall stand still, while another will be satisfied with reporting that it has stopped, and when some one else has set it going again, he will report that also, and call attention with pride to the regularity of his reports and returns generally, as if the telegraph department had been instituted to record events, and not to rule and control them. I think, however, that, for average men, some circles are too large.

13. There are, however, other obstacles besides size of circles to a superintendent's giving the proper quantity of time and brains to his business. I proceed to name some, and to add a few remarks bearing on the subject.

14. The arrear accounts are a log about a man's heels, exhausting all his energies in the single task of carrying it, and leaving none for his proper work; shrewd men insist on being allowed to commence fresh books; more simple men involve themselves in the inexplicable muddle bequeathed them by one, two, three or four predecessors, and never free themselves from their thraldom.

15. I have in another place thrown out the suggestion that a special central officer might be employed to advantage in these accounts. I go further, and say that he might judiciously be employed in doing a good deal now done in the superintendent's office, leaving to the superintendent a small compact establishment for keeping his proper accounts, namely, that of work done and how done. It is quite lamentable to see these large establishments of clerks with the superintendent at their head, everlastingly plunged in mercantile accounts and assiduously employed in multiplying papers, which are but records of past events.

16. The store department might be made more prompt and foreseeing, always having stores in readiness to meet or rather to forestal demands, and supplying with speed and promptitude what is called for.

17. There is a want of synchronism in the movements of the different branches of the department. Thus it often, nay generally, happens that a new set of returns is ordered and ruled

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App. No. 2.

ruled forms are promised, but they don't come; or, if they come, then only when forms have been printed in every circle, or else much time spent in ruling. An order was issued that sulphur should be chipped out of insulators and tools were promised, but they never came. (I don't say they were required.) I, however, have little doubt that unless you countermand them they will be received six or twelve months hence, when their intention will almost have been forgotten.

18. Line work should be begun at the beginning of the working season, and not at the end. I kept this well in view last rains, yet never was an intention more signally foiled. Who can tell how much the sad working of these rains has been owing to their having caught us in the very midst, I might almost say in the very beginning of our work, instead of finding us with every thing made right and tight. When at last permission was given for the Ajmere stores to be despatched and Mr. Tolhunter to start for Deesa; when the first batch of top poles which enabled us fairly to commence line work was received, the time had come when line men ought to have been contracting their operations and congratulating themselves on being ready for the monsoon.

19. The department should be secured against having had stores foisted on it. It is untellable the mischief the English top poles have caused.

20. There should be a fairer allotment of officers to circles. In Sindh, at this moment, the superintendent dares not leave his desk, yet his line demands his presence, there being no assistant superintendent, all the rest is a little indignant protest, which I wished you to see. That Mr. James Lane should wish his brother moved to Bengal is natural; but having, I presume, got your sanction, I am inclined to think that over the next tiffin some such remark as this was made, "Well, I've got Jack transferred; won't Galbraith be done? I shan't tell him; let him find it out."

21. New and untried stores like the Brooke insulators should not be introduced for general use till tested in some one or other locality.

22. Again, a more prompt, a more, so to speak, vivacious style of doing business is, I am sure, practicable, and is required, in all ranks. I have had occasion lately more than once, to notice the sluggishness of various parties. Men don't disobey, but they obey when and how they choose. Here again I prescribe my panacea,--authority and power for the directors. Had I been in the position I recommend a director to have, certainly, to give an instance, the childish trifling in the question of Yussoof Ally and the new Bulsar Line, which has now run through three or four diaries, should have been nipped in the bud.

23. Superintendents must be made to understand that what they have to superintend is the telegraph and not the three, four, or ten clerks in their office.

24. Again, I would urge on you the necessity for a thorough substantializing of the line and re-furnishing of the offices. We have never had fair play, but have been labouring under the disadvantages resulting from what was once the glory of the department, namely, the wonderful rapidity with which this country was traversed by telegraph line. We are, in fact, engaged in making permanent the lines that were temporarily run up. Our critics should take this into consideration, and remember, too, that it was they who most urged that every thing should be sacrificed to rapidity. We have never yet had a thoroughly good line to work upon. Could not every one, from the highest to the lowest, be made to strain every muscle in the coming working season, with a view to have for the first time a permanent endurable line? Then in offices what reinforcements and renewals are required; In the great and important office here, where work has lately been execrable, much may have been owing to defective instruments, yet there is not a spare one to substitute. From other offices, too, I hear of worn out instruments. I fear little pains are taken to preserve them by cleaning and care, and superintendents and assistant superintendents, on their inspection tours, do not, I have an idea, concern themselves enough with such details as instruments, connections, and earth lines.

25. I have, on another occasion, expressed myself strongly in favour of settling the pay of signallers on a more liberal scale, and I would offer more inducements to natives, disposed as I am to look to them in a greater measure than hitherto for recruits. To use a hackneyed but intelligible term, genteel native lads cannot be got for the low pay we offer; those we do obtain are too often as lads from a corresponding class of Europeans would be—uncultivated, unenlightened, uninformed. But there is a large number of natives who might be induced to look to this department as their profession, and who, I am half ashamed to say, have a far better knowledge of English, and more acquaintance with geography, grammar, history, and so forth, than the great bulk of the European or Eurasian lads who at present join the department.

(Confidential.)

From *J. T. Blissett*, Esq., Director of Telegraphs, Southern Division, to Lieutenant Colonel *C. Douglas*, R. A., Director General of Telegraphs in India (No. 781); dated Bangalore, 9 September 1864.

I HAVE the honour to acknowledge receipt of your Confidential (No. 982), of the 27th July 1864, together with copy of letter No. 1344, dated 13th July 1864, from the Secretary to the Government of India, to your address, and with reference to the subject thereof, beg to remark as follows—

2. That the present constitution of the Department into divisions of large extent, under divisional directors, having subservient to them superintendents in charge of circles comprising

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App. No. 2.

prising these divisions, is, viewing the great extent thereof, considered the most comprehensive, expedient, and judicious that could be adopted for the effective carrying out of its administration in all minutiæ and detail; and no alteration in the existing arrangements at present suggests itself, whereby the same is likely to be improved, so far as the respective classification of the higher grades in the Department are concerned, as to division of authority.

3. I beg, however, to recommend what appears to me as exceedingly advisable, viz., the establishment of a separate Complaint Office at the head-quarters of each division, with an adequate staff to carry on the duties that would appertain thereto, and I submit this recommendation on the many representations that have been made to me from time to time by various members of the mercantile community, and the public generally. I also beg to suggest that each Director be permitted to supply stores, locally obtainable, to the respective circles of his division; that the general supply of forms, &c., common to the Department, still continue to be supplied, as heretofore, from Calcutta, but in sufficiently large quantities, to enable Directors to maintain to their respective circles a complete and adequate supply thereof. All stores obtainable from Europe to be issued, as at present, from Calcutta. I furthermore beg to suggest that Directors be vested with enlarged powers, and granted authority to sanction the execution of all works of an emergent nature within stated limits, but of greater extent than those now permitted.

4. I beg further to state as my opinion, that the efficiency of the Department would be augmented by an increase to the subordinate line Establishment; as that, at present sanctioned, is not deemed sufficient. Periodical supervision by superintendents and assistant superintendents, in addition to the prevailing maintenance of same, by inspectors and others, in immediate charge of sections, would, it is considered, with a moderate addition to the present line Establishment, be amply sufficient to secure their effective working, where speedy sanction could be awarded in cases when recommendations are duly supported by reliable testimony, to all repairs, renovations, and alterations of lines; subjected to the above course of minute inspection and scrutiny, it is confidently believed, that a closer and more able supervision of the lines and a more effectual maintenance of same would result were the above carried into effect.

5. I would also suggest that every inspector be provided with a portable battery and testing instrument, and that one and all be made to learn signalling, as a condition of their retention of present appointment; it is considered essential that an inspector should at any time be in a position to correspond with offices on either side of him while travelling on his line.

6. It is likewise believed the efficiency of the Department would be increased by the better pay of signallers, more rapid promotion, and a known gradation of same within prescribed periods, so that, on entering the Department on the salary at present laid down, they would be able to look forward to a certain stipulated increase of salary, after stated periods of service, provided in all cases their conduct warranted same; this would, moreover, prove a most effectual check on the behaviour of signallers, if it was made known that promotion would entirely depend on their individual good conduct, and that the same would be withheld for certain periods where any cases of misconduct or dereliction of duty had occurred. In these cases the defaulter books would be of manifest benefit in regulating promotion, where the punishment, instead of, as at present, being inflicted by the levying of a direct fine or extra duty, be resolved into forfeiture of promotion for three, six, or more months.

7. It is not apparent in what direction the increased expenditure that would be necessary in carrying out the above suggestions could be met; and it is believed that reductions in the present Establishment to this end would be found detrimental. In disposing of this matter, I would respectfully beg to urge that the Government be solicited to take into consideration the increasing extent and importance of the Department, and the augmentation of expenditure manifestly and necessarily attendant thereon.

From *B. C. Bailey*, Esq., Superintendent of Telegraphs, East Coast Circle, to Colonel *C. Douglas*, Director General of Telegraphs in India (No. 173); dated Vizagapatam, 26 September 1864.

With reference to your confidential memorandum (No. 1615), dated the 15th instant, forwarding for my opinion copy of the Home Secretary's letter No. 1344, dated 13 July last, I beg to offer the following remarks:

Causes of bad work.

2. I attribute the bad working of the Telegraph Department to six causes, viz.—

1st. *The bad state of the Lines.*—There is not, I believe, one division of the line in India that is in perfect order throughout. The greater portion of each division is generally good; but there are a number of bad pieces, and these have the same effect as rotten links in a chain. Communication is kept up pretty well so long as the weather is fair; but every heavy shower of rain, or a gale of wind, causes either a total interruption or imperfect communication.

2d. *Unfitness of the Assistants in charge of Signal Offices.*—Many of the assistants are badly educated and of low habits, and are unable to command either respect or obedience from those placed under them. With these persons the signallers do just as they like, and

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and, unless the assistant is able and willing to do the greater part of the work himself, the messages are delayed at the instruments till it suits a signaller's convenience to attend to them.

3rd. *Paucity of Signallers making it necessary to give one man (or boy) the work that should properly be done by two people, and preventing the dismissal of bad characters.*—Nearly all the signal offices are short-handed, and the same signallers have frequently to work night and day, getting a little sleep now and then when there are no messages passing, and sometimes stopping the work intentionally to take rest. Signallers, of known bad character, are kept on simply because there are no spare signallers to put in their places.

B. The want of signallers is owing, first, to the practice of sending new signallers (generally mere children) away from their homes before they are able to take care of themselves, and, secondly, to the tardiness and uncertainty of promotion. Boys are admitted as probationers at 13 and 14 years of age, and immediately they pass in reading signals are posted to offices hundreds of miles from the station in which they were originally engaged. The assistants in charge do not trouble themselves about their signallers beyond seeing that they take their turns of duty, and at other times the boys may be running about the barracks and bazaars getting into debt and worse. When quarters are provided on the office premises the boys are at the mercy of any kitmutgar or cook who will undertake to mess them, and when there are no quarters of the boys, go to any person who will board and lodge them for 15 or 20 rupees per month. Of course only very poor people will allow their children to enter a department having such drawbacks, and consequently we get only about half the number of hands we require, and those of the lowest class.

C. The tardiness and uncertainty of promotion cause signallers to leave the department just as they have become perfect in their duties. Our signallers may be found in every new department of Government, and in the Railway Telegraph and the Irrigation Company, in all of which the salaries are higher and the work lighter than in this department.

4th. *Inefficiency of the Signal Office Establishment.*—Besides paucity of signallers there is the want of a proper establishment, peons, &c. Our peons are paid only at the ordinary rates, yet they have to work night and day and Sundays carrying messages, preparing batteries and lamps, and watching the instruments when the signallers are asleep. This is so very different from the work of other government offices that we get the worst class of men, and they remain with us only till they find employment elsewhere.

5th. *Delay in carrying on the work of the Department caused by Superintendents of Circles having to refer to or through the Director of the Division.*—Scarcely anything can be done by a superintendent without first referring to the director, though all the cases for which that officer's authority is required could be disposed of by the superintendent without the slightest risk or expense to the department, and with equal satisfaction to the parties concerned. When it is necessary to obtain orders from the head of the department, cases requiring immediate action are often delayed for two months. Besides the delay of referring matters to the Director, there is the great inconvenience caused by that officer's order being sometimes cancelled by the Director General (when the diary of proceedings is submitted for his approval) long after it (the order) has been carried out.

6th. *The little authority allowed to Superintendents in making repairs to the Lines.*—A superintendent's authority is not sufficient to pass the smallest expenditure on account of line repairs, and if he ventures to give an order it is at the risk of sanction being refused. For every little item, however small, an estimate has to be prepared and submitted to the Director General for sanction before the work can be commenced, though the line may be tumbling down for want of repairs that would not cost more than 20 rupees. Certainly many little repairs are made by zealous inspectors in anticipation of sanction; but they have to send in estimates for the work, and to keep back the bills till letters of credit have been issued by the Auditor General at Calcutta. Other line officers, who are not disposed to run any risk, will allow the lines to fall to pieces rather than do any work till the formal sanction has been received. The same course of estimates and bills has to be followed in the case of petty repairs made by a line rider during interruption to communication. The inspector pays expense from the contingent money in his hands; but estimates have to be submitted the same as for other work.

Suggestion for putting the lines and offices in good order.

3. In the above remarks I have pointed out what I consider to be the defects of the department. I will now suggest such measures as appear to me necessary to put the lines and offices in efficient working order, and to ensure good telegraphic communication in all weather.

1st. *The Lines.*—I would suggest that the bad pieces of line be put in perfect order at once and at any cost. To effect this it will be necessary, first, to make a permanent crossing at every river, and, secondly, to replace the rotten posts. Insulation may well be left to the last, as communication can always be maintained as long as the wire is held off the ground on good posts, and well secured at the rivers. Indeed, insulation might be dispensed with altogether till some better description of insulators can be found than those now in use in India.

2nd. *Assistants in charge of Signal Offices.*—Our signallers are not of the class likely to qualify for assistants; I would, therefore, suggest that young men, of fair education and

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business habits, be employed and trained specially for the charge of offices. It is not necessary to bring men from England for this purpose, as there are qualified persons at most of the large stations in India who would doubtless enter the department if a sufficient inducement was held out to them.

3rd. *Signallers.*—A. I would suggest an increase to the number of signallers so as to allow the heavily worked offices to act as deputy assistants, two for each instrument, and extra to provide for leave of absence, sickness, &c. For the other offices I would allow two signallers to each instrument, I would also have a few probationers at the head office of each circle to fill up vacancies made by dismissals, resignations, &c. In no department in India is rest so necessary as in the telegraph department, yet, owing to the paucity of hands, leaves can very seldom be granted except on medical certificate.

B. All that appears to be necessary to get a sufficient number of signallers, is to make some arrangement to ensure the boys being properly taken care of till they are able to look after themselves, and to guarantee a regular increase of salary once a year, according to the scale given in your Circular No. 29, New Series. This circular was issued to the department nearly two years ago, but its terms do not appear to have been fairly carried out. The practice in making promotions appears to have been to class under the heads "indifferent" and "bad" signallers who, considering their youth and experience, might be fairly described as "good" and "average."

4th. *Peons, &c.*—I would allow one night peon to every repeating office, and one bearer or lascar (to clean batteries, lamps, &c.) on four or five rupees per month, to every office in India. In repeating offices one peon is required constantly in the signal room to pass messages from one signaller to another, and to the assistant in charge when he is in his room.

5th. *Correspondence of Superintendents.*—In a department that requires such close attention and such prompt action as does the telegraph, it is an object of the greatest importance for the executive officer to be able to receive and issue instructions at the shortest possible notice; and I think, therefore, that it would be an advantage in every respect to allow superintendents to refer to the head of the department direct, and to dispose of such cases as may be safely entrusted to them. This plan would, of course, throw more work on the head office, but I submit that it would be better for the department to increase the director general's office establishment than to continue the present arrangement.

6th. *Superintendent's authority regarding Line Repairs.*—The lines must be kept in efficient working order, and it would save an immense deal of trouble to allow superintendents to order petty repairs to the amount of 30 or 40 rupees per month for each section, and to have the bills audited by the civil paymasters. All works coming under the head of construction, re-construction, and extensive repairs, might be estimated for and passed as usual. Petty repairs necessary to restore communication, or to prevent the falling of posts, are as much "ordinary contingencies" as oil for an office, and the charges for such should, I think, be passed without further authority than the superintendent's countersignature.

Cost of working the Department efficiently.

4. As regards the cost of working the department, I am of opinion that the scale of establishment at present allowed for the lower grades is not sufficient, and that it will be necessary to make some increase to put the department on an efficient footing. Any reduction that might be made in abolishing the director's office would, probably, be compensated by increasing the establishment of the director general's office and promoting the junior superintendents, leaving any increase in the signal office establishments to be provided for in such manner as might be considered advisable.

Increase of charges for messages.

5. The simplest way to meet the enhanced expenditure would be to increase the charges for messages. By far the greater number of messages sent along the Indian line are on commercial matters, and the sender of these think less of the expense than of the certainty of their messages reaching their destination correctly and in a reasonable time. I believe that an increase of 50 per cent. on the present charges would not be objected to by the merchants if it was only made evident to them that a corresponding improvement had been made in the arrangement for transmitting their messages.

MEMORANDUM submitted in accordance with the Director General, No. 1614, of the 15th September 1864.

HAVING been desired by the Director General to record with the utmost freedom of discussion my opinion on the subject of the reference from the Government of India in the Home Department, No. 1344, of the 13th July last, I beg to submit the following Memorandum, which I have divided into four heads, viz.:—

I. Revenue.	III. Rules.
II. Salaries.	IV. Lines.

I.—Revenue.

Although opposed to the prevailing opinion regarding postal and telegraph revenue, my belief is that an increase in our charges would add to the income of the department. The great bulk of messages are sent over our longest lines, and for this reason, taking into consideration the fact that those lines, (already crowded, so to speak) could not carry off sufficient

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sufficient additional work to make up for the decreased rates, I believe that the extension of the system of an uniform charge throughout India could not but result in a falling off in our collections.

On the other hand, there is every reason to believe that there would be no diminution either in the length or number of messages were the charges increased, as no one uses the telegraph, even at one rupee, when the post at half an anna would answer the same purpose.

The cost of material in India being greater and "educated" labour dearer than in England, France, and America, less than half the average rates current in those countries are in force in this department. It cannot, I submit, be denied that this is an anomaly.

The tariff given below would, I think, be found to answer well. It is scarcely necessary to alter the mode of counting words charged or peon hire. The existing "rate" of 400 miles should also be retained.

Tariff.

10 words and under, per rate - - - - -	1 rupee.
Above 10 words, per word per rate - - - -	1½ annas.

It will be seen that by the above arrangement, the class of short messages usually sent by private individuals will not be materially interfered with, excepting that six words less can be sent for the rupee. The increase would thus be borne chiefly by opium speculators and mercantile houses, who derive pecuniary benefit from their use of the telegraph, and whose messages by the Mediterranean route show that they care little for the expense incurred.

II.—Salaries.

It is, I think, generally admitted that superintendents, more especially the lower grades are underpaid, and it would, I consider, be no more than fair to assimilate their salaries to those of the Public Works Department; a superintendent ranking with the executive engineer of his class, viz.:—

	Rs.
1st Class - - - - - - - -	900 per mensem.
2d „ - - - - - - - -	750 „
3d „ - - - - - - - -	600 „
4th „ - - - - - - - -	500 „

The travelling allowance should also, I submit, be made equal to that granted to officers of the Public Works Department.

Assistant superintendents should, I think, draw 350 rupees per mensem, which is the salary of an assistant engineer in the Public Works Department. I attach considerable importance to the difference between the pay of an assistant superintendent and that of a superintendent being such as to make the promotion felt. There is now only a rise of 50 rupees, which the loss of travelling allowance more than counterbalances.

I would propose no alteration in the pay of inspectors, but in lieu would give every officer of that grade who may be in charge of a line a mileage allowance of two annas per mile per mensem, calculated on the extent of his charge; the allowance to be drawn only when all his lines are working well.

The pay of overseers I would apportion as follows:—

	European.	Native.
1st Overseer - - - - - -	120 - -	80
2d „ - - - - - -	100 - -	65
3d „ - - - - - -	80 - -	50
1st Assistant Overseer - - - - -	60 - -	40
2d „ „ - - - - -	50 - -	32
3d „ „ - - - - -	40 - -	25

Office Assistants.—This is a grade which, from its being identical as regards pay with that of signaller, is not sought after by the latter class as it should be. The office allowance is not a sufficient remuneration for the responsibilities entailed by the charge of an office, and the anomaly is the more apparent in cases where a steady signaller, raised to office charge, has one or more signallers under him drawing more pay proper than he does himself; instances of this are by no means uncommon. Moreover, the equality of pay between the head of an office and his subordinates not only lessens his authority over them, but also tends to prevent the assistant, when promoted to charge of the office, withdrawing himself from his former associates; and I have noticed that, as a general rule, offices in which the assistant associates and messes with his signallers are not by any means so well regulated as those in which the head of the office maintained his proper position.

Signallers.—The difficulty in obtaining recruits in this branch, and the deterioration in the class of candidates, induce me to think that the pay on entering should be raised to 30 rupees, and that 40 rupees should be given to a signaller on his being posted to an office. I do not think any object is gained by increasing a signaller's pay by five rupees. The rise is scarcely felt, and I feel convinced that a greater increase at longer intervals would be more acceptable to them as a body.

The chief point requiring notice, as regards this grade, is the short average duration of service, which, if estimated at four years, would, I believe, be rather above than below the mark. It is not difficult to ascertain the cause of this. The department engages boys of 14 whose penmanship is indifferent, and to whom few if any other kinds of employment are open.

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open. In a short time, say three years, they, as a rule, write a good hand, and are, from the nature of the work, sharper and more intelligent than when first engaged; at this period, or even earlier, they begin to look out for other employment. The department is, in fact, a kind of finishing school for lads whose parents cannot or will not maintain them longer. If the period of their indentures be increased to five years, the supply of recruits, already poor both in quality and quantity, will fall off still more.

It may be considered that one signaller who has served two years is worth two who have just been posted to offices after leaving the training school, and for each year's service up to five he improves considerably. After five years, I do not think his efficiency as a signaller is progressive, but by that time, if ordinarily intelligent and well-conducted, he may be expected to be either a deputy assistant or in charge of an office, either of which carries a small allowance; I would for this reason offer more inducement to the signallers who have served two years and upwards to remain, and suggest the following scale* of pay as likely to answer the purpose. The scale is more particularly intended for signallers and deputy assistants. The promotion of assistants should, I think, be considered according to their qualifications for office charge.

* *Vide* annexure.

III. Rules.

I believe that a comprehensive code of departmental rules, classified and indexed, would relieve the superintendents of a very large proportion of their correspondence, and set them free to give more time to the supervision of their lines and offices. Many of the superintendents are now so tied down to their desks as to leave the working of the circle in reality to their assistants. I also think a clear exposition of the mode of preparing accounts is most necessary.

I would suggest a departmental manual, on the principle of those issued to every railway officer, which should be revised twice yearly, but remain as far as possible unaltered between the periods of revision. I think that an assistant superintendent, an inspector, and an assistant, might be profitably employed as a committee to be engaged solely in compiling and revising the existing rules. The so called revised rules now sold to the public are useless and liable to mislead in many particulars. The polymetrical table also requires considerable expansion.

IV. Lines.

The importance of the efficient conservancy of the lines cannot be over-estimated. The reconstruction of lines in Bengal circle has reduced the interruptions during the present rainy season almost to a minimum, and I now consider the substitution of an efficient system of insulation, for that on the Brooke principle, as the only thing wanting to make the overground lines perfect.

There are, however, several rivers cabled which might be spanned, such as the Ganges at Benares, the Soane at Dehree, and the Damooda at Raneegunge. The first cost would be heavy, but so is that of cables, and the ultimate saving could not but be very great.

About six months ago I obtained permission to do away with the system of line riders in Bengal, and, in lieu, to place each section of line under the charge of an overseer, who would be responsible to his inspector for its efficient working. This measure has, I submit, resulted in greatly increased efficiency at a reduced cost.

The extension of the double line to Agra has also contributed very much to the improved working of the Bengal circle, and it is, I think, probable, or indeed certain, that the advantages which would accrue from the existence of a double line on all our primary routes would more than counterbalance the mere prime cost of erecting a second wire on our present supports. One line would then be available solely for direct working between distant stations, the other for local work. One of the greatest hindrances the department has now to contend with is the choking of lines from overwork.

SCALE of Pay for Signallers.

Year's Service.	Superior.	Good.	Ordinary.	Indifferent.
	Rs.	*Rs.*	*Rs.*	*Rs.*
10	120	100	70	60
9	120	100	70	60
8	100	90	70	60
7	100	90	60	60
6	100	80	60	50
5	90	80	60	50
4	80	70	50	50
3	65	60	50	40
2	50	50	40	40
1	40	40	40	40

(signed) *J. H. Lane,*
Superintendent, Bengal Circle,
Officiating Storekeeper.

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(Home Department.—Electric Telegraph.—No. 1626.)

From *A. M. Monteath*, Esq., Under Secretary to the Government of India, to Colonel *C. Douglas*, Director General of Telegraphs in India.

Sir, Simla, 17 June 1865.

I AM directed to acknowledge the receipt, on the 12th April, of your letter No. 2939, dated the 1st February, reporting on the defective working of the telegraph department, and on the measures required for promoting its efficiency.

2. This report is a reply to a call made upon you last July; and for the excessive delay which has been allowed to take place in its submission, I am instructed to express the extreme dissatisfaction of the Governor General in Council. This delay is the more vexatious and reprehensible, inasmuch as the imperfect manner in which some of the matters discussed in the report have been submitted, precludes the possibility of a decision upon them being at once come to.

3. Regarding the promotion of the efficiency of the department, you state that the steps taken towards the reconstruction of temporary and permanent lines, as well as the measures adopted for remedying the great evil of defective insulation, have already produced improvement in the working of some lines, and afford ground for expecting a still further and more general improvement, as the operations now in progress advance towards completion. You further report upon the expediency of other measures required to place the department on a satisfactory footing: these measures may conveniently be enumerated as follows, viz.:—

I. Revision of the rate of charge for messages, with the view of raising the receipts of the department.
II. Improvement of the signalling establishment.
III. Improving of the upper grades of the departmental agency, viz., directors, superintendents, assistant superintendents, inspectors, and overseers.

4. Respecting these several points, remarks will now be made; and it is desired that the further treatment of each of them by you may be separate and distinct.

5. The two first points in the enumeration given above are regarded by the Governor General in Council as by far the most important; and it is particularly necessary that, in dealing with each of them, no delay whatever should be allowed to take place. To this necessity his Excellency in Council desires me strongly to draw your attention.

6. The question of increasing the receipts of the department by a revision of the rate of charge for telegraph messages, was one of the points specially indicated for your consideration in the orders of July last; and the facts brought forward in your present letter, respecting the extent of the deficit* of present income, as compared with present working expenses; the necessity of incurring a still larger expenditure, with the view of providing a more efficient working establishment; and the smallness of the present rate of charge for messages, as compared with the rates adopted in the telegraphs of other countries, strongly support the expediency and propriety of a considerable increase in the scale by which at present the charge for messages is regulated.

* Present annual income - - Rs. 9,36,000
Present working expenses - 14,23,000
Deficit - Rs. 4,87,000

7. In providing for this object, the first question for consideration is the measure of increase which it may be proper to adopt as the basis of the revision, and on this point the Governor General in Council thinks that the new rates should be calculated to produce, on the assumption of the present number of messages, an increase in the receipts of from 25 to 33 per cent. on the existing amount of the receipts, so as to make the department, after giving it credit for the amount received for service messages, self-supporting.

8. The next question is the precise form which the required revision of rates should take, and on this point you make the suggestions noted in the margin*. You further point out that the present method of charge in the direct ratio of distances is "radically defective," inasmuch as the transmission of a message over a longer distance does not involve a proportionately larger cost to the department, owing to the fact of there being "certain fixed departmental expenses" common to all messages alike, whatever their length or the distances over which they have to be conveyed." You, therefore, propose that the revised scale should be based on one or other of the two following systems, viz.:—

(1.) To have a fixed fee representing the fixed expenses common to all messages, supplemented by a distance charge, representing the relative expenses of messages over different distances; or,

(2.) To have a polymetrical table of charges between all offices,—the charges being calculated in the most equitable manner possible, with reference not only to the fixed expenses common to all messages, and the varying expenses dependent on distance, but to the local traffic and paying character of each line.

9. The

* (1.) To reduce the number of "free" words, in assimilation to the practice in force on the Indo-European line, and on the lines worked in accordance with the rules of the Brussels Convention.
(2.) Instead of charging, as at present, for each word in excess of a given minimum, to substitute the system of charging by groups of words,—the group proposed to be adopted being one of 20 words.
(3.) Instead of charging, as at present, by direct distance, to charge according to the shortest distance along the telegraph line by which it is possible to convey the message.

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9. The Governor General in Council is inclined to regard the several changes indicated on the margin of the preceding paragraph as advantageous; and, as between the alternative methods of charge quoted in the concluding part of the paragraph, he would express a decided preference for that which contemplates the levy of a fixed fee, together with a distance charge, on the ground not only of the more ready means which you think that mode will afford to the public for the calculation of the cost of messages, but also of the comparative ease with which it can at once be made available, and of the greater facility with which it can, if necessary, be hereafter modified to meet any alteration of circumstances which may arise. The fact that the polymetrical table would, as stated by you, require three months for its preparation, and that any future alteration of rates, and even any future increase in the number of telegraph offices, would require extensive alterations, if not a reconstruction, of the table, seems indeed to the Governor General in Council almost to preclude the consideration of that method of regulating the charges.

10. Having regard, however, to the interest of the general community which is involved in the revision of the rates of charge, and in the selection and elaboration of a really good system as its basis, and also to the relation which it may be found expedient to establish* between the tariffs of Government telegraph lines and those of railway or other private telegraph lines, the Governor General in Council thinks that the subject will be dealt with most safely by a Committee, in which representatives of the East Indian railway and the Eastern Bengal railway might be associated as members with yourself and one other officer.

* *Vide* this office letter, No. 986, dated 9 Feb. 1863.

11. Steps will accordingly be taken at once for nominating a Committee, of which you will be president, for the above object; and a copy of the preceding remarks, so far as they relate to the revision of the rate and system of charge for messages, together with a suitable extract from your report, will be communicated to the members of the Committee, with such general instructions respecting the scope of their deliberations as it may be deemed necessary to give.

12. Meantime, I am desired to request that immediate steps may be taken for preparing and putting in a readily available form such departmental statistics† as the Committee are likely to require, as well as all necessary information, so far as it may be available, respecting the rules and practice, on the points under notice, recognized in European telegraphs, and particularly in the Indo-European line. As it is of great importance to obtain a speedy decision of the question of the mode and rate of charges, the Committee will submit their report as soon as possible.

13. The second point in the enumeration given in para. 3 of this letter has reference to the improvement of the signalling establishment. The Governor General in Council thinks that this branch of the department is undoubtedly the one which needs chiefly to be looked to; and his Excellency in Council regrets to observe that there is no part of your report more unsatisfactory than that in which you treat of this branch, for no specific information is given either as to what exists, or what is proposed for the future.

14. You are requested, therefore, at once to submit a statement showing the grades into which the present signalling establishment is divided, with the salary of each grade, and also the grades and salaries which it is proposed to substitute. The Governor General in Council cannot sanction any such general and indefinite arrangement as that indicated in your 68th para.; and it seems certain to his Excellency in Council that the service will be more attractive if there are fixed classes with fixed salaries, so that all may know what they have to look to.

15. The third point among the subjects mentioned in para. 3 of this letter has reference to the increases proposed by you for the grades in the department above that of signallers. The Governor General in Council is inclined to agree, to a great extent, in your recommendation for increased pay; but it is not satisfactorily shown that the offices of "director" and "superintendent" are both necessary. Your reply on this point (paras. 33 and 34) is entirely insufficient. In the absence of any proof to the contrary, it may not unreasonably be suggested that, given a proper office establishment (which is of course an essential requisite), the Director General should find no difficulty in superintending directly 15 subordinate offices, if these offices are themselves filled by competent and trustworthy persons. The maximum salaries of the present three directors amount to 3,500 rupees per mensem; and if this sum were devoted to improving the position of the superintendents,‡ and strengthening‡ the Director General's Office, there would

† It would, for example, no doubt greatly facilitate the labours of the committee, if a statement can be prepared, showing the number of messages despatched during a given time, say for (separately) two or three hours over given distances, 100, 200, 300, 400 miles, and so on, up to the extreme distance to which a message can be sent by the Indian telegraph.

‡ As follows, for example:—

			Rs.	Rs.
Present	3 Directors, with an aggregate salary of		3,500	
	15 Superintendents, with an aggregate salary of		6,950	
				10,450
Revised	15 Superintendents	2 on 1,000 =	2,000	
		2 on 800 =	1,600	
		2 on 700 =	1,400	
		4 on 600 =	2,400	
		5 on 500 =	2,500	
	Available for strengthening the Director General's office		550	
				10,450

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would be no occasion for the further large increase of (400 × 1,650 =) 2,050 rupees, proposed by you in respect of these establishments. A further and clearer explanation, therefore, as to the necessity of retaining the office of director is required; and I am desired to point out that what is wanted is some precise account of the duties which the directors now actually perform, and a precise statement of the grounds on which you hold that those duties cannot be devolved partly on the Director General's Office, so far as they relate directly to the control and supervision of the superintendents, and partly on the superintendents, so far as they relate to the direct control and supervision of the telegraph offices and lines.

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16. Respecting the proposed revision of the grades of assistant superintendents, inspectors, and overseers, at an aggregate increase of *Rs.* 12,461. 3. 3. per mensem, the Governor General in Council, I am to say, does not doubt the expediency of improving the position of these classes, and he will be disposed to view their case favourably in the event of its being found possible to meet the additional expense by an adequate increase in the receipts of the department.

17. In regard to the remarks made in the 71st para. of your letter respecting the abolition of unremunerative offices, and the reduction in the number of continuous service offices, I am desired to request that definite proposals may be separately submitted, without delay, regarding such offices as you consider it possible and desirable to reduce.

I have, &c.
(signed) *A. M. Monteath,*
Under Secretary to the Government of India.

From *A. M. Monteath*, Esq., Under-Secretary to the Government of India, to the Secretary to the Government of Bengal, Public Works Department (No. 1935); dated Simla, 29th June 1865.

The Governor General in Council having resolved upon the appointment of a committee for the revision of the rates and system of charges for telegraphic messages, I am directed to request that Captain Taylor, the consulting engineer in the Railway Department, may be desired to put himself in communication with the Director General of Telegraphs in India, with a view to carrying out the wishes of the Government of India, as expressed in the accompanying extract* of a letter to the Director General, dated the 17th instant.

2. The Governor General also desires that the Lieutenant Governor will be good enough to invite the agents of the East Indian Railway Company and the Eastern Bengal Railway Company, each to name an officer of his company who may be associated with the Director General of Telegraphs and Captain Taylor, and to desire such officer, to put themselves in communication with the Director General of Telegraphs.

* Paras. 6 to 10, and part of para. 11, down to "above object."

(No. 1936.)

Copy forwarded to the Director General of Telegraphs, for information and guidance.

No. 1937.)

Resolution in the Home Department (Electric Telegraph), dated Simla, 29 June 1865.

Read the following papers:—

From the Director General of Telegraphs in India (No. 2939), dated 1 February 1865, to the Director General of Telegraphs in India (No. 1626), dated 17 June 1865.

Observations.—The figures on the margin show the present sanctioned establishment of signallers in the Telegraph Department; but in Colonel Douglas's report, dated the 1st February, it is stated that, on the 31st of July last there were actually only 814 on the establishment, of whom the very large number of 129 were probationers who had never joined office.

		Rs.	*Rs.*
20	at	120 =	2,400
30	„	100 =	3,000
30	„	80 =	2,400
40	„	70 =	2,800
65	„	60^1 =	3,900
127	„	50^2 =	6,350
128	„	40^3 =	5,120
130	„	35^4 =	4,550
130	„	30^5 =	3,900
30	„	25 =	750
30	„	20 =	600
30	„	$17\frac{1}{2}$ =	525
30	„	15 =	450
820,	of whom 160 are Natives.		36,745

1-5
2-7
3-8
4-10
5-10
6 All Natives.
(120)
160

2. It is not possible with prudence to give any definite orders respecting the numbers and the pay of the signallers, until the Government receives a further report on the subject; but since the insufficiency of the signallers' pay and of their numbers is rapidly affecting the efficiency of the department, the Governor General in Council considers that it is expedient to give a general intimation to the Director General that, as respects numbers, he may, if necessary, in anticipation of sanction, increase the strength within the limit of 1,000 signallers, the number named by Colonel Douglas in his report; and also that the Government will, at once, if he thinks it desirable, authorise the raising of the first four classes to 150, 125, 100 and 80 rupees a month, respectively. The increase involved by this will be 2,350 rupees a month, being an increase of 22·1 per cent. on the present aggregate salaries of the four classes.

3. This increase will, it is presumed, include many of those to whom an increase has already been given by order of the Commissioner of Scinde.

4. It seems desirable also to the Governor General in Council that sanction should at once be given to the additional allowances proposed in para. 67 of Colonel Douglas's

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report, for one signaller in each office (or rather in three-fourths of the offices), as deputy assistant in charge. The increase is stated by Colonel Douglas at 1,945 rupees a month.

5. The Governor General in Council would further authorise the additional allowance proposed in para. 66 of Colonel Douglas's report, for the head assistant in charge in the 51 offices in which that allowance is not now drawn. The real increase (at an average of 30 rupees a month) will be 1,530 rupees. Colonel Douglas states it as only 550 rupees; but this is based on a comparison with the sanctioned scale of allowances, which are not at present fully drawn.

(signed) *E. C. Bayley,*
Secretary to the Government of India.

ORDERED that the papers noted above be forwarded, with the foregoing observations, to the Financial Department, for early consideration of the proposals regarding the telegraph signalling establishment, and with an intimation that an increase of the rates of charge for messages is under consideration, whereby it is hoped that the receipts of the department may be made to cover all charges.

(No. 1178.)

RESOLUTION in the Financial Department; dated Simla, 3 July 1865.

RESOLUTION.—The Governor General in Council is pleased to sanction the increases recommended above, on the understanding that the charges will be shortly raised on all messages to meet these increased expenses of the Telegraph Department, and that wherever increases of salaries are made in consequence of this order, the compensation on account of dearness of provisions will cease.

Ordered that the above be communicated to the Home Department, and the Auditor General of India.

(signed) *E. H. Lushington,*
Secretary to the Government of India.

(No. 2189.)

COPY forwarded for information to the Director General of Telegraphs in India.

By Order,
A. M. Monteath,
Under Secretary to the Government of India.

Home Department, Simla,
7 July 1865.

(Home Department.—Electric Telegraph.—No. 6 of 1866.)

To the Right Honourable Sir *Charles Wood,* Bart., G.C.B., Secretary of State for India; dated Fort William, 25 January 1866.

Sir,

WITH reference to the despatches noted on the margin, we have the honour to transmit for your information the accompanying copy of a Report by the Director General on the re-organization of the Telegraph Department in India, together with a copy of our Resolution thereon.

To Secretary of State, No. 6, of 1865, dated 7 July.
" " No. 8, of 1865 " 2 October.
" " No. 13, of 1865 " 23 Oct., para. 2.
From Director General of Telegraphs, No. 171A, dated 18 Oct. 1865.
Resolution, No. 4877, dated 8 December 1865.

We have, &c.
John Lawrence.
W. H. Mansfield.
H. S. Maine.
W. Grey.
G. N. Taylor.
W. N. Massey.
H. M. Durand.

(No. 171A.)

From Lieutenant Colonel *D. G. Robinson,* R.E., Officiating Director General of Telegraphs in India, to *E. C. Bayley,* Esquire, Secretary to the Government of India; dated Landour, 18 October 1865.

As promised in previous correspondence, I have now the honour to report on what I conceive to be necessary for making the organization of this department really effective.

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2. The objects to be arrived at are clearly—

1st.—To remove all extra friction.

2nd.—To maintain an effective and complete administrative and executive staff at the least possible cost.

3rd.—To obtain prompt and accurate audit of expenditure by the simplest possible means.

3. To obtain the 1st, I propose to reduce the number of channels of communication to a minimum, and for this purpose to abolish the post of director.

4. For the 2nd, I propose that superintendents shall correspond direct with the Director General, and that they be vested with powers and duties approximating to those of Superintending Engineers, or Postmasters General; to relieve them of all compilation or audit of accounts; to make their principal business that of direct and active inspection and supervision; and to make the accounts of the line officers as simple as possible.

5. For the 3d, I purpose to classify all expenditure under two heads,—Personal, and Material.

6. All expenditure for salaries or personal allowances of any kind, in which the Director General or the Department can be considered to have any personal interest or bias, is personal, and should be audited as at present by the Examiners of Claims, and the Auditor General. All expenditure for construction, works, &c., from which no member of the Department can derive direct advantage, should be compiled and audited in a Central Office of Accounts, organised somewhat similar to that of the Public Works Department. Personal expenditure should be further subdivided into its permanent and variable elements. Permanent expenditure, such as salaries and allowances, upon which there ought to be no retrenchment, should be paid on "presentation of bill." Variable charges, open to retrenchment, such as contingent bills, should be audited before payment by the Director General, who is the fittest person to judge of what is, or is not, legitimate expenditure.

7. I would divide the staff into an upper and lower branch. The superior branch should contain none but gentlemen by education and feeling, whose promotion, posting, &c., would appear in the "Gazette" of India; the subordinate, of men selected from the signallers, good non-commissioned officers from the army, or other of the artizan class.*

8. I would give increase of pay every two years; but, as an encouragement to zeal and activity, I would shorten the period for the very deserving, and lengthen it for those who did not give satisfaction.

9. To secure promptness in every branch, executives must understand their work; hence the compiler of accounts, the assistants in the Director General's office, the message check office, the storekeeper's office, the foreman of the workshop, in fact every one but the mere copyists, should be departmental. Returns should be as few and as simple as possible, and all proceedings should be regulated by a code or manual, divided into two parts: Part I. should define the powers and privileges of the various officers of the department; Part II. should refer to professional matter regarding the instruments, &c.

10. To simplify the checking of cash collections, examination of messages, and other work performed by the check office, I propose an establishment which will fluctuate with the number of messages received.

11. I propose to abolish all allowances for house rent, except at the Presidency of Calcutta, and one or two other sanctioned exceptional places, giving increase of salary in lieu thereof, which will improve the status of the members of the department without any very large increase of expenditure.

12. I propose to make the accounts and returns of the line officers as simple as possible, leaving their compilation to skilled accountants; to modify the nomenclature of the ranks to one more suited to the work and the duties of the executive, and to arrange the salaries on a scale which will work more evenly, and consequently more fairly than that now existing; to increase the staff of that useful class now called overseers, and to make the position of the signallers more respectable, not so much by increased pay as by more generous and considerate treatment with regard to the quarters provided for them, and by the creation of an *esprit de corps*.

13. The modifications of nomenclature, which I recommend, are—to call the 1st, 2nd and 3rd inspectors, 2nd, 3rd and 4th assistant superintendents; the present overseers, inspectors; and the present assistants and deputy assistants in charge of signal office, telegraph masters and deputy telegraph masters. The sanction of Government has already been given to the 1st proposition (Home Office, No. 2216 of 20th September 1865):—"Inspector" is clearly a more appropriate name for an inspecting officer than overseer, and "telegraph master" than assistant in charge, besides being shorter to telegraph and to write. It also accords with "postmaster," "station master, &c.

14. To establish *esprit de corps* there must be some bond of fellowship, and on this subject Mr. Mansfield, the Commissioner of Sind, has offered some happy suggestions from which I avail myself to recommend the adoption of a uniform for all grades, as is the custom on the Continent of Europe. Marks for good conduct, medals and rewards for continuous good conduct, and special rewards for showing a good knowledge of electricity, and for passing in foreign languages.

* This would not bar deserving men rising from any grade in the subordinate to the highest posts of the superior branch, provided they were qualified by education and good service, and possessed the power of commanding respect and obedience from their subordinates.

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Powers, Functions and Qualifications of the Staff of the Department.

15. I now proceed to detail what I conceive should be the powers, functions, and qualification of the different members of the department.

16. Formerly, when the department was small, the Director General used to pass contingent bills up to 500 rupees; of late years this has been virtually withdrawn.

Director General should have large powers to audit.

17. Instead, however, of limiting his audit to 500 rupees only, I propose to give him the same powers in this respect that the Surveyor General and Superintendents of the Revenue and Trigonometrical Survey possess; and for these reasons, viz., that the Director General is the most competent person to judge of what contingent charges are or are not, reasonable; that in ninety-nine cases out of a hundred the greater the responsibility, the greater the care bestowed; and that, as in the instance of the Survey Department, the interest of Government have always been most jealously guarded, there is strong *primâ facie* evidence that Government will serve their own interests best by making the "passed" under signature of the Director General, a final audit, except as regards clerical errors.

Examination of Estimates.

General control.

18. The examination and check of the estimates for construction and repairs, now in the first instance performed by directors, if directors are abolished, will revert to the Director General, who has now the preparation of the Budget and English Estimates, the posting of all members of the superior grades of the department, and the general control of the department, and an enormous amount of correspondence which will be largely increased, as he will have to deal direct with 14 to 20 superintendents instead of through three directors; there will also be great increase of work in an infinity of minor matters connected with the internal economy.

Tours of Inspection.

19. I consider also that it is of the first importance that the Director General make occasional extended tours of inspection; on this I cannot lay too great stress, for it is the general opinion of the public, as well as of the department, that lack of inspection and personal knowledge of the members of the department, of the lines and of the offices, on the part of the Director General, is one of the greatest reasons why the machine has not worked more glibly.

20. The directors and superintendents are theoretically the eyes and hands of the Director General; and where the Superintendent is zealous and capable, but little interference will be required. Unfortunately, however, mortal man is not faultless. Some superintendents maintain great discipline, whilst their accounts are in almost hopeless confusion; others devote themselves to their accounts, and never see their lines and offices. Remarkably few approach perfection; if they did, there would be small need of a Director General. One man is able and vigorous, but captious or unreasonable, and cannot therefore be satisfied; another is prejudiced, another inconsistent or impolitic; and many too indolent or too good-natured to keep their subordinates up to the mark. Hence, however excellent the theory may be, it is indisputable that practically the visions of subordinates not only differ *inter se*, but do not produce the same effect as the master's eye. The Director General may, as hitherto, sit at the top of a three-storied house, and blindly and theoretically administer through the eyes of his superintendents, but practically he cannot avoid injustice, and maintain uniformity or efficiency unless he has a fair knowledge of the tools and machinery he has to work with,—and this he can only obtain by tours of inspection.

Necessity for a Deputy Director General.

21. But it is clearly beyond the power of one man to perform all these purely ministerial duties, in a prompt or efficient manner, unassisted. The Director General must, therefore, have a deputy to assist in the administration, in addition to his scientific adviser (necessity for whom I am not yet prepared to advocate, though the idea of having one seems sound).

Deputy Director General's duties.

22. The Deputy Director General should be the *alter ego* of the Director General, as regards the ministerial offices. When both are at head quarters he would assist in all current work, especially in the examination of estimates, bills, &c.; replies to applications for admissions, petitions, &c. (very numerous). His special business would, however, be to look after the head quarters' office when the Director General was absent, and to go on tour when the Director General found it inconvenient to do so. His signature to contingent bills, estimates, and returns, should be taken as equally binding with that of the Director General, but he should not be considered competent to issue departmental orders, or in other ways interfere in the administration of the department. Even on inspection duty, he would report for orders to the Director General any serious matters that came to his notice.

Duties of Deputy Director General.

Superintendent's duties and power.

23. The functions of the superintendent should approximate very nearly to those of a Superintending Engineer of the Department Public Works,* and if not superior, his power should be equal to that of the present directors. He should correspond direct with the Director General. He should be authorised to sanction urgent repairs to the extent of 1,000, rupees and ordinary repairs to 250 rupees, for one item. All changes and postings of signallers should be made by him, or through him; all internal arrangements of his Circle should devolve on him, subject to confirmation. He should apply for the letters-of-credit required for each line officer of his Circle, and countersign all bills—contingent, variable, or constructive; but he should not be expected to audit or compile the accounts connected with them, as is now the case.

Duties of Superintendents.

24. At the commencement of each financial year he would be informed of the Budget Grant for his Circle, and be responsible that the grant was not exceeded; the only accounts he

* *Vide* General Rules for Department Officers, "Public Works Code."

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he would keep, would be for his own and his personal establishment salary bills. The examination of the cash collections by him is useless, and may be discontinued. He should carefully criticise and countersign all the estimates for repairs, all plans for buildings, &c., all returns; and submit in one schedule all the revised estimates of his Circle.

25. From this it is clear that my wish is that his special duty be, direct personal supervision of everybody and everything connected with his department in his Circle, and to free him as much as possible of executive or office work.

Responsibilities.

26. He would consequently be held responsible for the system, accuracy, and neatness, with which all the departmental accounts, books, and returns were kept; for the state of the lines and offices, for all changings and postings within his Circle (of which he would advise the Civil Auditor and Director General), and for the maintenance of discipline. His powers of punishment should be regulated by a code based on circulars already issued.

Superintendents' tours of inspection.

27. He would make a tour of inspection at least once in every six months. Those undertaken in the cold weather should be by easy stages along the line, every portion of which should be examined as he travelled; those in the hot months by dawk, would be more particularly for the inspection of the offices and those parts of the line where it was needed. On these tours he should keep a diary, in which he should enter the place he halted at, and what he had observed during the day; and, on conclusion of his tour, he would frame a report from this diary, which he would submit to the Director General with the original diary. An average of 1,000 miles of line and offices is quite enough for any one superintendent.

Number of Superintendents required.

28. The personal assistant, storekeeper, head of the Cash-checking Office, and of the Central Office of Accounts, should be either superintendents on the regular establishment, or graded with them. The establishment of superintendents should, therefore, be as follows:—

Superintendent, Store Department	1
Personal Assistant to Director General	1
14,271 miles of line (Superintendents)	14
Head of Cash-checking Office	1
Controller for Central Office of Accounts*	1
Total	18

29. The number of line superintendents should vary with the length of line, an additional superintendent should be given for every extra thousand or fraction above five hundred miles.

Assistant Superintendents.

30. At present the sanctioned number of assistant superintendents of all grades is (103) one hundred and three (divided into four classes). This does not include inspectors.

Arrangement for Senior Grade being fixed in number, and Junior Grades fluctuating, according to length of service.

I propose to promote all, who are not undeserving, periodically; to shorten the period for those who are very deserving; whilst promotion would be withheld from those who give dissatisfaction. By this arrangement the numbers of the grade of, and above, superintendent would be fixed; whilst the numbers in each class of the assistant superintendents would vary with their lengths of service, combined with good conduct.

31. This arrangement for a young and small department, officered by young men of almost equal service and claims, is evidently more just than that which now exists.

Bad effects of present system.

32. Under the present organisation a few days' seniority, or the good luck of having attracted the attention of their superiors, has the most vital effect on an assistant superintendent's future advancement. The directors who draw 800 rupees a month are very little senior to many almost equally good men, who are drawing only 250 rupees a month. Promotion on the present system must be cruelly slow; 15 years hence it will be too fast; it never can be regular, though time will ameliorate the evil.

Duties of 1st Class Assistant Superintendent.

33. All heavy works of construction or of re-construction, and all repairs should devolve on assistant superintendents of the 1st class; when not so employed they should assist in the inspection and office duties of large and important circles, and in the office of the Director General or Central Office of Accounts, &c. They should be considered as in training for the post of superintendent, and employed accordingly. They should not rise by right of seniority to be superintendents, but be promoted for ability, zeal, and good business habits; at the same time seniority should be considered to give great claim, and a good assistant superintendent should not be lightly passed over, because a junior was, in the opinion of the Director General, somewhat better.

Rules for promotion to Superintendent.

34. In the natural course of events there must always be some assistant superintendents acting for superintendents on leave, &c.; and hence each would in turn, whilst so acting, demonstrate his fitness for the substantive appointment.

Duties of II., III., and IV. Assistant Superintendents.

35. II., III., and IV. assistant superintendents also are executive line officers, employed in keeping old lines in good order, and in construction, &c. Their duties should, indeed, be the same as those of the 1st class, but in a smaller way; they should not interfere in the offices, except by order of the superintendent of their Circle. An assistant superintendent should be placed in special charge of a short length of line, 200 to 500 miles, according to its accessibility, and be required to inspect it not less frequently than once in two months. He should forward his diaries and reports, on the conclusion of each tour, to the superintendent; who, guided by these reports, would issue the necessary orders for petty or urgent repairs within his power to sanction, or make such other arrangements as

* Possibly not departmental.

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as appeared necessary. Large and important signal offices are also placed in charge of assistant superintendents.

36. All assistant superintendents are, more or less, executive officers, and have to keep accounts. These accounts have hitherto been far too complex, and passed through too many channels. They have effectually prevented that active practical supervision so imperative to efficiency, and at the same time have involved every one connected with them in trouble. By reducing them to the simple form, to be explained under the head of "Accounts," superintendents will be freed from all compilation, and executive officers' labours in this direction will be reduced to a minimum, and hence a more effective administration be obtained from a smaller number of officers.

Terms on which Assistant Superintendents are to be appointed.

37. Assistant superintendents should be admitted, as hitherto, on passing a suitable examination either in England or in this country. They should all be bound by the same covenant, except as regards passage to and from England which would not be given free to those appointed in this country. An assistant superintendent should pass in the vernacular before he gets any promotion; and in Hindoostanee (P. H.), or other local dialect, before promotion to grade of superintendent.

38. If one assistant superintendent be allowed to every 250 miles of lines, we have $\frac{14250}{250}$.

Assistant Superintendents - - - - - - - - - -	57
In charge of important offices - - - - - - - - -	7
Store-yard - - - - - - - - - - - - -	2
Head Quarters' Offices - - - - - - - - - -	2
Special, such as expeditions to Bhootan, new lines under construction -	10
Contingent to take the places of those sick, on leave, &c., acting superintendents, &c. - - - - - - - - - - - -	10
Total - - -	88

As the new grade of inspectors are filled up, we shall manage to work with still fewer, unless the lines be extended, as I suppose they will.

Inspectors.

39. I propose to supplement the assistant superintendent with a grade of "inspector" hitherto called overseers. In 1853-54, 60 men selected from the army, and trained at Warley, were brought out to India as "Warley Artificers." Of these a few have worked hard, educated themselves, and gradually risen into the higher grades; many have died or left the department, but very few remain. Although not exactly scientific officers, and hardly capable of undertaking construction without supervision, they are a very useful and economical class of public servants. Instead, therefore, of allowing them to die out, as is now rapidly coming to pass, I propose to recruit this grade largely from deserving signallers, who will thus have the road to further advancement thrown open to them, whilst Government should reap advantage from their practical knowledge of batteries and instruments, and thorough appreciation of the value of good insulation.

40. If a sufficient number of intelligent well-behaved signallers are not forthcoming, I would accept good non-commissioned officers from the Roorkee College, especially from those who had distinguished themselves in chemistry and other natural sciences. Well-behaved men, unable to pass the prescribed examinations for assistant superintendents, but in other respects desirable candidates, might be taken in as signallers or as inspectors, with the prospect of qualifying for admission into the higher grades hereafter. As this is almost an experiment, I would limit the number at first to 50. If it proves successful, fewer assistant superintendents will be required; the grade may be extended hereafter, and perhaps thrown open to natives.

Signallers.

41. I now come to the signalling, the most necessary and important branch of the departmental staff. If this be faulty, any amount of care, of money, or thought, expended on lines and supervision becomes of no avail. In no other branch is reform so urgently required. Attention has been called to it by the public press, the Commissioner of Scinde, and many others, most of whom have made suggestions for its improvement, some practicable, some utopian, but all insisting on increase of salary and the entertainment of a better class of men.

42. This at first sight seems rational enough; but, before accepting this conclusion, it will be well to consider what are the peculiar qualifications which make a good signaller.

43. Signalling is, at the best, a very monotonous employment. The novelty soon wears off, and the contents of the messages soon cease to be interesting or amusing, however quaint they may be. A signaller must, therefore, be very patient.

44. Neither is it of great importance that their handwriting should be elegant, a neat fast hand is rarely a clear hand, and what is required in the message is something unmistakeable. When some one observed to Commissioner Mayne (I think it was), that he might get a much better class of men to report the English deaths, births, and marriages, if he would pay higher, he replied: "That is just what I want to avoid—the great, coarse, large text letters of the names sent to me by rural clodhoppers are unmistakeable, there is no mistaking e for c or i, whereas there would be constant mistakes with pretty running hands. So in the telegraph department, signallers should write down the letters as telegraphed in a large clear round hand, paying little attention to speed or beauty.

Class from which Signallers should be obtained.

45. It follows, then, I think, that for mere signallers, as signallers, it is questionable if a better educated superior class will afford greater satisfaction than a patient, plodding, steady, unambitious body of men—blessed with delicate perception of sound and touch, and kept honest and contented by paying them well in proportion to their social position and birth, and by giving them a tangible proof of interest being taken in their welfare.

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The assistants in charge, telegraph masters and their deputies, must be of superior education, and may be selected as hitherto from the signallers. As has hitherto been the case, some superior men would probably enter with the hope and prospect of rising gradually to the highest positions in the department. I see no reason either why the wives and daughters* of signallers should not also be signallers. In London women are extensively employed in this way.

Assistants in charge, Telegraph Masters.

46. I am not at present prepared to recommend any large increase of salaries to this branch, but I cannot express how anxious I am to obtain for them more considerate treatment, a course of action that must produce happy results.

47. The following measures appear calculated to attain some of these ends at small expense.

48. To make their quarters so comfortable that they shall prefer remaining in them to living in the bazaars or elsewhere; 2nd, to encourage morality and cleanliness; and 3rd, to establish an "*esprit de corps.*"

49. Signallers are, or ought to be, changed constantly. It is not desirable that they, or the telegraph masters, should remain long in the same place, especially in large mercantile towns, where speculation is rife and bribes may be offered. There are very few instances on record of signallers having taken bribes; but I suspect they often ask questions by telegraph (calling it practice) from a neighbouring station to oblige a friend. This is quite contrary to orders, but almost as impossible to prevent and as harmless as the non-official remarks, or news communicated in demi-official letters under frank. To limit these evils, and to prevent their becoming wedded to a place, as well as to give all a fair share of good and bad stations, telegraph officials should all be relieved periodically like troops.

Frequent relief of Signallers.

50. But if men are moved often they cannot afford to set themselves up at each station. I therefore recommend that each signal office shall be furnished by Government with a small quantity of good plain substantial furniture, for which the telegraph master should be held responsible. Tatties and chicks should also be allowed, and pecuniary encouragement given for the formation of small libraries of books at each office.

Telegraph Offices to be furnished by Government.

51. To encourage morality and cleanliness, a commencement must be made at the foundation. In my letter No. 1115, of the 16th August, I brought the state of the Barrackpore Probationers School to the notice of the Government, and solicited assistance for its improvement. As mentioned in that letter, sufficient pains are taken to instruct the boys in their profession, but no care whatever is taken to keep them out of mischief during their hours of relaxation. The master of the school (an East Indian) is the assistant in charge of the Barrackpore Telegraph Office. He receives as remuneration for each probationer two rupees per mensem. He has an office to attend to, and although happy and comfortable enough himself, he has neither time nor inclination to look after the lads, their habits, or their comforts, out of hours.

Training Schools.

52. Thus a grand opportunity for implanting good principles into these young lads, which might influence their characters for life, at the very age too when they are most impressible, is lost. In fact, there is no school whatever, it is simply a training class, supplemented by an adjacent empty bungalow, in which these youngsters may find shelter on the same terms as the pariah dogs, and are, in truth, not one whit more cared for.

53. I propose, in lieu of this, to have a training school (not class) for each province under a local government or administration. The school-house should be the property of Government, furnished with good strong barrack furniture, found in cooking utensils and establishment, lavatories, &c., all complete, much the same as the Lawrence Asylum. The lads would mess together, and be kept under an almost military discipline, by the schoolmaster, who would live in the same house with them, dine with them, and be as much with them as possible, and be assisted by one or two monitors elected from the lads themselves; these lads should always be in uniform and kept within bounds, attend chapel at regular hours, and treated as cadets.

54. The schoolmasters, if possible, educated in England, should be selected from the (new) grade of inspectors for special aptitude. They would get free quarters and an allowance for each probationer.

55. The Superintendent of the Circle would be expected to consider the welfare of the school and scholars one of his most important duties, and the chaplain to be a frequent visitor, and the chief civil authority an *ex-officio* visitor. The lads should be regularly rationed, paying for the same out of their own pay, and be found in uniform, as should all below the grade of assistant superintendents, at the expense of Government. The present term of probation is four months; I recommend that it be extended to six; the additional time would be well spent in moral culture and in acquiring a clear round-hand style of writing (not a running hand), practice with the signal instrument, and an elementary knowledge of electricity and construction; any probationer who could not send and receive 10 words a minute after three months should be discharged. Gross misconduct on the part of a probationer would involve summary expulsion.

56. At present there is small prospect of the proposed nine schools enumerated in the margin, producing a sufficiency of signallers; but if well conducted, I think that, in the course of a few years, the supply may exceed the demand, and it may become desirable to abolish some of them.

Bengal, N. W. Provinces, Punjab, Scind, Bombay, Rajpoor, Madras, Ceylon, Pegu.

57. After leaving school and entering office, signallers would still be under control of the

* We have one lady signaller, the daughter of Mr. Assistant Superintendent Knop, Miss Ida Knop.

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the telegraph masters; and, besides being deterred by fear of punishment from misbehaviour, they should be encouraged to be steady by rewards, which should be partly pecuniary, partly honorary.

Offices.

58. The offices should be the property of Government, and pucka. The practice of renting a bungalow is inconvenient, besides in other respects objectionable; the owner may raise the rent, or refuse to continue to rent it,* or it may catch fire, costing the Government its value, and the value of the instruments and records. Government, through the Department Public Works, has built some, and is building more.

59. The size and plan of the house must depend on the climate, the number of signallers to be accommodated, and the number of instruments. It should be commodious enough to admit of a small ante or receiving room, a signal-room, battery closet, sitting, bed, and bath room for the telegraph master (assistant in charge); one room for deputy telegraph master (where one is required), not less than (60) 60 superficial feet of bed room to each signaller, one bath room to every four signallers, and a mess or sitting-room, containing not less than 40 superficial feet for each signaller. A spare room and bath room for the temporary accommodation of the inspecting officers, but no permanent accommodation for any line or suvervising officer, as has hitherto been the practice at some stations. A strong box for cash should be built into the wall of the signal-room in every office.

60. The number of signallers must fluctuate with the number of offices, and amount of traffic; as new offices are opened, or the traffic increases, more men must be granted. If the number be calculated on the basis of (3) three signallers to each instrument on lines on which the traffic is continuous, two for each instrument where it is less, and one where it is small, each signaller would have a fair amount of work, and the total would amount to 753, exclusive of 171 telegraph masters (assistants in charge), or 924 in all. *vide* Appendix (A.) Add for contingencies, bank offices, special expeditions,† absent, sick, and on leave, *en route* to join, or in relief, 10 per cent. (less will not suffice), the total number required will be, signallers, 832, telegraph masters, 188; total, 1,020.

61. The amount of casualties is now 16 per cent. per annum, not including deaths; to meet these 81 probationers are required, six months being allowed for the completion of a probationer's education. In time we may hope to make the department sufficiently popular to largely reduce this per-centage; but meanwhile we have, by the last returns, no less than 185 signaliers wanting to complete the above necessary establishment, and cannot therefore go wrong in recruiting our schools to the extent of 185 × 80, to meet casualties to be incurred in the next (6) six months, or 265 in all. At the present moment 105 only are in training.

62. The line riders and other office servants should remain much the same as at present, with the exception of the peons, who must be better paid if the service is to be made sufficiently valuable to them, to ensure honesty and celerity in their movements.

Ministerial and Office Establishments. Central Office of Accounts.

63. If an organisation such as I have above sketched out be sanctioned, directors and superintendents' office establishments will be reduced to less than one-half. This saving will provide ample means for the formation of a central office of accounts, the precise strength and expense of which I am unable at present to define. At first it must, to some extent, be a matter of experiment, but the expense would certainly be less than the savings accruing from superintendents' offices; whilst from the mere fact of the agents being skilled accountants, with nothing to undo and no other work to divert their attention, compilation of the accounts would proceed more rapidly, systematically, and therefore satisfactorily, than can be expected from executives unfamiliar with book-keeping.

64. The accounts of the Superintendent of Stores, the return of annual expenditure, including salaries, and other bills paid and audited by the Accountant General, the estimates and budgets, should all be compiled in this central office, which should be presided over by a controller, assisted by competent accountants.

Superintendent of Stores, Storekeepers, and Store-yard.

65. The Superintendent of Stores occupies at present a false position, he is superintendent of the workshops and of the artificers employed therein, itself a very important duty. He lands stores from ships, ships stores, purchases in the market, checks the estimates for cost of telegraph material, wire, &c., and has to furnish all the accounts connected with them. His correspondence is enormous; and, as may be at once surmised, he has several lacs of arrears of accounts, an insufficient check on the workmen and on the disbursements, and in fact can do nothing completely. In addition he has the printing press,‡ which is also inefficient.

66. To assist him he has a practical engineer, the foreman, who is responsible for the machinery being in good order, and the work being well executed. This is so far right; but the magnitude of the workshops is so considerable,§ that another responsible person is required (who should be an inspector of the new grade) to check the work done. This inspector should keep a record, showing the hours at which the artificers come to work (this is now done), the work they are employed on (not done now), whence to ascertain the cost of each article made up or repaired, record of fines for late attendance, absence without leave,

* As has happened quite lately at Jeypore and Gowalparah.

† Such as that contemplated for Bhootan.

‡ Will probably hereafter be dispensed with.

§ All India is dependent on them for repairs and alterations of instruments, machinery, top-pieces, &c., and Bengal for masts, boats, office furniture, &c.

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leave, laziness, &c. (half done), and should prepare the monthly returns and pay bills of the establishment, and make himself generally useful as an overseer.

67. The Superintendent of Stores has already an assistant superintendent to assist him in receiving and disbursing telegraph stores, wire, top-pieces, insulators, instruments of several sorts, stationery, &c. &c., but he must have more aid than this if peculation is to be guarded against. Stores must be classed and made over to native storekeepers, who must give security. These storekeepers must be held responsible for the correctness of the stock records. They should issue to, and receive from, the assistant superintendent on his signed orders and receipts, but have nothing whatever to do with cash, but simply with quantities of material.

Establishment of small Depôts for petty stores.

68. I propose, too, to make arrangements at each Presidency, or Circle, for a small depôt, at which spare pieces of telegraph instruments shall be lodged and petty repairs executed. It seems absurd to send to Calcutta for cores (cylinders of soft iron), galvanometers (small coils of wire), and such simple articles which any good native workman can make up. If all the instruments were precisely alike, as they ought to be, with the parts interchangeable. spare screws, spare springs for the keys, and sundry other simple parts, which wear out with use, could be issued to the superintendents at the same time as the instruments, just the same as a gunmaker gives spare nipples, spare main springs, &c., with the guns he sells from his shop.

69. It seems also excess of caution to issue all the wooden top-pieces from Calcutta.* There ought to be no difficulty in obtaining them almost anywhere, or suitable wood—sâl in the North Western Provinces, and teak in Burmah, Madras, and Bombay—all that is necessary is to pass them by a proper committee and officers.

70. The accounts of the store-yard, &c., should be kept in the same simple form as that recommended for executive offices, and should be compiled in the Central Office of Accounts, but this will not lead to any diminution in the Store Office Establishment, which is already too small.

71. After making the above changes, the Superintendent of Stores will have his duties reduced to their proper functions. He will have leisure to see how the work is being done; to carry out the many experiments connected with proving insulators, &c., sent out from England; to maintain system and division of labour, *i. e.*, economy in manufacturing; to introduce improvements, look after the accounts, and become, what he ought to be, a supervisor instead of an executive.

Check Office.

Check Office must be remodelled.

72. The office hitherto called the Complaint Office; or Complaint, Fault, and Cash Checker's Office, but which I have denominated the Check Office, requires an entire re-casting, as recommended by Mr. Kellner nearly three years since.

Establishment should vary with the number of messages.

73. It stands to reason that, for a routine office in which the work is annually increasing at a rate of from 15 to 25 per cent., a fixed establishment will not answer, a corresponding increase in the number of clerks must be made, or the work must fall into arrears at the corresponding rate of from 15 to 25 per cent. per annum. Of late a great deal has been done for accelerating the transaction of business by simplification and printing of forms for letters, accounts, &c., but the limit in that direction has now been reached, or nearly so, as regards the complaints and cash checking, whilst nothing whatever has been done for the tracing and discovery of faults, because there is absolutely no establishment available for the purpose. In fact the fault office exists only in imagination, the only faults that are discovered being those brought to light when tracing complaints.

74. It follows, then, that, unless a very large increase of staff be granted for these offices, they will soon be hopelessly in arrears and useless. It is only a few months since that several months of cash collection audit were jumped over (skipped), and the cash checking commenced again with a clean bill from a fresh date; and already they are in arrears again, and must get more and more so unless a suitable establishment, varying month by month according to the number of messages received, be granted.

Details of system of checking the Cash Collections.

75. The system pursued in, and the labours and requirements of the check office will be better understood from the following: the check office is divided into three branches: the "cash checking," the "complaint," and "fault office," all working on the same material, viz., the message drafts, all, therefore, necessarily in the same apartment, and all under the same superintendent.

76. The cash collections are checked thus: certain clerks calculate from each original message what ought to have been paid on that message, compare it with the receipt, and enter this amount in its proper column "service," "private," &c., in an account book under the proper dates. A head clerk then extracts from these books, under their proper heads, into another book the sums received on each day for each office, the amount for the whole month for each office, plus peon hire, should equal the sum acknowledged by the collector as paid into his treasury. One clerk will calculate and enter 150 to 180 ordinary messages in a day, and one head clerk can compile the six computers' work. To assist in bringing up, removing, and returning to their pigeon holes the bundles of messages, two sorters are required.

77. The

* Many are of opinion, Colonel P. Stewart was, and I am myself, that wooden top-pieces are a mistake, the whole should be of iron, and dependence placed on the insulators for non-conduction.

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77. The present traffic being an average of 1,350 original messages per diem, one and one-third compilers, eight checkers or calculators, and two sorters, are needed to check the cash collections.

78. To trace and answer complaints.—A head tracer and replier to letters, four sorters to fetch the messages called for and return them to their places, one registrar, and one clerk, who also would prepare monthly returns, pay bills, &c., required.

Service messages examination.

79. For the examination of service messages, one clerk is required.

Process required for detection of faults.

80. In order to discover the faults in messages it is absolutely necessary in the first instance to compare the received and the original messages. If they agree nothing further is required; if they disagree the original must be compared with each copy taken, until the faults are traced to the proper offices. From the above it is evident that this is a very tedious process, and will require a strong staff,—a stronger staff than perhaps at first sight the process appears to be worthy of. There can, however, be no question that though it will cost a good deal of money, it will deter many from faults of omission and commission, and ensure amendment and public confidence.

System necessary for detection of faults.

81. By giving different colours to the papers and envelopes of original, transit, and received (issued) messages, with a distinguishing letter to each message, the pairing of all the messages will be facilitated, and once paired, the comparison ought to proceed pretty rapidly. It must, however, be kept in mind that if 100 messages be issued from a station in one day to 100 different stations, the copies of the issued messages will be received in the check office, Calcutta, in 100 different packets, arriving at different times from the 100 stations to which they were issued, besides copies from transit stations. Hence to pair the messages, several sortings will be required; one set of sorters must open the message packets, and throw each message according to its original station into its box or compartment. This will bring all the messages from any one station together, they must then be paired by a second sorting and then read (*i. e.*, compared) to discover the faults. From experiments made, I believe that (1) one sorter, (1) one pairer, and (2) two comparers, will be required for every 100 messages; that is to say, for present traffic (11) eleven sorters, (14) fourteen pairers, and (28) twenty-eight comparers, will be requisite. I think it very probable that, after a little practice, the work might be performed by a much smaller staff; but until it has been working for two or three months, I should be sorry to commit myself to a decided estimate. The office servants would be one duftry, one peon, one furrash, onethird sweeper.

82. At present four men are employed in destroying the old messages; this should be done by machinery as more economical and effectual.

Accounts

83. These are at present far too complex. Superintendents, assistant superintendents, and inspectors, have all to compile their accounts instead of simply to render them to skilled accountants. The accounts of executive officers should be as simple as possible. They should keep a cash or day-book, a plain record of events, in which every item of daily expenditure should be daily entered. A copy of this day-book should be forwarded periodically, weekly, or monthly, to the superintendent, who would examine it, so far only as to see that the rates were fair, the labour employed not excessive, and that all other changes were reasonable. If not approved of, the superintendent would return the copy for revision to the assistant superintendent, with his remarks; when approved of, he would countersign it and forward it to the central office of accounts for compilation and audit. The extract from the day-book should be accompanied by an account current. In this account current the executive officer would be debited with all sums received, but would only take credit for bills passed. Bills rendered, but not passed, would be shown in a foot note as unadjusted; all estimates for repairs or construction should be prepared by the executive officers, carefully scrutinised, countersigned, and submitted with their remarks, by the superintendent to the Director General.

84. The accounts of the signal office would be still more simple. Each office would be allowed a standing imprest proportioned to its monthly requirements. For small offices, (25) twenty-five rupees would be sufficient. The largest would not require more than (100) one hundred rupees. This imprest may be considered as a loan to the assistant in charge, and would not appear in his accounts as a balance in hand, but merely in a foot note. His contingent bill would be forwarded to the superintendent of his Circle, who, if satisfied that the charges were just, would countersign the bill and forward it to the Director General; or if dissatisfied, return it for revision to the assistant in charge (telegraph master). These bills would be audited by a special branch of the central office of accounts, and returned as passed, signed by the Director General or his deputy.

85. The assistant in charge presenting them would receive the amount from the civil treasury. Signal office salary bills would, in like manner, be paid at the treasury on counter-signature of superintendents; and all monies received as cash collections, recoveries of fines by sale of stamps, would be paid into credit of Government,—a return of the same being also sent to the cash checking office. I would discourage advances as much as possible. They cannot be wholly dispensed with, but they may be reduced to a minimum if superintendents have the power of giving orders to the steam companies, railways, bullock trains, and post offices for transport of signallers, &c., by steamer, rail, dawk, or mail-cart, or dooly, as the route may require. The bills for such orders passed, to be passed by central office, and paid on presentation by civil treasurer. By this simple arrangement office accounts could not possibly get into confusion, even in the hands of the most bungling accountant.

Re-arrangement of Salaries.

Necessity for increased salaries to secure good officers.

86. It is hardly necessary to go into any lengthy discussion to prove the necessity for a considerable

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considerable increase of salaries, if the department is to be filled with efficient officers; or to demonstrate that, without good officers, it never can work satisfactorily, or fulfil public expectation. The annual advertisement published in the English papers reads very tempting to the youth of England, ignorant of India and her ways: 180*l.* per annum, with the chance of rising to 3,600*l.* per annum, is certainly a most magnificent prospect; but from the first it became evident to those who came out that their chances of gaining any prizes were of the smallest, whilst for years to come their comparative pay would debar them from the society of people of their own rank, and would lower their status by its unfavourable contrast with that of other departments. On the last occasion of competitive examination in London, only five candidates offered themselves, and their average abilities were far below those who came first; what the next examination may bring forth it is impossible to say, but little reliance can be placed on it. In short, as observed in the despatch from the Secretary of State for India, "the results of the experiment are not encouraging." Low pay and slow promotion deter good men who know India from entering the department, and induce those who have entered to strain every nerve to get away from it. I assume, then, that increased salaries must be granted if efficiency is to be secured; and if efficiency be obtained, greatly increased traffic will soon follow, and produce handsome remunerative returns. The new tariff should produce at least 30 per cent. increase, and the traffic itself is increasing at the rate of not less than 20 per cent. per annum. The expenses are now a little over 14,00,000 rupees, and the returns over 9,00,000 rupees; it is clear, then, that the department must pay handsome revenue within a very few years if properly worked. I believe, also, that with good men well paid, and the organization I have now recommended, I shall secure a better administration, and be able to work with a smaller staff than hitherto.

87. For simplification of audit it is very desirable that the principles that regulate the salaries should be precisely the same as those which regulate other similar departments. I have, therefore, followed the plan now generally adopted with consolidated salaries, viz., of giving annual increments for those grades whose numbers are fixed, so that incumbents may not continue year after year without any improvement of their means, whilst the fluctuating, or lower grades, receive promotion for length of service.

Travelling allowance.

88. For travelling allowances I recommend that precisely the same rules as those laid down in the Public Works Code be adopted for this department, excepting that when any officer on tour shall stop (8) eight hours or more of one day at one station on duty, he shall be allowed to draw his per diem allowance for that day, in addition to mileage, or be allowed the choice of *bonâ fide* expenses. When travelling from telegraph station to telegraph station by rail, an inspecting officer will travel only a very few miles, and then halt to examine the station and accounts, thus neither per diem allowance nor mileage will suffice to pay both rail fare and hotel expenses; moreover, usually when an officer of this department has to go on tour, it is not a matter of a few days' absence, he cannot afford to take his family with him, or to give up his house; but he must take servants, much luggage, and in many cases his horse and tents, involving an expenditure far beyond that covered by ordinary rates; consequently, if not conscientious, he will find some excuse for limiting his tour, and avoiding stations difficult of access. Efficient and willing inspections will never be obtained until travelling is made pecuniarily advantageous. Hitherto, in this department, this view of the subject has been quite lost sight of. Under existing rules it is both inconvenient and costly for any one to go on tour, consequently many systematically shirk, or passively resist doing so, to the very verge of absolute neglect, a course of conduct which naturally leads to insubordination, and strikes deep at the root of all discipline, zeal, and every honest feeling throughout all ranks.

89. I do not suggest any alteration in the pay and allowances of the Director General.

Deputy Director General's salary should be about the same as that of other important deputies, viz., 1,500 rupees to 1,800 rupees.

90. The Deputy Director General will hold a very important, responsible, and onerous appointment. His labours and responsibilities will certainly not be inferior to those of the Deputy Adjutant General, Deputy Quarter-master General, Examiner of Commissariat Accounts, or any others of the numerous class who draw 1,000 rupees staff in addition to staff corps pay of rank.

91. The Deputy Director General would rarely be of less length of service than 20 years, generally over 26 years. If he received 1,000 rupees staff, his salary would be 1,640 rupees after the first period, or 1,820 rupees after the second. In recommending, then, a salary for the Deputy Director General of 1,500 rupees, rising by annual increments of 50 rupees to 1,800 rupees, I am, if anything, placing it too low. His travelling allowances should be those of a superintending engineer.

Superintendents in two grades.

92. For superintendents I recommend (2) two grades, seven in the first, twelve in the second, including one for Ceylon. Two of the directors will be absorbed into these, and their salaries must, of course, be continued to them. In determining what shall be their salaries, it will be well to consider what denomination of officer of other departments they most closely resemble. They have not the same important duties or responsibilities as postmasters general, or superintending engineers, but they certainly approximate thereto, and must be of considerable length of service.

I propose to deprive them of their house rent, excepting at the Presidency towns, and other exceptional places, and to merge these allowances into their salaries. Those employed at the Presidencies, or in important positions removed from head quarters, or on important works, would have considerable heavier responsibilities than those in less important

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positions. Distinguished zeal and length of service also requires consideration; I propose, therefore, to divide them thus:—

Seven 1st class superintendents, including the superintendent for Ceylon, on 800 rupees, rising by 50 rupees per annum to 1,000 rupees. Mean rupees, 900.

Twelve 2nd class superintendents on 600 rupees, rising by 30 rupees per annum to 750 rupees. Mean rupees, 675.

Their travelling allowance should be the same as 1st class executive engineers, Department Public Works.

93. The salaries I propose for assistant superintendents, 4th class, is the same as received by covenanted civil engineers on arrival from England, viz., on joining, 200 rupees.

After one year's service, and passing an examination in the vernacular of this country, 225 rupees.

After two years approved service to be promoted to 3rd class on 250 rupees.

After three years' service, 275 rupees.

After four years', promoted into 2nd class, if conduct be satisfactory, on 300 rupees.

After five years' service, 325 rupees.

After six years' service, promoted into 1st class, 350 rupees, rising by 25 rupees annually to 450 rupees.

These periods to be prolonged or shortened in special cases of good or bad service, with the sanction of Government.

94. Travelling allowance to assistant superintendents to be the same as to assistant engineers and apprentices, Department Public Works, viz., 4 rupees per diem, or mileage 3 annas and 8 annas.

Inspectors' salaries.

95. For the new grade of inspectors, I propose somewhat lower salaries than those accorded to the upper subordinate establishment of the Public Works Department. Promoted signallers should enter on not less pay than they were in the receipt of as signallers; others entering direct would receive 80 rupees, rising to 250 rupees by increments of 10 rupees per annum. In special cases these rules might be modified under special sanction. Travelling allowances would accord with those granted to members of the upper subordinate establishment of the same salary of the Department Public Works.

96. For signallers on entering, and probationers at school, I see no call for an increase,

PRESENT SCALE.					PROPOSED SCALE.					
After Years of Service.	Character.				After Years of Service.	Character.				Remarks.
	Superior.	Good.	Average.	Indifferent.		Superior.	Good.	Average.	Indifferent.	
15	150	125	100	75	15	195	162	130	100	
14	144	120	96	72	14	183	152	122	95	
13	138	115	92	69	13	171	142	114	89	Increments doubled, 6-8-10-12.
12	132	110	88	66	12	159	132	106	83	
11	126	105	84	63	11	147	122	98	77	
10	120	100	80	60	10	135	112	90	71	
9	114	95	76	57	9	126	105	84	66	Increments 50 per cent. higher.
8	108	90	72	54	8	117	97	78	61	
7	102	85	68	51	7	108	90	72	57	
6	96	80	64	48	6	99	82	66	52	
5	90	75	60	45	5	90	75	60	45	
4	84	70	56	42	4	84	70	56	42	
3	78	65	52	39	3	78	65	52	39	No change; Increments 3-4-5-6.
2	72	60	48	36	2	72	60	48	36	
1	66	55	44	33	1	66	55	44	33	
0	60	50	40	30	0	60	50	40	30	

Signallers' salaries.

provided they may draw rations from the commissariat at the same rates as soldiers, and receive gratis their uniform, the value of which may be estimated at 3 *l.* per head per year; they would find their own linen, boots and shoes, &c., but Government should give them caps, trousers, waistcoats, and jackets, or coats. I also propose to keep the same increase of increments as at present for the first five years, after (5) five years to increase the increments 50 per cent., and after another five, another 50 per cent., as shown in the above table.

97. It is a well-established fact that, in all increasing scales, the average or mean is never reached. If 100 men start in life together 50 of them will not be in the same service after (10) ten years, and very few at the end of (20) twenty. Also any lottery which offers a few good prizes is always more attractive than a better one in which the prizes, though numerous, are smaller. Hence the above scale, though in reality involving little extra expense, would, I believe, be highly popular. I have already given my opinion that the rates of pay for signallers do not appear to me to call for extensive revision, but to secure honest, careful attention

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attention and supervision on the part of the telegraph and deputy telegraph masters, heretofore called assistants and deputy assistants in charge, as well as to hold out prizes to the well-conducted and intelligent, I propose to make the "charge" allowances more uniform for all offices, and to make them personal rather than "charge;" that is to say, the pay of the telegraph, or deputy telegraph master, would exceed that of a signaller of his standing by his allowance. His pension and furlough pay should be calculated on it. This would confer a great benefit at a small cost. The present charge allowances vary from 75 rupees per mensem to 15 rupees, according to the amount of business transacted by each office. Instead of estimating this allowance by a kind of *ad valorem* calculation, I would divide offices into four classes, viz., presidency, and full day and night, the allowance for which should be 80 rupees per mensem. Repetition, day and night, with comparative little local work, 60 rupees. Full day work only 40 rupees. Light day work only 20 rupees. The number and classification of telegraph masters and deputy telegraph masters would vary as the offices. A first-class telegraph master or deputy, as a rule, being in a first-class office, but not necessarily so. Deputy telegraph master would receive half rates, as sanctioned in Financial Resolution, No. 1,178 of 3rd July 1865.

Financial results and conclusion.

98. The accompanying Tabular Statement, Appendix C., conveys a fair impression of the immediate effect of the proposed alterations in the scale of pay. I assume that no promotions are to be made for length of service at the outset, but only as those fit for promotion qualify for it by length of service. The numbers in the grades will rapidly alter. When promotion throughout the department is slow, the number of first and second class assistant superintendents will be above average, and *vice versâ*. This is as it should be.

99. I have allowed 150 rupees as office establishment for circle superintendents; this would be ample. Temporary establishments would be required for the offices of those employed on works of construction, but on a much smaller scale than hitherto, as the accounts would be so much more simple; but credit is not taken for this saving, as it is almost impossible to approximate to the amount.

100. I have also taken credit for house and horse allowance for all assistant superintendents. This is not quite correct, as several superintendents and assistant superintendents are now furnished with quarters (to the great inconvenience of the signallers and assistants in charge), and those in charge of offices do not draw horse allowance. On the whole, the increase is moderate, and is very much below what may be expected from the operation of the revised tariff, and annually increasing traffic.

101. The foregoing embraces, I trust, the whole of the organic changes that it is at present desirable to introduce into this department. From time to time other modifications will doubtless suggest themselves, but I trust few, or none of them will be radical, or of such magnitude as to require the consideration of Government for their introduction.

102. I have endeavoured to the best of my ability to devise that scheme which shall produce the best possible results, at the least possible cost, and I am sanguine that the scheme I have submitted will work well, and will approximate to this desirable end. In justice to myself I must, however, state that I have some doubt whether the abolition of directors may after all prove beneficial. I have reflected much on this question; on one side excessive centralization has weighed against loss of power and friction, but the balance has been turned by this consideration, viz., that if the change prove injudicious, nothing can be easier than to convert the seven proposed first-class superintendents into directors, an arrangement which would give one director for each local administration.

103. I shall be glad to receive early sanction to such portion of my recommendation as may meet with approval, and may add, in conclusion, that the budget provision for this department for the current year 1865-66, prepared on the recommendations for increase of salaries made in Colonel Douglas's No. 2939 of the 1st February last, is more than ample to meet all the requirements of my scheme.

(No. 4877.)

EXTRACT from the Proceedings of the Right Honourable the Governor General of India in Council, in the Home Department (Electric Telegraph), under date the 8th December 1865.

READ a letter from the Officiating Director General of Telegraphs, No. 171 A, dated the 18th October.

REMARKS.

In this letter the Director General submits for approval the measures which he considers to be necessary for making the organization of the department really effective.

2. The proposed modification of departmental establishment is shown in the Tabular Statement (Appendix C.) attached to the letter. It involves a mean increase (taking all the variable salaries at the mean between the proposed minima and maxima) of 4,49,796 rupees per annum; but for the first year the mean will not, it is shown, be fully attained; and owing to this, as well as to the full scale of proposed establishment not being in every case brought into immediate operation, the increase for the first year is estimated at only 2,83,152 rupees.

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3. The alterations included in the statement under notice are as follows:—

Present Charge per Mensem.	Proposed Charge per Mensem.	
Rs.	*Rs.*	
Nil.	1,650	(1.) Appointment of a Deputy Director General on a consolidated salary of 1,500 rupees, rising by 50 rupees annually to 1,800 rupees.
2,950(mean)	Nil.	(2.) Abolition of the three Directorships.
6,950	14,400	(3.) Increase in Number (15 to 19) and pay (from an average of about 464 rupees to one of about 758 rupees) of the superintendents.
20,900	23,980	(4.) 103 Assistant superintendents and inspectors, on an average salary of about 202 rupees, to be exchanged for 88 assistant superintendents, on an average salary of about 272 rupees.
1,000	6,000	(5.) 10 inspectors 4th class, on 100 rupees each, to be exchanged for 50 inspectors, on an average salary of 120 rupees.
39,095	66,150	(6.) 820 signallers, on an average salary of about 47 rupees, to be exchanged for 1,020 signallers and telegraph masters, on an average of about 64 rupees.
5,565	700	(7.) House allowances for superintendents and assistant superintendents to be abolished, except in respect of those stationed at Calcutta, Rangoon, and Bombay. Horse allowances of inspectors to be abolished.
3,486	2,100	(8.) Office establishments of directors to be abolished, and those of superintendents to be reduced (owing to simplification of accounts).
830	1,500	(9.) Central office of accounts to be established in lieu of former account branch.
440	739	(10.) Director General's Office Establishment to be strengthened in respect both of numbers and pay.
392	871	(11.) Office of Superintendent of Stores to be strengthened. Part of the increase (viz., 282 rupees) is due to proposed employment of cart drivers and lascars on the fixed establishment, instead of hiring them.
437	1,438	(12.) Check and Complaint Office to be strengthened and improved in respect of pay.
82,045	1,19,528	
Increase per Mensem -	37,483	
Increase per Annum -	4,49,796	

4. Colonel Robinson states (paragraph 103) that the Budget provision of the current year is "more than ample to meet all the requirements" of the scheme, and he shows (paragraph 86) that the increase in the receipts to be expected from the growth of traffic (20 per cent.), and from the revised tariff of charges (30 per cent.), will more than meet* the extra cost involved in the proposed reorganization.

5. The Governor General in Council proceeds to review briefly the main features of the scheme submitted by Colonel Robinson.

Deputy Director General.

6. The proposed appointment of a Deputy Director General (paragraphs 21, 22, and 91) seems to be an arrangement which is likely to prove far more efficient than the present one of three Divisional Directors whose offices are to be abolished (paragraph 3); and the salary indicated by Colonel Robinson for the Deputy Director Generalship does not seem too high to secure the services of a good officer.

Superintendents.

7. The proposition in respect of the superintendents is contained in paragraphs 28 and 92.

8. The proposed number of superintendents is reasonable, and the grading of the other officers named in paragraph 28, with the superintendents, appears also to be proper. But the Governor General in Council questions whether the salaries proposed (paragraph 92) will afford sufficient inducement, and he considers that it will be preferable to have nine only

* Present returns - - - - - - - - - - - - - - - *Rs.* 9,00,000
Add 20 per cent. for growth of traffic, and 30 per cent. for revision of Tariff, total 50 per cent. - - - - - - - - - - - - - - - 4,50,000

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only in the lowest class, on the salary proposed (600 to 750 rupees); six in a middle class, on the salary (800 to 1,000 rupees) proposed for the first-class; and a new first-class of four, commencing on 1,050 rupees, and rising by an increase of 75 rupees each year to 1,500 rupees. Very few will attain this maximum, and those who do must have served long and well.

9. The Governor General in Council approves generally of the powers and functions proposed for superintendents (paragraphs 4 and 23), and the Director General will be asked to furnish a copy of the instructions which he may eventually issue with the object of giving full effect to the general views expressed therein. He will further be required, if it is intended to give the superintendents any fresh powers in regard to incurring or sanctioning expenditure of any kind, to submit that part of the instructions separately for the previous sanction of Government.

Assistant Superintendents.

10. The proposed grade of assistant superintendents includes certain officers termed, until recently, inspectors. The alteration of designation was approved in this office letter, No. 2126, dated 20th September. The number (88) of assistant superintendents, as explained in paragraph 38, does not seem too large. The only item which may, perhaps, be open to question is the provision of 10 officers to meet the contingencies of absence on account of leave or on duty as acting superintendents; but the Governor General in Council would not, on the whole, object to the proposed number, for the present at least. The salaries proposed for this grade (paragraph 93) seem reasonable. The highest rate of pay (450 rupees) would be reached after 10 years' service; and if an officer's conduct has been good throughout, this does not seem too high.

11. The Governor General in Council concurs in the expediency of the principle stated in paragraph 30, in regard to the promotion of assistant superintendents.

12. In paragraph 37, it is stated that officers will be admitted to the grade of assistant superintendents after passing a suitable examination; and in the same paragraph, as also in paragraph 93, it is stated that an examination "in the vernacular" will have to be passed as a condition of the first step of promotion. The Governor General in Council thinks that something of the kind is desirable, but it occurs to him that unless assistant superintendents are to be tied to particular provinces, the proposed requirement in respect of passing in "the vernacular" may require further consideration by the Director General.

Inspectors.

13. The proposed grade of inspectors comprises the officers formerly termed overseers, as explained in paragraphs 13 and 39. The old overseer class is stated to have been of late allowed almost to die out; but Colonel Robinson regards them as a "very useful and economical class of public servants," and proposes (paragraphs 39 and 40) to continue the grade (under the designation of inspectors) recruiting it by the promotion of deserving signallers, or by the obtainment of non-commissioned officers from the Roorkee College. He proposes to limit the numbers for the present to 50. The Governor General in Council is disposed to approve of the above, and to agree to the scale of salaries proposed for the officers of this grade, as explained in paragraph 95.

Signallers and Telegraph Masters.

14. As regards signallers, the Director General proposes to introduce the distinctive designation of telegraph masters for signallers in charge of offices. There is no objection to this.

15. The Director General observes (paragraph 60) that the number of signallers must "fluctuate with the number of offices and amount of traffic;" and he calculates the present number required to be 753, besides 171 telegraph masters, or 924 in all. To this he proposes to add 10 per cent. to provide for absence on leave, &c., and for special requirements, the total number with this addition being 832, besides 188 telegraph masters, or in all 1,020. The Governor General in Council would approve of this.

16. The scale of proposed salaries for signallers is given in paragraph 96. The Governor General in Council would sanction the proposed scale. He would deem it low, but for the assistance in addition to salary which it is proposed to give. This is considerable, comprising (paragraph 96) house accommodation with furniture,* and uniform. The drawing of rations from the commissariat is also contemplated (paragraph 96); and even though the rations be paid for (as the Director General is believed to intend), the arrangement will be, more or less, of the nature of a privilege. It is doubtful, perhaps, whether, in all parts of the country, the arrangement in respect of rations can be made, and whether in any part of the country it will be found to work easily, involving, as it probably would, inconvenient references between the two departments; but there is no objection to the plan being tried.

*See also paragraph 50.

17. In regard to the proposal (paragraph 49) that signallers should be relieved periodically like troops, the Governor General in Council observes that there is some truth in the reasons assigned for the measure; but, as a question of expense, the matter needs full consideration and very discreet management. His Excellency in Council will not, therefore, go further at present than to ask the Director General to submit, at his convenience, a detailed account of the manner in which he would work such a system.

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App. No. 2.

18. The proposal made in paragraph 97, to modify the present system and rates of allowances to signallers in charge of offices (to be termed in future telegraph masters), meets with the entire approval of the Governor General in Council.

Training of Signallers.

19. In paragraphs 51 to 57, the Director General makes proposals with the object of providing better means of training signallers. He would establish nine training schools (paragraph 56) in different parts of the country, each school-house being supplied with proper furniture and the requisite apparatus (paragraph 53), the lads being rationed (paying for it out of their allowances) and found in uniform at the expense of Government, and the term of probation being extended from four to six months.

20. The Governor General in Council is disposed to approve generally of the above proposals. The number of schools is not regarded as excessive, but the Director General will be requested to submit details of the proposed cost.

Check Office.

21. In paragraphs 10 and 72 to 82, the Director General describes the manner in which he proposes to re-organise what has hitherto been termed the "Complaint, Fault and Cash Checker's Office," but which he would, in future, designate the "Check Office." He proposes to have an establishment "which will fluctuate with the number of messages received;" the particular scale entered in the schedule being apparently drawn out in accordance with an estimate of present requirements.

22. The plan might, unobjectionably, perhaps, be tried; the proposed scale being accepted as a present arrangement, subject to future adjustment as experience may dictate; but the matter will be more closely scrutinised in the Financial Department.

System of Accounts; Central Office of Account; Passing and Auditing of Expenditure.

23. In paragraphs 83 to 85, the Director General describes the alterations he would make in the system of accounts. Connected with this is the proposal (paragraphs 63 and 64) for the formation of a Central Office of Account, the establishment of which is entered in lump in the schedule at 1,500 rupees per mensem. With this subject may be considered also the remarks made in paragraphs 5 and 6, relative to the proposed classification of expenditure and the system under which it should be passed and audited; also the proposal contained in paragraphs 16 and 17, relative to the powers of the Director General in respect of audit.

The proposals appear generally unobjectionable, except that it might be better for all expenditure to be passed by departmental officers and subsequently audited in the Central Office. As regards the Director General's power of audit, the views expressed by Colonel Robinson appear generally sound; but it may be doubtful whether the Director General's audit should be final.

The subject will be more fully considered in the Financial Department.

24. In the latter part of paragraph 85 the Director General proposes, with the view of simplifying the accounts of the Department, and facilitating the abolition of the system of advances, that superintendents should have the "power of giving orders to the steam companies, railways, bullock trains, and post offices for transport of signallers, &c.;" the bills for such orders being passed by the Central Office and paid on presentation by the Civil Treasurer. The Governor General in Council is disposed to question the arrangement being simple. Orders for payment, whether involving eventual cash payments or transfers in account, are surely more complicated as a question of account than immediate cash payments. And on other grounds his Excellency in Council thinks it objectionable to give the power suggested. In the case of railways, private steamers and transport companies, it could only be given with the consent of the respective managers of such concerns.

Store Department.

25. In paragraphs 65 to 67, the Director General explains the modifications which he would make in the Store Department; in paragraph 68 he purposes the establishment of small local store depôts at each Presidency or Circle; and in paragraph 69 he points out the inexpediency of attempting to supply all wooden top pieces from Calcutta. The views expressed by Colonel Robinson on the above subjects are generally approved, and he will be requested to submit specific propositions showing the cost of the proposed local depôts.

Travelling Allowances.

26. In paragraphs 88, 91, 92, and 96, the Director General indicates the provision which he would make for travelling allowances to officers of the department; the rules laid down in the Public Works Code being, with certain exceptions, proposed for adoption. The views expressed by Colonel Robinson are generally approved; and he will be requested to submit a detailed plan for all grades, based on the rules and rates obtaining in the Public Works Department, and showing the specific rules which it is intended to apply to the Telegraph Department.

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App. No. 2.

House and Horse Allowances.

27. The abolition of House allowances (with certain exceptions), and also of Horse allowances to the extent contemplated in paragraphs 11, 92, and 100 and in the annexed schedule is approved.

Telegraph Buildings.

28. In paragraph 58 the Director General remarks that the telegraph offices should be accommodated in buildings the property of Government, and points out the objections to renting houses. The views expressed are approved, with the reservation that, at temporary stations (in which class are included all offices that are used primarily for departmental purposes), it will be better generally to rent. The provisions of buildings will, of course, be carried out gradually, the work to be executed in any one year being regulated by the urgency of the requirements and the ability of the Public Works Department to undertake it with reference to the other demands upon its agency. The views expressed in paragraph 59 respecting the size and plan of houses seem to be unobjectionable.

Tours of Inspection by the Director General.

29. The Governor General in Council agrees to the proposal (paragraph 19) that the Director General should be allowed to make occasional extended tours of inspection.

Uniform for Officers of the Department.

30. The proposal to provide a uniform for signallers at the expense of Government has already been noticed (paragraph 15 of this Resolution); but the Director General's scheme contemplates (paragraph 14) the adoption of a uniform "for all grades;" those "below the grade of assistant superintendents" being (paragraph 55) provided at the expense of Government. The proposition is favourably regarded.

31. In conclusion the Governor General in Council observes that the Report submitted by Colonel Robinson is a good and useful one. His views appear to be generally moderate and sensible, and to give good promise of an energetic and effective management of the department, coupled with a proper and considerate treatment of all employed under him. Subject to the remarks made in the preceding paragraphs, the Governor General in Council would give a general approval to the proposed measures: and in regard to any points on which doubts have been expressed, or on which doubts may occur to the Financial Department, the Director General might be instructed to work experimentally for the present in view to the subsequent adoption of such modifications as experience may dictate.

ORDERED, that a copy of the above remarks, together with a copy of the Director General's letter, be forwarded to the Financial Department for further consideration, with reference generally to the additional expense involved in the proposals, and specially to the points noticed in paragraphs 21 and 22 (Check Office), and paragraph 23 (system of Accounts and Audit, Central Office of Account).

(True Extract.)

~~Under Secretary to~~ the Government of India.

— No. 6. —

(No. 37 of 1866.)

LETTERS from *L. W. Courtenay*, Esq., to *W. T. Thornton*, Esq., and Major *Champain*, R.E.

My Dear Sir,

I BEG to report that the working of the Turkish lines continues very satisfactory. Yesterday several commercial messages from Bombay and Calcutta passed through here *en route* for England, dated 6th instant, and then transferred to the European lines without delay. We are now working very frequently with Bagdad and Faô direct.

I remain, &c.

L. Walter Courtenay.

W. T. Thornton, Esq., &c. &c.
India Office, London.

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App. No. 2.

(No. 59 of 1866.)

My Dear Sir, Constantinople, 21 February 1866.

I BEG to report, that with the exception of an interruption of 36 hours, which took place five days ago, the Turkish lines, both east and west, continue to work very well. Last date from India, yesterday, 200 messages were received yesterday from India, direct from Bagdad.

On the 8th instant I sent a message direct to Kurrachee, the acknowledgment of which was received here three minutes afterwards.

The Persian lines are in a very bad state since the 5th December. I am informed that during the month of December they only worked five days, and during January, only seven days. Messages from Europe, sent *vid* Russia and Persia to India, are forwarded by estafette over the Persian lines, thus being very greatly delayed. The interruptions, it is said, are between Hadji Kara and Teheran and Bushire. Lieutenant St. John mentions in his letter that the unexampled severity of the winter has much damaged the Persian lines, but that probably communication will be restored in a few days.

Major Champain has not yet arrived.

Believe me, &c.

W. T. Thornton, Esq., &c. &c. &c.
India Office, London.

L. Walter Courtenay.

(No. 31 of 1866.)

Indo-European Telegraph, Commissioner's Office,
My Dear Sir, Constantinople, 31 January 1866.

WITHOUT any favour from you to reply to, I beg to confirm my letter to you of 24th instant.

Pera Office. The Administration has accepted my proposal to extend the trial to unite the two offices under Mr. O'Connor's superintendence until the 20th March.

Working of Lines, both in Europe and Asia continues good. Messages of yesterday from both sides reached here during the night.

Delays during November, between Kurrachee and Constantinople. Messages from India:—

Longest - - - - - - -	10 days 8 hours.
Shortest - - - - - - -	Direct from Faô.
Average - - - - - - -	6 days 6 hours.

Between Constantinople and Kurrachee. Messages to India:—

Longest - - - - - - -	10 days 20 hours.
Shortest - - - - - - -	Direct to Faô.
Average - - - - - - -	3 days.

Ottoman accounts, owing to the non-payment by the Italian and Austrian Administrations, of the amounts due by them to Turkey (upwards of 40,000 *l.*), the latter Administration has not paid us our account for the six months ending 30 June last. I have again written to the Director General about it.

I remain, &c.

Major Champain, R. E., &c. &c. &c.
India Office, London.

L. Walter Courtenay.

— No. 7. —

CORRESPONDENCE between the Chairman of the Electric and International Telegraph Company, and the Secretary of State for India, relative to the Improvement of Communication with the Continent. 1864.

THE ELECTRIC AND INTERNATIONAL TELEGRAPH COMPANY.

Telegraph-street, London, E.C.,
Sir, 30 May 1864.

I TRUST you will excuse the liberty I am taking in pressing for your decision upon the proposal contained in my letter of the 5th of November 1862, a copy of which I enclose.

Since the laying of the Persian Gulf cable, it has become incumbent upon Her Majesty's Government to take some steps for making that line practically useful.

The proposal that I had the honour to submit to you does not involve any outlay on the part of Her Majesty's Government, either in making or maintaining the line, which would be borne by the Electric Telegraph Company; it does not ask for any exclusive privilege of any kind whatsoever; but it asks that the British Government should use its influence with the Austro-Germanic Telegraph Union to obtain that which the Austrian Government

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ment had, in the year 1858, undertaken to grant, namely, to reserve a direct wire across its dominions for the purpose of expediting the through messages from India to this country.

I have, &c.,
(signed) *Robert Grinston.*

THE ELECTRIC AND INTERNATIONAL TELEGRAPH COMPANY.

Telegraph-street, London, E.C.,
Sir, 5 November 1862.

I WISH to call your attention to the subject of telegraphic communication with India.

In the event of the line down the Persian Gulf being carried out, a continuous line of telegraph will exist from this country as far as Kurrachee, the portion through Asia Minor to Bagdad having been long since completed by the Turkish Government.

But, in order to insure to this country the advantage of direct and uninterrupted communication with India, it will be necessary that some arrangement should be made to obtain a separate wire for the transmission of Indian messages across the continent of Europe.

These would otherwise be cut off and delayed by the use of the wires for the internal messages of those countries through which they would therefore have to pass. I, therefore, offer, on behalf of the Electric Telegraph Company, to reserve a wire from London to Amsterdam specially for the transmission of Indian messages, such wire to be led into any Government office to be fixed upon by the Indian Council, upon condition that the British Government obtains from the Austro-Germanic Telegraphic Union the erection of a special wire from Amsterdam to Vienna in connection with it.

I would leave it to Her Majesty's Government to decide whether the request might not be pressed for a still further extension of the wire to the borders of the Turkish Empire.

The Austro-Germanic Telegraphic Union (of which Holland is a member) would gain a considerable income from the transmission over their lines of a large portion of the telegraphic communication between Great Britain and the East, which would otherwise pass through through France, if the latter, by reason of delays upon the Continent, proved to be the quicker route.

I need hardly point out the advantage to the public of an alternative route to India, and one which would be considerably cheaper than the present, but which, without the arrangement that I have pointed out to you, they would practically be debarred from.

Should Her Majesty's Government think fit to negociate with the Austro-Germanic Union upon this matter, it would be competent to them to make provision for priority of their own, and East India Company's messages, the use of cypher, and such other stipulations as they might deem necessary.

I have, &c.
(signed) *Robert Grimston,* Chairman.

The Right Honourable Sir Charles Wood, Bart.
&c. &c. &c.

Sir, India Office 9 June 1864.

I AM directed by the Secretary of State for India to acknowledge receipt of your letter of the 30th ultimo, suggesting that the British Government should endeavour to obtain from the Austro-Germanic Telegraphic Union, the reservation of a special wire from Amsterdam to Vienna, for the transmission of through messages between India and this country.

In reply I am directed to state that Sir Charles Wood is not as yet in a position to come to a decision on your suggestion, which, however, shall receive due attention when the arrangements in connection with the telegraph to India are more matured,

I am, &c.
(signed) *Wodehouse.*

The Honourable Robert Grimston,
&c. &c. &c.

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Appendix, No. 3.

PAPERS handed in by Mr. *Randall*, 23 March 1866.

App. No. 3.

RETURN from the following INDIAN RAILWAY COMPANIES of EXPENDITURE incurred in respect of ELECTRIC TELEGRAPHS.

EAST INDIAN RAILWAY COMPANY.

ELECTRIC TELEGRAPH.

	£.	s.	d.
(A.)—Expenditure on Construction in India from the commencement to 31st December 1864 (including Inefficient or Unaudited Balances on 31st December 1864) - - - - -	157,791	1	6
Expenditure in England during the above period, viz., on Purchase of Stores, and for Freights, &c. - - - -	70,255	17	–
TOTAL - - -	£. 228,046	18	6

(B.)—Statement of Receipts by sale of Unserviceable Stores - - - Nil.

(C.)—Statement showing the Cash Receipts on account of Private and Service Messages, &c., for the years 1863 and 1864, viz.:

	£.	s.	d.
Private Messages:—1863 - - - - - -	3,996	5	10
1864 - - - - - -	4,347	11	–
TOTAL - - -	£. 8,343	16	10

Service Messages:—Not charged for; if charged at public rates, it is estimated they would yield about 60,000 *l.* per annum.

(D.)—Statement showing the Expenditure of the Telegraph Department in India on account of Working and Maintenance during the years 1863 and 1864, viz.:

	£.	s.	d.
1863:—Supervision - - - - - -	1,757	13	8
Working - - - - - -	17,877	2	3
Maintenance - - - - - -	1,882	15	8
	£. 21,517	11	7
1864:—Supervision - - - - - -	2,132	4	2
Working - - - - - -	20,207	18	10
Maintenance - - - - - -	2,372	3	8
	£. 24,712	6	8
TOTAL - - -	£. 46,229	18	3

(E.)—Summary,

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App. No. 3.

EAST INDIA RAILWAY COMPANY—*continued.*

(E.)—Summary of Statements (A.) and (D.):—

(F.)—Statement of the Number of Miles of Telegraph Lines, and Stations open in each of the years 1863 and 1864, viz.:

	Number of Miles.	Number of Offices.
1863	1,078	99
1864	1,105	111

BOMBAY, BARODA, AND CENTRAL INDIA RAILWAY COMPANY.

ELECTRIC TELEGRAPH.

(A.)—Expenditure on Construction in India from the commencement to 31st December 1864 — £. 6,230 10 3

Expenditure in England during the same period, viz.:

	£.	s.	d.	
On purchase of Stores	8,826	3	6	
Estimated for Freight, &c.	1,765	–	–	
				10,591 3 6
TOTAL			£.	16,821 13 9

(B.)—Statement of Receipts by Sale of Unserviceable Stores:—(None).

(C.)—Statement showing the Cash Receipts on account of Private and Service Messages for the years 1863 and 1864, viz.:

Private Messages:—1863.—No return.

1864.—The total Cash Receipts for Mercantile Messages in 1864 amounted to about 2,930 *l.*

Service Messages:—The full details of the *pro formâ* Charges for Service Messages have not been received from India, and cannot therefore be given.

(D.)—Statement showing the Expenditure of the Telegraph Department in India, on account of Working and Maintenance during the years 1863 and 1864, viz.:

	£.	s.	d.
1863:—Supervision, Working, Maintenance	726	14	11
1864:—Supervision, Working, Maintenance	3,622	3	10
	£. 4,348	18	9

(*N.B.*—The detailed amounts have not been received from India.)

(E.)—Summary of Statements (A.) and (D.) in the Return of the Government of India:—

(F.)—Statement of the number of miles of Telegraph Lines and Stations open in each of the years 1863 and 1864.

Note.—The line was open during 1863 (from 20th January) from Bulsar to Ahmedabad, 185¼ miles, and was further opened for passenger traffic in November 1864 from Bulsar to Bombay.

The line from Bombay to Ahmedabad is 306 miles in length, with 37 stations.

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App. No. 3.

CALCUTTA AND SOUTH EASTERN RAILWAY COMPANY (LIMITED).

ELECTRIC TELEGRAPH.

(A.)—Expenditure on Construction in India from the commencement to 31st December 1864 - - - - - - - - £. 1,046 18 9

Expenditure in England during the above period, viz., on Purchase of Stores, and for Freights, &c. - - - - - - 2,547 1 5

TOTAL - - - £. 3,594 - 2

(B.)—Statement of Receipts by sale of Unserviceable Stores - - £. 11 - -

(C.)—Statement showing the Cash Receipts on account of Private and Service Messages, &c. for the Years 1863 and 1864, viz.:

	£.	s.	d.
Private Messages:—1863 - - - -	23	3	8
1864 - - - -	43	17	4
TOTAL - - - £.	67	1	-

Service Messages:—No charge is made for Service Messages, and we have no record in London of the number of Messages sent.

(D.)—Statement showing the Expenditure of the Telegraph Department in India on account of Working and Maintenance during the Years 1863 and 1864, viz.:

		£.	s.	d.
1863:—Supervision, Working, Maintenance	(Number detailed in the London Office) -	187	17	9
1864:—Supervision, Working, Maintenance	(Number detailed in the London Office) -	225	-	10
TOTAL - - - £.		412	18	7

(E.)—Summary of Statements (A.) and (D.) in the Return of the Government of India:—(It is not clearly understood what is here wanted).

(F.)—Statement of the Number of Miles of Telegraph Lines and Stations open in each of the Years 1863 and 1864, viz.:

	Number of Miles.	Number of Offices.
1863 - - - - - -	28	9
1864 - - - - - -	28	9

EASTERN BENGAL RAILWAY COMPANY.

ELECTRIC TELEGRAPH.

	£.	s.	d.
(A.)—Expenditure on construction in India, from the commencement to 31st December 1864 - - - - - - - -	2,069	7	8
Expenditure in England during the above period, viz., on Purchase of Stores, and for Freights, &c. - - - - - -	6,430	1	4
TOTAL - - - £.	8,499	9	-

(B.)—Statement

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App. No. 3.

EASTERN BENGAL RAILWAY COMPANY—*continued.*

(B.)—Statement of Receipts by sale of Unserviceable Stores:—Nil.

(C.)—Statement showing the cash receipts on account of private and service Messages, &c. for the years 1863 and 1864, viz.:

	£.	s.	d.
Private Messages:—1863	236	8	–
„ „ 1864	367	18	9
TOTAL	£. 604	6	9

Service Messages:—No return.

(D.)—Statement showing the Expenditure of the Telegraph Department in India, on account of Working and Maintenance during the Years 1863 and 1864, viz.:

	£.	s.	d.
1863:—Supervision, Working	934	11	11
Maintenance:—No separate Return.			
1864:—Supervision, Working	1,091	19	7
Maintenance:—No separate Return.			
TOTAL	£. 2,026	11	6

(E.)—Summary of Statements (A.) and (D.) in the return of the Government of India:—

(F.)—Statement of the Number of Miles of Telegraph Lines and Stations open in each of the Years 1863 and 1864, viz.:—

	Number of Miles.	Number of Offices.
1863	110	21
1864	110	21

GREAT SOUTHERN OF INDIA RAILWAY COMPANY.

ELECTRIC TELEGRAPH.

Expenditure on Construction in India and England, from the commencement to December 1864 - - - - - - - - £. 4,973 8 4

Receipts on Account of Messages:

	£.	s.	d.
For year ending 31st December 1863	247	–	9
Ditto - - ditto 1864	251	15	–

Expenditure on Account of Working and Maintenance of Telegraph Department:

	£.	s.	d.	£.	s.	d.
For Year ending 1863:—Working	51	6	5			
Maintenance	45	17	2			
				97	3	7
Ditto - 1864:—Working	52	9	7			
Maintenance	41	19	8			
				94	9	3

Number of Miles open for the Years 1863 and 1864:—
79 miles of Line working.

Stations open during the Year 1863	13
Ditto - ditto 1864	14

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App. No. 8.

MADRAS RAILWAY COMPANY.

Electric Telegraph.

(A.)—Expenditure on construction in India from the commencement to 31st December 1864 - - - - - - - - £. 14,207 3 6
Expenditure in England during the above period, viz., on purchase of Stores and for Freights, &c. - - - - - - 34,016 13 8

Total - - - £. 48,223 17 2

(B.)—Statement of Receipts by sale of unserviceable Stores; of this we have no return.

(C.)—Statement showing the Cash Receipts on account of Private Messages for the Years 1863 and 1864:

	£.	s.	d.
1863 - - - - - - - -	859	7	5
1864 - - - - - - - -	981	1	5
Total - - - £.	1,840	8	10

Messages on account of the Railway Service are not paid for.

(D.)—Statement showing the Expenditure of the Telegraph Department in India, on account of Working and Maintenance during the Years 1863 and 1864, viz.:

		£.	s.	d.
1863	Supervision and Working - - -	506	4	7
„	Maintenance - - - - - - -	729	4	4
	Total - - - £.	1,235	8	11
1864	Supervision and Working - - -	665	19	10
„	Maintenance - - - - -	1,490	8	2
	Total - - - £.	2,156	8	-

(F.)—Statement of the number of miles of Telegraph Lines and Stations open in each of the Years 1863 and 1864, viz.:

	Number of Miles.	Number of Stations.
1863 - - - - -	532 - - - -	55
1864 - - - - -	570 - - - -	57

SCINDE RAILWAY.

Electric Telegraph.

	£.	s.	d.
(A.)—Expenditure on Construction in India from the commencement to 31st December 1864 - - - - - - - -	10,843	4	10
Expenditure in England during the above period, viz., on purchase of Stores and for Freights, &c. - - - -	6,202	7	10
Total - - - £.	17,045	12	8

(B.)—Statement of Receipts by sale of Unserviceable Stores - - Nil.

(C.)—Statement showing the Cash Receipts on account of Private and Service Messages, &c., for the Years 1863 and 1864, viz:

	£.	s.	d.
Private Messages:—1863 - - - - -	54	18	2
„ „ 1864 - - - - -	337	10	4
Total - - - £.	392	8	6

Service Messages:—No return.

(D.)—Statement

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App. No. 3.

SCINDE RAILWAY—*continued.*

(D.)—Statement showing the Expenditure of the Telegraph Department in India on account of Working and Maintenance, during the Years 1863 and 1864:

		£.	s.	d.
1863:—Supervision, Working, Maintenance	- - - - - -	914	6	7
1864:—Supervision, Working, Maintenance	- - - - - -	1,687	13	–
	TOTAL - - - £.	2,601	19	7

(E.)—Summary of Statements (A. and D.) in the return of Government of India:—

(F.)—Statement of the Number of Miles of Telegraph Lines and Stations open in each of the Years 1863 and 1864, viz.:

	Number of Miles.	Number of Officers.
1863 - - - - - -	114 - - -	—
1864 - - - - - -	114 - - -	No return.

PUNJAUB RAILWAY.

ELECTRIC TELEGRAPH.

	£.	s.	d.
(A.)—Expenditure on construction in India from the commencement to 31st December 1864 - - - - - -	5,696	19	4
Expenditure in England during the above period, viz., on purchase of Stores and for Freights, &c. - - - -	12,274	19	10
TOTAL - - - £.	17,971	19	2

(B.)—Statement of Receipts by sale of Unserviceable Stores:—Nil.

(C.)—Statement showing the Cash Receipts on account of Private and Service Messages, &c., for the Years 1863 and 1864, viz.:

	£.	s.	d.
Private Messages:—1863 - - - - -	30	–	5
„ „ 1864 - - - - -	469	1	7
TOTAL - - - £.	499	2	–

Service Messages:—No Return.

(D.)—Statement showing the Expenditure of the Telegraph Department in India, on account of Working and Maintenance, during the Years 1863 and 1864, viz.:

	£.	s.	d.
1863 - - - - - - - - - -	658	11	–
1864 - - - - - - - - - -	807	13	10
TOTAL - - - £.	1,466	4	10

(E.)—Summary of Statements (A. and D.):—

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App. No. 3.

PUNJAUB RAILWAY—*continued.*

(F.)—Statement of the number of Miles of Telegraph Lines and Stations open in each of the Years 1863 and 1864, viz.:

	Number of Miles.	Number of Offices.
1863	32	—
1864	47	—

N.B.—The Punjaub Railway was not opened throughout until April 1865.

FURTHER RETURN of EXPENDITURE in respect of ELECTRIC TELEGRAPHS.

GREAT INDIAN PENINSULA RAILWAY COMPANY.

ELECTRIC TELEGRAPH.

(A.)—Expenditure on Construction in India from the commencement to 31st December 1864 — £. 18,404 17 –
Expenditure in England during the above period, viz., on Purchase of Stores, and for Freights, &c. — 48,342 16 11
TOTAL — £. 66,747 13 11

(B.)—Statement of Receipts by sale of Unserviceable Stores — None.

(C.)—Statement showing the Cash Receipts on account of Private and Service Messages, &c., for the years 1863 and 1864, viz.:

	£.	s.	d.
Private Messages:—1863	2,903	13	10
1864	3,760	10	10
TOTAL	£. 6,664	4	8

Service Messages — None.

(D.)—Statement showing the Expenditure of the Telegraph Department in India, on account of Working and Maintenance during the years 1863 and 1864, viz.:

	£.	s.	d.
1863:—Supervision, Working, Maintenance	5,431	3	1
1864:—Supervision, Working, Maintenance	7,491	3	5
TOTAL	£. 12,922	6	6

(E.)—Summary of Statements (A.) and (D.) in the Return of the Government of India:—

(F.)—Statement of the Number of Miles of Telegraph Lines and Stations open in each of the years 1863 and 1864:

	Number of Miles.	Number of Offices.
1863	781¾	57
1864	782	64

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Appendix, No. 4.

PAPERS put in by Mr. *Valpy* (Board of Trade), 23 March 1866.

TOTAL VALUE of IMPORTS into the UNITED KINGDOM, and of BRITISH PRODUCE EXPORTED therefrom, and TOTAL TONNAGE of VESSELS ENTERED and CLEARED at PORTS in the UNITED KINGDOM in the Year 1865.

	£.		*Tons.*
Value of Imports	271,134,969	Tonnage of Vessels:	
Value of Exports (British Produce and Manufactures)	165,862,402	Entered	14,317,886
		Cleared	14,579,206

VALUE of IMPORTS and EXPORTS, and TONNAGE of VESSELS ENTERED and CLEARED, from and to the following Countries in the Year 1865.

COUNTRIES.	IMPORTS.	EXPORTS (British Produce and Manufactures).	TONNAGE OF VESSELS.	
			Entered.	Cleared.
	£.	£.	*Tons.*	*Tons.*
British India	37,395,372	18,254,570	664,391	671,856
Singapore and the Eastern Straits Settlements	2,169,056	1,442,450	77,835	50,292
Ceylon	3,707,615	685,308	52,197	50,401
Mauritius	1,246,299	596,848	41,029	30,805
China	10,673,960	3,609,301	91,606	80,375
China (Hong Kong)	773,068	1,561,851	14,408	42,848
Egypt	21,773,250	5,985,087	361,419	488,268
Dutch Possessions in India (Java, Sumatra, &c.)	226	928,642	Nil	29,349
Philippine Islands	1,253,904	945,624	23,207	18,055
Japan	614,743	1,520,895	9,361	19,602
Australia	10,283,113	13,352,357	156,649	387,239
TOTAL for the above-named Countries £.	68,117,356	42,897,846	1,492,102	1,869,090

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BRITISH INDIA

(exclusive of *Singapore* and *Ceylon.*)

COMPUTED REAL VALUE of IMPORTS therefrom into the United Kingdom in the Year 1865.

Principal and other Articles.	Computed Value.
	£.
Articles of Food:	
Tea	339,847
Coffee, raw	549,706
Rice, not rough, nor in the husk	1,061,826
Sugar, unrefined	411,892
„ refined	15,511
Articles for Manufacturing Purposes:	
Cotton, raw	24,839,092
Hemp, rough or undressed	15,944
„ jute	1,766,600
Hides, untanned	598,096
Gum, lacdye	71,706
„ shellac	195,942
Indigo	1,597,275
Saltpetre	308,882
Coir, coir rope, twine, strands and yarn.	121,821
Cutch	41,681
Skins, goat, tanned	182,107
Teeth, elephants'	65,913
Oil, cocoa-nut	130,739
Seeds, linseed	2,250,898
„ rape	496,759
*Silk, raw	206,681
„ knubs or husks, and waste silk	161,457
Wool, sheep or lambs'	811,960
All other articles	1,153,037
TOTAL £.	37,395,372

* Exclusive of Silk Imported *viâ* Egypt (*see* subsequent Return for Egypt).

DECLARED VALUE of British and Irish Produce and Manufactures EXPORTED thereto from the United Kingdom in the Year 1865.

Principal and other Articles.	Declared Value.
	£.
Apparel and haberdashery	233,609
Cotton yarn	1,482,549
Manufactures:	
Cotton	9,894,880
Woollen	500,986
Hardwares and Cutlery	299,469
Iron, wrought and unwrought	1,961,805
Copper „ „	855,897
Machinery and mill-work	590,520
Beer and ale	550,789
All other articles	1,884,066
TOTAL £.	18,254,570

SINGAPORE AND THE EASTERN STRAITS SETTLEMENTS.

COMPUTED REAL VALUE of IMPORTS therefrom into the United Kingdom in the Year 1865.

Principal and other Articles.	Computed Value.
	£.
Articles of Food:	
Coffee, raw	48,261
Rice, not rough, nor in the husk	17,689
Sugar, unrefined	39,356
Sago	89,162
Tapioca	27,509
Nutmegs	18,818
Pepper	257,063
Articles for Manufacturing Purposes:	
Hides, untanned	56,146
Gambier	310,843
Canes, rattans	37,728
Caoutchouc	27,315
Cutch	11,638
Gutta Percha	119,810
Tin	450,101
Wood, teak	552,539
All other articles	105,078
TOTAL £.	2,169,056

DECLARED VALUE of British and Irish Produce and Manufactures EXPORTED thereto from the United Kingdom in the Year 1865.

Principal and other Articles.	Declared Value.
	£.
Manufactures:	
Cotton	927,956
Woollen	31,102
Cotton yarn	127,181
Iron, wrought and unwrought	56,019
Copper „ „	51,604
Coals, cinders, and culm	23,502
All other articles	225,086
TOTAL £.	1,442,450

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CEYLON.

COMPUTED REAL VALUE of IMPORTS therefrom into the United Kingdom in the Year 1865.

Principal and other Articles.	Computed Value.
	£.
Articles of Food:	
Coffee, raw	3,112,765
Cinnamon	90,003
Articles for Manufacturing Purposes:	
Cotton, raw	161,990
Coir, coir rope, twine strands and yarn	69,524
Lead, black (or plumbago)	29,812
Oil, cocoa-nut	204,879
All other articles	38,642
TOTAL £.	3,707,615

DECLARED VALUE of British and Irish Produce and Manufactures EXPORTED thereto from the United Kingdom in the Year 1865.

Principal and other Articles.	Declared Value.
	£.
Manufactures:	
Cotton	387,913
Cotton yarn	34,941
Coals, cinders, and culm	27,209
Iron, wrought and unwrought	43,391
Machinery and mill-work	15,472
Beer and ale	24,724
All other articles	151,658
TOTAL £.	685,308

MAURITIUS.

COMPUTED REAL VALUE of IMPORTS therefrom into the United Kingdom in the Year 1865.

Principal and other Articles.	Computed Value.
	£.
Articles of Food:	
Rice, not rough, nor in the husk	14,288
Sugar, unrefined	1,191,998
Spirits—rum	21,634
Articles for Manufacturing Purposes:	
Cotton, raw	1,052
Hides, untanned	6,051
Wool, sheep or lambs'	4,352
All other articles	6,924
TOTAL £.	1,246,299

DECLARED VALUE of British and Irish Produce and Manufactures EXPORTED thereto from the United Kingdom in the Year 1865.

Principal and other Articles.	Declared Value.
	£.
Manufactures:	
Cotton	198,674
Woollen	10,765
Apparel and haberdashery	37,158
Hardware and cutlery	25,030
Iron, wrought and unwrought	68,083
Machinery and mill-work	53,189
Copper, wrought and unwrought	25,815
All other articles	178,134
TOTAL £.	596,848

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CHINA
(exclusive of *Hong Kong*).

COMPUTED REAL VALUE of IMPORTS therefrom into the United Kingdom in the Year 1865.

Principal and other Articles.	Computed Value.
Articles of Food:	£.
Tea - - - - - - -	9,247,442
Articles for Manufacturing Purposes:	
Cotton, raw - - - - - -	1,061,346
* Silk „ - - - - - -	163,792
Silk, knubs, husks, and waste - -	65,778
All other articles - - - - -	135,602
TOTAL - - - £.	10,673,960

* Exclusive of Silk Imported *viâ* Egypt (*see* subsequent Return for Egypt).

DECLARED VALUE of British and Irish Produce and Manufactures EXPORTED thereto from the United Kingdom in the Year 1865.

Principal and other Articles.	Declared Value.
Manufactures:	£.
Cotton - - - - - - -	1,961,940
Woollen - - - - - -	1,306,758
Iron, wrought and unwrought - -	69,101
Lead and shot - - - - -	26,571
Yarn, cotton - - - - -	22,762
All other articles - - - - -	222,169
TOTAL - - - £.	3,609,301

HONG KONG.

COMPUTED REAL VALUE of IMPORTS therefrom into the United Kingdom in the Year 1865.

Principal and other Articles.	Computed Value.
Articles of Food:	£.
Tea - - - - - - -	79,094
Articles for Manufacturing Purposes:	
Cotton, raw - - - - -	532,059
* Silk „ - - - - - -	8,834
Silk, knubs, husks, and waste - -	17,245
Oils, chemical, essential, &c. - -	14,779
Camphor - - - - -	25,902
Cassia lignea - - - - -	28,375
All other articles - - - - -	66,780
TOTAL - - - £.	773,068

* Exclusive of Silk Imported *viâ* Egypt (*see* subsequent Return for Egypt).

DECLARED VALUE of British and Irish Produce and Manufactures EXPORTED thereto from the United Kingdom in the Year 1865.

Principal and other Articles.	Declared Value.
Manufactures:	£.
Cotton - - - - - - -	826,119
Woollen - - - - -	225,356
Copper, wrought and unwrought - -	58,946
Lead and shot - - - - -	20,824
Coals, cinders, and culm - - -	23,042
Cotton yarn - - - - - -	81,652
All other articles - - - - -	325,930
TOTAL - - - £.	1,561,851

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EGYPT.

COMPUTED REAL VALUE of IMPORTS therefrom into the United Kingdom in the Year 1865.

Principal and other Articles.	Computed Value.
	£.
Articles for Manufacturing Purposes:	
Cotton, raw	13,906,641
Seed cotton	828,208
Silk, raw (in transit from China, India, and Japan).	6,402,321
Musk	12,086
Teeth, elephant	21,307
Manufactures, silk, of India and China.	80,509
Manufactures, hair or wool, goats'	198,763
All other Articles	323,415
TOTAL £.	21,773,250

DECLARED VALUE of British and Irish Produce and Manufactures EXPORTED thereto from the United Kingdom in the Year 1865.

Principal and other Articles.	Declared Value.
	£.
Manufactures:	
Cotton	2,345,898
Silk	316,062
Woollen	90,331
Cotton yarn	211,802
Apparel and haberdashery	338,414
Copper, wrought and unwrought	237,918
Iron, wrought and unwrought	531,498
Machinery and mill-work	681,691
All other articles	1,231,473
TOTAL £.	5,985,087

DUTCH POSSESSIONS IN INDIA.
(Java, Sumatra, &c.)

COMPUTED REAL VALUE of IMPORTS therefrom into the United Kingdom in the Year 1865.

Principal and other Articles.	Computed Value.
	£.
Articles of Food:	
Ginger, preserved	6
Specimens of natural science	220
TOTAL £.	226

DECLARED VALUE of British and Irish Produce and Manufactures EXPORTED thereto from the United Kingdom in the Year 1865.

Principal and other Articles.	Declared Value.
	£.
Manufactures:	
Cotton	711,241
Woollen	11,338
Cotton yarn	50,096
Iron, wrought and unwrought	23,585
Machinery and mill-work	17,558
All other articles	114,824
TOTAL £.	928,642

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PHILIPPINE ISLANDS.

COMPUTED REAL VALUE of IMPORTS therefrom into the United Kingdom in the Year 1865.

Principal and other Articles.	Computed Value.
Articles of Food, &c.:	£.
Coffee, raw	85,197
Sugar, unrefined	584,199
Tobacco, unmanufactured	123,374
„ manufactured, and cigars	50,695
Articles for Manufacturing Purposes:	
Hemp	309,516
Indigo	16,173
Gum, mastic	50,609
All other articles	34,141
TOTAL £.	1,253,904

DECLARED VALUE of British and Irish Produce and Manufactures EXPORTED thereto from the United Kingdom in the Year 1865.

Principal and other Articles.	Declared Value.
Manufactures:	£.
Cotton	706,579
Linen	64,080
Woollen	24,477
Iron, wrought and unwrought	35,594
All other articles	114,894
TOTAL £.	945,624

JAPAN.

COMPUTED REAL VALUE of IMPORTS therefrom into the United Kingdom in the Year 1865.

Principal and other Articles.	Computed Value.
Articles of Food:	£.
Tea	258,470
Tobacco, unmanufactured	32,298
Articles for manufacturing Purposes:	
Cotton, raw	136,139
*Silk, raw	62,590
Silk, knubs or husks, and waste silk	46,608
Camphor	17,403
Galls	5,663
Tin	11,336
Wax, bees'	15,461
„ vegetable	7,899
All other Articles:	
Japanned ware	4,497
Other articles	16,379
TOTAL £.	614,743

* Exclusive of Silk Imported into Egypt. (*See* previous Return for Egypt.)

DECLARED VALUE of British and Irish Produce and Manufactures EXPORTED thereto from the United Kingdom in the Year 1865.

Principal and other Articles.	Declared Value.
Manufactures:	£.
Cotton	613,679
Woollen	658,271
Iron, wrought and unwrought	45,233
Lead and shot	11,632
All other articles	192,080
TOTAL £.	1,520,895

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App. No. 4.

BRITISH AUSTRALIA.

COMPUTED REAL VALUE of IMPORTS therefrom into the United Kingdom in the Year 1865.

Principal and other Articles	Computed Value.
Articles for Manufacturing Purposes:	£.
Cotton, raw	24,790
Wool, sheeps' and lamb	8,876,556
Bark for tanners and dyers' use	49,640
Copper ore	193,200
Copper, unwrought and part wrought	179,519
Gum Kowrie	83,175
Hides, untanned	252,982
Hides, tanned	63,348
Lead, ore of	7,800
Oil, cocoa-nut	51,280
Oil, sperm	57,386
Skins, sheep, undressed	38,888
Tallow	247,106
Tin ore and regulus	13,320
All other articles	144,123
TOTAL £.	10,283,113

DECLARED VALUE of British and Irish Produce and Manufactures EXPORTED thereto from the United Kingdom in the Year 1865.

Principal and other Articles.	Declared Value.
Manufactures:	£.
Cotton	959,907
Linen	374,293
Woollen	1,562,858
Iron, wrought and unwrought	1,204,272
Machinery and mill-work	278,757
Hardware and cutlery	559,563
Beer and ale	608,537
Apparel and haberdashery	2,545,412
Earthenware and porcelain	126,214
Leather, wrought and unwrought	1,293,466
Paper of all sorts	196,030
All other articles	3,643,058
TOTAL £.	13,352,357

Statistical Department, Board of Trade, 23 March 1866.

A. W. Fonblanque.

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Appendix, No. 5.

App. No. 5.

PAPERS put in by Mr. *Frederick Hill.*

ESTIMATE of the Proportionate COST of Conveying the INDIAN and CHINA MAILS by PACKET, including Miscellaneous Expenses.

	£.	£. s. d.
Total Gross Subsidy		249,624 18 –
Less—For abandonment of reduced rates for Government passengers		15,000 – –
		234,624 18 –
Deduct—Cost of conveying Australian Mails between Southampton and Point de Galle	* 30,116	
For abandonment of Admiralty survey of vessels	† 4,500	
		34,616 – –
NET COST £.		200,008 18 –

Divided as follows:

BETWEEN	Proportionate Cost of Packets.	Less Proportion of † £. 4,500.	Net.	Estimated Proportion for India Mails.	Estimated Proportion for China Mails.
	£.	£.	£.	£.	£.
1. Southampton and Marseilles and Point de Galle	84,888				
Less, Australian	* 30,116				
	54,772	1,205	53,567	39,296	14,271
2. Point de Galle and Calcutta	14,256	313	13,943	13,943	—
3. Bombay and Shanghae	49,607	1,092	48,515	– –	48,415
4. Southampton and Marseilles and Bombay	85,874	1,890	83,984	83,984	—
£.	204,509	4,500	200,009	137,223	62,786
Miscellaneous expenses incurred in conveyance of mails			16,790	14,420	2,370
Special packets between Dover and Calais			580	503	77
Naval agents in charge of mails			2,795	1,434	1,361
£.			220,174	153,580	66,594

General Post Office,
19 March 1866.

Geo. Chetwynd,
Receiver and Accountant General.

RETURN of the Names of the STEAM VESSELS employed in the FRENCH MAIL PACKET SERVICE to the *East Indies*, and of their Tonnage, Horse-power, and Performances.

LINES of MAIL PACKETS.	Mail Packets Employed. Names.	Tonnage.	Horse-power.	Contract Time for each Line.	Average Speed. According to Contract.	Average Speed. Actual for 1865.	Observations.
					Knots. tenths.	*Knots. tenths.*	
Marseilles and Alexandria (fitted to the India and China Line)	Mœris	not stated	400	156 hours	9 5	11 0	
	Peluse	– ditto –	400			10 5	
	Said	– ditto –	400			10 9	
Suez and Point de Galle	Cambodge	1,551	500	373 hours	9 5	9 5	
	Donnaï	1,551	500			9 7	
	Imperatrice	1,551	500			9 9	
	Tigre	not stated	500			10 2	
Point de Galle and Calcutta	Alphée	902	400	161 hours	9 0	9 7	
	Erymanthe	902	400			9 0	
	Meïnam	942	280			9 4	Employed temporarily on this line.

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A RETURN of the VOYAGES of the FRENCH MAIL PACKETS employed in the Conveyance of the *Indian* Mails during the Years 1864 and 1865.

OUTWARDS.

Appointed Time of Departure from Marseilles.		Arrival at Alexandria.		Departure from Suez.		Arrival at Point de Galle.		Departure from Point de Galle.		Arrival at Calcutta.	
1864.		1864.		1864.		1864.		1864.		1864.	
January		25 Jan.	7 0 a.m.	27 Jan.	11 15 p.m.	21 Feb.	noon	22 Feb.	8 0 a.m.	27 Feb.	6 30 p.m.
February		25 Feb	8 0 p.m.	28 Feb.	9 0 a.m.	15 Mar.	7 0 a.m.	16 Mar.	7 0 a.m.	22 Mar.	3 45 p.m.
March		25 Mar.	7 30 a.m.	27 Mar.	4 0 p.m.	13 April	9 0 a.m.	14 April	7 0 a.m.	20 April	3 0 p.m.
April		24 April	7 0 p.m.	27 April	4 30 p.m.	13 May	6 30 p.m.	15 May	6 0 a.m.	21 May	4 0 p.m.
May		25 May	6 0 a.m.	27 May	3 0 a.m.	11 June	8 30 a.m.	13 June	6 0 a.m.	19 June	3 0 p.m.
June		25 June	5 0 a.m.	27 June	11 30 a.m.	12 July	2 0 p.m.	14 July	6 0 a.m.	24 July	7 0 p.m.
July		25 July	5 45 a.m.	27 July	11 0 a.m.	11 Aug.	11 0 a.m.	13 Aug.	12 30 noon	24 Aug.	7 0 p.m.
August		25 Aug.	8 0 a.m.	27 Aug.	10 10 a.m.	10 Sept.	4 0 p.m.	12 Sept.	3 0 p.m.	18 Sept.	3 30 p.m.
September		25 Sept.	6 45 a.m.	27 Sept.	9 30 a.m.	13 Oct.	6 0 a.m.	18 Oct.	9 0 a.m.	25 Oct.	6 0 a.m.
October		25 Oct.	7 30 a.m.	27 Oct.	noon	14 Nov.	6 30 p.m.	16 Nov.	12 15 noon	25 Nov.	1 30 p.m.
November		25 Nov.	7 15 a.m.	28 Nov.	1 30 a.m.	18 Dec.	7 0 a.m.	18 Dec.	11 0 a.m.	26 Dec.	2 3 p.m.
						1865.		1865.		1865.	
December	19th at 2 p.m.	25 Dec.	7 0 a.m.	27 Dec.	1 30 p.m.	14 Jan.	noon	15 Jan.	9 0 a.m.	22 Jan.	10 0 a.m.
1865.		1865.		1865.							
January		24 Jan.	4 0 p.m.	27 Jan.	3 0 a.m.	12 Feb.	6 0 a.m.	12 Feb.	6 0 p.m.	18 Feb.	7 10 p.m.
February		24 Feb.	6 0 p.m.	26 Feb.	10 0 p.m.	14 Mar.	6 0 a.m.	15 Mar.	5 30 p.m.	21 Mar.	5 0 p.m.
March		25 Mar.	4 0 p.m.	27 Mar.	1 0 p.m.	14 April	6 45 a.m.	14 April	8 30 p.m.	20 April	3 15 p.m.
April		25 April	10 0 a.m.	27 April	10 0 a.m.	12 May	6 5 a.m.	13 May	10 40 a.m.	20 May	12 0 a.m.
May		25 May	5 30 a.m.	26 May	7 0 p.m.	9 June	7 0 p.m.	13 June	6 0 a.m.	19 June	6 0 p.m.
June		25 June	6 30 a.m.	27 June	6 0 a.m.	11 July	2 0 p.m.	12 July	1 0 p.m.	18 July	5 0 p.m.
July		25 July	7 30 a.m.	27 July	8 0 a.m.	10 Aug.	3 0 p.m.	11 Aug.	6 0 p.m.	18 Aug.	1 0 p.m.
August		25 Aug.	7 0 a.m.	27 Aug.	2 0 p.m.	12 Sept.	7 0 a.m.	13 Sept.	10 0 a.m.	18 Sept.	5 0 p.m.
September		25 Sept.	2 30 p.m.	27 Sept.	6 45 p.m.	13 Oct.	7 0 a.m.	13 Oct.	10 0 p.m.	20 Oct.	5 10 p.m.
October		25 Oct.	7 0 a.m.	27 Oct.	8 0 p.m.	14 Nov.	7 0 a.m.	15 Nov.	11 0 a.m.	22 Nov.	5 0 p.m.
November		25 Nov.	8 0 a.m.	27 Nov.	11 30 p.m.	15 Dec.	6 45 a.m.	15 Dec.	5 0 p.m.	23 Dec.	10 30 a.m.
						1866.		1866.		1866.	
December		25 Dec.	3 30 p.m.	28 Dec.	10 45 a.m.	13 Jan.	noon	14 Jan.	noon	20 Jan.	6 0 p.m.

HOMEWARDS.

Departure from Calcutta.		Arrival at Point de Galle.		Departure from Point de Galle.		Arrival at Suez.		Departure from Alexandria.		Arrival at Marseilles.	
1864.		1864.		1864.		1864.		1864.		1864.	
3 Jan.	Hour	9 Jan.	7 30 a.m.	9 Jan.	4 30 p.m.	22 Jan.	11 0 p.m.	26 Jan.	Hour	1 Feb.	
3 Feb.	not stated.	11 Feb.	7 0 a.m.	11 Feb.	noon	24 Feb.	7 30 p.m.	27 Feb.	not stated.	4 Mar.	
3 March	„	10 Mar.	11 0 a.m.	12 Mar.	8 0 a.m.	25 Mar.	6 0 p.m.	27 Mar.	„	2 April	
3 April	„	10 April	3 30 p.m.	15 April	1 0 p.m.	7 April	1 30 p.m.	4 May	„	11 May	
3 May	„	10 May	3 0 p.m.	11 May	noon	25 May	11 0 a.m.	27 May	„	1 June	
3 June	„	10 June	2 0 p.m.	11 June	5 30 p.m.	27 June	11 30 p.m.	29 June	„	5 July	
3 July	„	10 July	noon	13 July	7 0 a.m.	28 July	10 30 p.m.	31 July	„	5 Aug.	
3 Aug.	„	10 Aug.	3 30 p.m.	11 Aug.	8 30 a.m.	27 Aug.	7 30 p.m.	29 Aug	„	4 Sept.	
3 Sept.	„	11 Sept.	6 0 a.m.	11 Sept.	4 0 p.m.	28 Sept.	7 30 p.m.	30 Sept.	„	6 Oct.	
11 Oct.	4 0 a.m.	16 Oct.	11 30 a.m.	16 Oct.	6 0 p.m.	30 Oct.	11 30 a.m.	1 Nov.	„	6 Nov.	
3 Nov.	4 30 a.m.	10 Nov.	6 0 a.m.	11 Nov.	9 0 a.m.	24 Nov.	noon	26 Nov.	„	2 Dec.	
										1865.	
3 Dec.	9 0 a.m.	10 Dec.	7 0 a.m.	11 Dec.	7 0 a.m.	23 Dec.	11 55 p.m.	27 Dec.	„	1 Jan.	
1865.		1865.		1865.		1865.		1865.			
3 Jan.	4 0 a.m.	11 Jan.	noon	16 Jan.	6 15 p.m.	1 Jan.	7 0 a.m.	5 Feb.	daylight	13 Feb.	
3 Feb.	4 0 a.m.	10 Feb.	4 0 p.m.	11 Feb.	9 0 a.m.	25 Feb.	7 0 a.m.	27 Feb.	10 0 a.m.	6 Mar.	
3 March	4 0 a.m.	10 Mar.	1 35 p.m.	16 Mar.	1 30 p.m.	30 Mar.	5 0 a.m.	1 April	8 0 a.m.	7 April	
3 April	4 0 a.m.	10 April	3 30 p.m.	11 April	9 0 a.m.	25 April	2 0 a.m.	27 April	daylight	2 May	
3 May	4 30 a.m.	12 May	11 0 a.m.	14 May	10 30 a.m.	31 May	10 30 p.m.	2 June	5 0 p.m.	8 June	
3 June	4 0 a.m.	11 June	2 0 p.m.	12 June	10 0 a.m.	28 June	4 30 a.m.	29 June	3 0 p.m.	5 July	
3 July	4 0 a.m.	11 July	6 0 a.m.	11 July	noon	28 July	4 0 p.m.	30 July	sunset	6 Aug.	
2 Aug.	4 0 a.m.	9 Aug.	9 0 a.m.	10 Aug.	noon	27 Aug.	5 0 a.m.	29 Aug.	daylight	4 Sept.	
2 Sept.	not stated	9 Sept.	2 15 p.m.	12 Sept.	noon	30 Sept.	5 0 p.m.	2 Oct.	not stated	8 Oct.	
2 Oct.	„	9 Oct.	noon	11 Oct.	10 0 a.m.	26 Oct	3 0 p.m.	28 Oct.	11 0 a.m.	2 Nov.	
3 Nov.	9 0 a.m.	10 Nov.	9 0 a.m.	14 Nov.	6 0 p.m.	27 Nov.	11 30 p.m.	30 Nov.	daylight	5 Dec.	
3 Dec.	not stated	10 Dec.	7 0 a.m.	12 Dec.	5 30 p.m.	25 Dec.	noon	28 Dec.	„	no information.	

No information as to hour of arrival.

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Appendix, No. 6.

PAPERS put in by the Honourable *Robert Grimston*, 17 April 1866.

App. No. 6.

THE ELECTRIC AND INTERNATIONAL TELEGRAPH COMPANY, INCORPORATED 1846.

MESSAGES received from INDIA, March 1866.

Station from.	Time of Departure.		Arrival in London.		Time taken in Transmission.			Route.
	Date.	Hour.	Date.	Hour.				
					Days.	*hrs.*	*m.*	
Bombay	24 Feb.	4 26 p.m.	1 March	5 17 a.m.	4	12	51	Belgrade.
Calcutta	24 "	3 31 "	1 "	5 30 "	4	13	59	"
"	24 "	3 20 "	1 "	6 0 "	4	14	40	"
"	24 "	3 40 "	1 "	6 1 "	4	14	21	"
Colombo	27 "	2 35 "	1 "	9 12 "	1	18	37	"
Bombay	27 "	10 50 "	1 "	9 38 "	1	10	48	"
Calcutta	27 "	5 30 "	1 "	9 40 "	1	16	10	"
"	27 "	5 15 "	1 "	9 50 "	1	16	35	"
"	27 "	5 20 "	1 "	9 55 "	1	16	35	"
"	27 "	4 4 "	1 "	10 3 "	1	17	59	"
"	27 "	3 20 "	1 "	10 10 "	1	18	50	"
"	27 "	5 7 "	1 "	10 15 "	1	17	8	"
"	27 "	4 21 "	1 "	10 18 "	1	9	57	"
Bombay	27 "	11 10 "	1 "	10 22 "	1	23	12	"
Calcutta	27 "	10 22 "	1 "	10 38 "	2	0	18	"
Bombay	27 "	7 26 "	1 "	10 42 "	1	15	16	"
Calcutta	27 "	5 0 "	1 "	11 3 "	1	17	57	"
"	22 "	2 40 "	1 "	10 0 p.m.	7	7	20	Moldavia.
Bombay	20 "	11 40 a.m.	2 "	12 53 a.m.	9	13	13	"
Calcutta	21 "	7 0 p.m.	2 "	12 43 "	8	5	43	"
Ackyab	21 "	4 8 "	2 "	12 0 "	8	7	52	No *viâ*.
Calcutta	21 "	2 0 "	2 "	12 42 "	8	10	42	"
Bombay	28 "	11 0 a.m.	2 "	2 17 "	1	15	17	Belgrade.
"	28 "	1 50 p.m.	2 "	2 18 "	1	12	28	No *viâ*.
"	28 "	11 35 a.m.	2 "	2 22 "	1	14	47	Belgrade.
Calcutta	28 "	2 34 p.m.	2 "	2 27 "	1	23	53	"
"	28 "	2 0 "	2 "	2 33 "	1	12	33	"
"	27 "	10 20 "	2 "	2 33 "	2	4	13	"
Bombay	27 "	11 45 "	2 "	2 35 "	2	2	50	"
Calcutta	28 "	5 30 "	2 "	2 42 "	1	9	12	"
Bombay	20 "	7 40 "	2 "	2 53 "	9	7	13	No *viâ*.
Bangalore	20 "	5 5 "	2 "	2 56 "	9	9	51	"
Bombay	22 "	12 15 "	2 "	2 55 "	7	14	40	Moldavia.
Kurrachee	20 "	6 5 "	2 "	2 55 "	9	8	50	No *viâ*.
Madras	27 "	2 10 "	2 "	3 2 "	2	12	52	Belgrade.
Bombay	27 "	12 15 "	2 "	3 9 "	2	14	54	"
Calcutta	22 "	1 40 "	2 "	3 15 "	7	13	35	Moldavia.
"	21 "	4 15 "	2 "	3 20 "	8	11	5	"
"	21 "	10 40 "	2 "	3 27 "	8	4	47	No *viâ*.
Mirzapore	21 "	2 0 "	2 "	3 0 "	8	13	0	"
Bombay	21 "	4 30 "	2 "	3 34 "	8	11	4	Moldavia.
Calcutta	20 "	3 15 "	2 "	3 38 "	9	12	23	"
Ackyab	20 "	3 15 "	2 "	3 43 "	9	12	28	"
Colombo	20 "	4 10 "	2 "	3 40 "	9	11	30	"
Kurrachee	20 "	12 20 "	2 "	3 45 "	9	15	25	"
Calcutta	20 "	10 8 "	2 "	3 50 "	9	5	42	"
Pondichery	21 "	5 0 "	2 "	4 16 "	8	11	44	"
Colombo	21 "	11 0 a.m.	2 "	4 40 "	8	5	40	"
Calcutta	20 "	7 15 p.m.	2 "	4 6 "	9	8	51	"
"	20 "	4 10 "	2 "	4 11 "	9	12	1	"
Bombay	20 "	5 30 "	2 "	4 20 "	9	10	50	"
"	21 "	4 30 "	2 "	4 28 "	8	11	58	"
"	21 "	4 5 "	2 "	4 33 "	8	12	28	"
"	20 "	2 45 "	2 "	4 36 "	9	13	51	"
Calcutta	20 "	5 10 "	2 "	4 48 p.m.	9	11	38	"
Bombay	28 "	4 25 "	2 "	8 30 "	1	16	5	Belgrade.
"	28 "	5 28 "	2 "	8 33 "	1	15	5	"
Calcutta	28 "	4 10 "	2 "	3 47 a.m.	1	16	37	"
Bombay	28 "	4 27 "	2 "	8 58 "	1	16	31	"
Calcutta	28 "	3 56 "	2 "	9 2 "	1	17	6	"

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App. No. 6.

MESSAGES from *India*, March 1866—*continued*.

Station from.	Time of Departure. Date.	Time of Departure. Hour.	Arrival in London. Date.	Arrival in London. Hour.	Time taken in Transmission,	Route.
					Days. hrs. m.	
Fao	1 March	1 5 p.m.	2 March	8 54 a.m.	0 7 49	Belgrade.
Bombay	28 Feb.	5 26 „	2 „	9 5 „	1 15 39	„
Madras	28 „	5 43 „	2 „	9 8 „	1 15 21	„
„	21 „	2 30 „	2 „	9 18 „	8 18 48	Moldavia.
Bagdad	1 March	9 40 a.m.	2 „	9 30 „	0 23 50	Belgrade.
Calcutta	28 Feb.	3 0 p.m.	2 „	9 34 „	1 18 34	„
Bombay	28 „	12 20 „	2 „	9 40 „	1 19 20	„
„	26 „	3 5 „	2 „	9 43 „	3 18 38	„
„	28 „	11 55 a.m.	2 „	9 48 „	1 21 53	„
„	28 „	11 56 „	2 „	9 50 „	1 21 54	„
Calcutta	28 „	1 20 p.m.	2 „	10 3 „	1 20 43	„
„	20 „	4 40 „	2 „	10 15 „	9 17 35	Moldavia.
Madras	21 „	2 5 „	2 „	10 19 „	8 18 14	„
Bombay	21 „	3 30 „	2 „	10 32 „	8 19 2	„
Calcutta	21 „	3 15 „	2 „	10 33 „	8 19 18	No *viâ*.
„	28 „	3 55 „	2 „	10 35 „	1 18 40	„
Cawnpore	22 „	1 24 „	2 „	4 29 p.m.	8 3 5	Moldavia.
Calcutta	28 „	1 49 „	2 „	4 48 „	2 2 59	Belgrade.
Bombay	22 „	1 0 „	2 „	4 48 „	8 3 48	Moldavia.
Calcutta	22 „	10 15 „	2 „	4 56 „	7 18 36	„
Bombay	1 March	10 0 „	2 „	5 21 „	0 19 21	No *viâ*.
Calcutta	21 Feb.	8 13 a.m.	2 „	5 41 „	9 9 27	Moldavia.
„	No date	1 45 p.m.	2 „	5 44 „	- - -	„
„	20 Feb.	2 5 „	2 „	5 50 „	10 3 45	„
Bombay	22 „	4 10 „	2 „	6 17 „	8 2 7	„
Calcutta	20 „	1 17 „	2 „	8 15 „	10 6 58	„
Madras	21 „	2 45 „	2 „	8 26 „	9 5 41	„
Calcutta	19 „	4 40 „	2 „	8 29 „	11 3 49	„
Bombay	21 „	5 45 „	2 „	8 40 „	9 2 55	„
Madras	21 „	4 5 „	2 „	8 40 „	9 3 35	„
Calcutta	20 „	1 15 „	2 „	10 0 „	10 8 45	„
Bombay	28 „	5 30 „	2 „	10 17 „	2 4 47	Wallachia.
„	28 „	4 40 „	2 „	10 59 „	2 6 19	„
„	28 „	4 35 „	2 „	11 7 „	2 6 32	„
„	28 „	5 47 „	2 „	11 48 „	2 6 1	„
Calcutta	28 „	4 8 „	3 „	1 8 a.m.	2 9 0	„
Bombay	23 „	5 22 „	3 „	1 32 „	7 8 10	Moldavia.
Calcutta	No date	11 12 „	3 „	8 26 p.m.	- - -	„
Bombay	23 Feb.	1 10 „	3 „	9 11 „	8 20 1	„
Calcutta	28 „	3 42 „	3 „	9 34 „	3 5 52	„
Bombay	3 March	1 45 „	3 „	9 44 „	2 7 55	„
Calcutta	1 „	11 31 a.m.	3 „	11 24 „	2 11 53	„
Bombay	2 „	2 20 p.m.	3 „	11 26 „	1 9 6	„
„	1 „	7 12 „	3 „	11 32 „	2 4 20	„
Rangoon	2 „	2 20 „	3 „	11 40 „	1 9 20	„
Calcutta	2 „	2 30 „	3 „	11 44 „	1 9 14	„
Bangalore	1 „	1 8 „	3 „	11 49 „	2 11 41	„
Bombay	28 Feb.	7 5 a.m.	4 „	10 28 a.m.	4 3 23	„
Calcutta	24 „	3 20 p.m.	4 „	10 58 „	7 19 38	„
Bombay	25 „	6 0 „	4 „	11 52 „	6 17 52	„
„	28 „	3 38 „	4 „	11 57 „	3 20 19	„
„	1 March	12 29 „	4 „	12 2 p.m.	2 23 33	„
„	28 Feb.	3 30 „	4 „	12 25 „	3 20 55	„
„	28 „	4 40 „	4 „	2 22 „	3 21 42	„
Calcutta	24 „	1 5 „	4 „	2 37 „	8 1 32	„
„	1 March	4 0 „	4 „	6 5 „	3 2 5	No *viâ*.
„	No date	1 30 „	4 „	6 45 „	- - -	Wallachia.
„	3 March	5 0 „	4 „	7 12 „	1 2 12	„
Bombay	2 „	4 12 „	4 „	7 22 „	2 3 10	Belgrade.
Galle	2 „	3 2 „	4 „	8 41 „	2 5 39	„
Madras	28 Feb.	5 10 „	4 „	9 17 „	4 4 7	Moldavia.
Calcutta	27 „	10 25 „	4 „	9 20 „	5 10 55	„
Ootacamund	1 March	12 25 „	4 „	9 34 „	3 9 9	Belgrade.
Calcutta	2 „	4 10 „	4 „	9 40 „	2 5 30	„
„	2 „	7 34 „	4 „	10 35 „	2 3 1	Moldavia.
„	24 Feb.	5 20 „	4 „	10 42 „	8 5 22	No *viâ*.
Bombay	22 „	5 23 „	4 „	10 47 „	10 5 24	Moldavia.
Calcutta	28 „	3 40 „	4 „	11 10 „	4 7 30	„
Bombay	1 March	1 30 „	4 „	11 30 „	3 10 0	„
„	1 „	3 10 „	4 „	11 35 „	3 8 25	„
„	22 Feb.	5 56 „	4 „	11 42 „	10 5 46	„
Calcutta	2 March	2 8 „	5 „	12 0 a.m.	2 9 52	Belgrade.
„	2 „	9 18 „	5 „	12 7 „	2 2 53	„
Pondicherry	2 „	9 20 „	5 „	12 5 „	2 2 45	„
Calcutta	2 „	4 26 „	5 „	12 22 „	2 7 56	„
„	28 Feb.	3 12 „	5 „	12 19 „	4 9 7	Moldavia.
Shanghai	2 March	3 35 „	5 „	12 21 „	2 8 41	Belgrade.
Madras	28 Feb.	3 40 „	5 „	12 34 „	4 8 54	Moldavia.
„	28 „	5 5 „	5 „	12 31 „	4 7 26	Belgrade.
Bombay	28 „	9 30 „	5 „	12 48 „	4 3 18	Moldavia.
„	28 „	5 20 „	5 „	12 51 „	4 7 31	No *viâ*.
„	28 „	5 50 „	5 „	12 58 „	4 7 8	Moldavia.
„	28 „	5 50 „	5 „	1 6 „	4 7 16	„
„	28 „	3 25 „	5 „	1 10 „	4 9 35	„
Calcutta	26 „	4 56 „	5 „	1 15 „	6 8 19	„
Bombay	28 „	3 51 „	5 „	1 19 „	4 7 28	„
Kurrachee	27 „	2 35 „	5 „	1 23 „	5 10 48	„
Calcutta	1 March	1 5 „	5	1 30 „	3 12 25	„

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App. No. 6.

MESSAGES from *India*, March 1866—*continued.*

Station from.	Time of Departure.		Arrival in London.		Time taken in Transmission.	Route.
	Date.	Hour.	Date.	Hour		
					Days. hrs. m.	
Calcutta - - -	1 March	2 12 p. m.	5 March	1 40 a. m.	3 11 28	Moldavia.
Bombay - - -	2 ,,	7 10 ,,	5 ,,	1 43 ,,	2 6 33	,,
Calcutta - - -	1 ,,	3 15 ,,	5 ,,	1 50 ,,	3 10 35	,,
Bombay - - -	28 Feb. -	2 35 ,,	5 ,,	1 50 ,,	4 11 15	,,
Calcutta - - -	28 ,,	3 30 ,,	5 ,,	1 53 ,,	4 10 23	,,
Bombay - - -	28 ,,	4 40 ,,	5 ,,	1 58 ,,	4 9 18	,,
Madras - - -	28 ,,	5 56 ,,	5 ,,	1 40 ,,	4 7 44	,,
,, - - -	28 ,,	8 45 ,,	5 ,,	1 54 ,,	4 5 9	,,
Bombay - - -	28 ,,	2 30 ,,	5 ,,	1 58 ,,	4 11 28	,,
Calcutta - - -	3 March	4 11 ,,	5 ,,	8 46 ,,	1 16 35	Belgrade.
Galle - - - -	2 ,,	4 5 ,,	5 ,,	8 58 ,,	2 16 53	,,
,, - - - -	2 ,,	4 45 ,,	5 ,,	10 5 ,,	2 17 20	,,
Hong Kong - - -	2 ,,	4 46 ,,	5 ,,	10 12 ,,	2 17 28	,,
Galle - - - -	2 ,,	4 54 ,,	5 ,,	10 15 ,,	2 17 21	,,
Calcutta - - -	2 ,,	4 10 ,,	5 ,,	11 17 p. m.	3 7 7	Wallachia.
Hong Kong - - -	2 ,,	4 45 ,,	6 ,,	9 25 a. m.	3 16 40	Belgrade.
Madras - - -	2 ,,	3 50 ,,	6 ,,	2 13 p. m.	3 22 23	,,
Batavia - - -	2 ,,	5 30 ,,	6 ,,	1 25 ,,	3 19 55	,,
Hong Kong - - -	2 ,,	4 15 ,,	6 ,,	1 37 ,,	3 21 22	,,
Galle - - - -	2 ,,	4 37 ,,	6 ,,	2 29 ,,	3 21 52	,,
Singapore - - -	2 ,,	4 36 ,,	6 ,,	2 38 ,,	3 22 2	,,
Galle - - - -	2 ,,	1 0 ,,	6 ,,	8 30 a. m.	3 19 30	,,
Batavia - - -	26 Feb. -	5 30 ,,	6 ,,	8 49 ,,	7 15 19	,,
Manilla - - -	2 March	4 5 ,,	6 ,,	8 55 ,,	3 16 50	,,
Penang - - -	2 ,,	4 59 ,,	6 ,,	9 0 ,,	3 16 1	,,
Calcutta - - -	2 ,,	5 5 ,,	6 ,,	9 8 ,,	3 16 3	,,
Bombay - - -	3 ,,	3 36 ,,	6 ,,	9 10 ,,	2 17 34	,,
Calcutta - - -	3 ,,	11 19 a. m.	6 ,,	9 57 ,,	2 22 38	,,
Galle - - - -	2 ,,	3 55 p. m.	6 ,,	10 3 ,,	3 18 8	,,
,, - - - -	2 ,,	5 0 ,,	6 ,,	10 37 ,,	3 15 37	,,
Hong Kong - - -	2 ,,	4 55 ,,	6 ,,	11 7 ,,	3 18 12	,,
,, - - - -	2 ,,	4 5 ,,	6 ,,	11 48 ,,	3 19 43	,,
,, - - - -	2 ,,	5 0 ,,	6 ,,	1 17 p. m.	3 20 17	,,
,, - - - -	3 ,,	8 30 ,,	6 ,,	4 27 ,,	2 19 57	,,
Shanghai - - -	2 ,,	8 0 ,,	6 ,,	4 37 ,,	3 20 37	,,
Penang - - -	2 ,,	6 5 ,,	6 ,,	4 25 ,,	3 22 20	,,
Galle - - - -	2 ,,	4 5 ,,	6 ,,	4 47 ,,	4 0 42	,,
Colombo - - -	3 ,,	1 55 ,,	6 ,,	5 50 ,,	3 3 55	,,
Calcutta - - -	3 ,,	3 30 ,,	6 ,,	6 0 ,,	3 2 30	,,
,, - - - -	3 ,,	3 0 ,,	6 ,,	6 14 ,,	3 3 14	,,
Bombay - - -	3 ,,	3 57 ,,	6 ,,	8 5 ,,	3 4 8	,,
,, - - - -	5 ,,	3 30 ,,	6 ,,	8 30 ,,	1 5 0	,,
Madras - - -	26 Feb. -	1 10 ,,	7 ,,	1 10 a. m.	6 12 0	No *viâ*.
Bombay - - -	1 March	1 35 ,,	7 ,,	1 26 ,,	5 11 51	Moldavia.
,, - - - -	1 ,,	2 25 ,,	7 ,,	1 35 ,,	5 11 10	,,
,, - - - -	26 Feb. -	1 50 ,,	7 ,,	1 37 ,,	8 11 47	,,
Colombo - - -	26 ,,	4 6 ,,	7 ,,	1 42 ,,	8 9 36	,,
Bombay - - -	26 ,,	1 36 ,,	7 ,,	2 0 ,,	8 12 24	,,
Rangoon - - -	26 ,,	5 45 ,,	7 ,,	1 40 ,,	8 7 55	,,
Calcutta - - -	3 March	2 33 ,,	7 ,,	7 51 ,,	3 17 18	Belgrade.
Agra - - - -	4 ,,	8 0 a. m.	7 ,,	7 56 ,,	2 23 56	,,
Bombay - - -	5 ,,	1 55 p. m.	7 ,,	8 6 ,,	1 18 11	,,
Calcutta - - -	3 ,,	2 33 ,,	7 ,,	8 52 ,,	3 18 19	,,
Kurrachee - - -	5 ,,	5 40 ,,	7 ,,	8 56 ,,	1 15 16	,,
,, - - - -	5 ,,	4 40 ,,	7 ,,	9 0 ,,	1 16 20	,,
Calcutta - - -	5 ,,	4 20 ,,	7 ,,	9 4 ,,	1 15 44	,,
Hong Kong - - -	2 ,,	2 45 ,,	7 ,,	9 21 ,,	4 18 36	No *viâ*.
Bombay - - -	5 ,,	3 35 ,,	7 ,,	9 39 ,,	1 18 4	Belgrade.
Colombo - - -	3 ,,	5 50 a. m.	7 ,,	9 32 ,,	4 3 42	,,
Bombay - - -	5 ,,	5 40 p. m.	7 ,,	9 45 ,,	1 16 5	,,
Benares - - -	4 ,,	12 15 ,,	7 ,,	10 27 ,,	2 22 12	Wallachia.
Calcutta - - -	5 ,,	4 0 ,,	7 ,,	10 30 ,,	1 18 30	Belgrade.
,, - - -	3 ,,	6 0 ,,	7 ,,	10 54 ,,	3 16 54	,,
Colombo - - -	3 ,,	12 0 ,,	7 ,,	10 56 ,,	3 22 56	,,
Calcutta - - -	3 ,,	5 50 ,,	7 ,,	11 6 ,,	3 17 16	Wallachia.
,, - - - -	3 ,,	4 0 ,,	7 ,,	11 50 ,,	3 19 50	,,
Kurrachee - - -	5 ,,	6 55 ,,	7 ,,	11 56 ,,	1 17 1	Belgrade.
Calcutta - - -	3 ,,	2 0 ,,	7 ,,	11 54 ,,	3 21 54	Wallachia.
Madras - - -	6 ,,	12 5 ,,	7 ,,	12 44 p. m.	1 0 39	,,
Calcutta - - -	5 ,,	4 50 ,,	7 ,,	1 54 ,,	1 21 4	,,
,, - - - -	5 ,,	4 10 ,,	7 ,,	2 5 ,,	1 21 55	,,
,, - - - -	3 ,,	5 21 ,,	7 ,,	3 35 ,,	3 22 14	,,
Bombay - - -	5 ,,	4 0 ,,	7 ,,	4 48 ,,	2 0 48	,,
Colombo - - -	5 ,,	3 25 ,,	7 ,,	8 36 ,,	2 5 11	,,
Calcutta - - -	6 ,,	2 9 ,,	7 ,,	8 39 ,,	1 6 30	Belgrade.
,, - - - -	5 ,,	6 5 ,,	7 ,,	9 12 ,,	2 3 7	Wallachia.
Madras - - -	5 ,,	1 20 ,,	7 ,,	9 26 ,,	2 8 6	,,
Calcutta - - -	5 ,,	1 0 ,,	7 ,,	9 34 ,,	2 8 34	,,
Bombay - - -	5 ,,	4 40 ,,	7 ,,	9 41 ,,	2 5 1	,,
,, - - - -	6 ,,	5 0 ,,	7 ,,	11 15 ,,	1 6 15	Belgrade.
Kurrachee - - -	6 ,,	5 24 ,,	7 ,,	11 8 ,,	1 5 44	,,
Calcutta - - -	5 ,,	4 10 ,,	7 ,,	11 23 ,,	2 7 13	Wallachia.
Bombay - - -	6 ,,	12 8 ,,	7 ,,	11 44 ,,	1 11 36	Belgrade.
Calcutta - - -	5 ,,	4 20 ,,	7 ,,	11 49 ,,	2 7 29	Wallachia.
Bombay - - -	6 ,,	1 55 ,,	8 ,,	12 15 a. m.	1 10 20	Belgrade.
Calcutta - - -	6 ,,	12 30 ,,	8 ,,	12 18 ,,	1 11 48	,,
,, - - - -	2 ,,	1 48 a. m.	8 ,,	2 25 ,,	6 0 37	Moldavia.
Bombay - - -	2 ,,	2 26 p. m.	8 ,,	2 27 ,,	5 12 1	,,

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MESSAGES from *India*, March 1866—*continued*.

Station from.	Time of Departure. Date.	Time of Departure. Hour.	Arrival in London. Date.	Arrival in London. Hour.	Time taken in Transmission.	Route.
					Days. hrs. m.	
Colombo - - -	26 Feb.	7 40 p.m.	8 March	2 32 a.m.	9 6 52	Moldavia.
„ - - -	27 „	5 9 „	8 „	2 38 „	8 9 29	„
Bombay - - -	27 „	5 0 „	8 „	2 41 „	8 9 41	„
„ - - -	7 March	5 58 „	8 „	7 50 „	0 13 52	Belgrade.
„ - - -	7 „	4 0 „	8 „	7 52 „	0 15 52	„
„ - - -	7 „	3 45 „	8 „	8 4 „	0 16 19	„
Calcutta - - -	6 „	5 30 „	8 „	8 17 „	1 14 47	„
Akyab - - -	22 Feb.	4 35 „	8 „	8 22 „	13 15 47	„
Bombay - - -	7 March	4 50 „	8 „	8 26 „	0 15 36	„
Calcutta - - -	6 „	12 40 „	8 „	8 27 „	1 19 47	„
„ - - -	6 „	5 26 „	8 „	8 23 „	1 15 3	„
Bombay - - -	6 „	2 33 „	8 „	8 46 „	1 18 13	„
Singapore - - -	6 „	1 0 „	8 „	8 42 „	1 19 42	„
Bombay - - -	6 „	5 50 „	8 „	8 35 „	1 14 45	„
„ - - -	6 „	4 40 „	8 „	8 40 „	1 16 0	„
Madras - - -	6 „	6 0 „	8 „	8 55 „	1 14 55	„
Rangoon - - -	21 Feb.	5 25 „	8 „	8 51 „	14 15 26	„
Bombay - - -	7 March	3 0 „	8 „	8 56 „	0 17 56	„
„ - - -	7 „	2 0 „	8 „	9 0 „	0 19 0	„
„ - - -	6 „	5 5 „	8 „	9 0 „	1 16 55	„
Calcutta - - -	7 „	12 0 „	8 „	9 8 „	0 21 6	„
Bombay - - -	7 „	5 15 „	8 „	9 9 „	0 15 54	„
„ - - -	6 „	3 30 „	8 „	9 10 „	1 17 40	„
„ - - -	6 „	5 53 „	8 „	9 11 „	1 15 18	„
„ - - -	7 „	5 30 „	8 „	9 16 „	0 15 46	„
„ - - -	7 „	5 25 „	8 „	9 17 „	0 15 52	„
Madras - - -	6 „	4 30 „	8 „	9 19 „	1 15 49	„
Bombay - - -	7 „	4 58 „	8 „	9 20 „	0 16 22	„
Madras - - -	6 „	12 0 „	8 „	9 20 „	1 21 20	„
Calcutta - - -	7 „	3 8 „	8 „	9 23 „	0 18 15	„
Bombay - - -	7 „	3 9 „	8 „	9 26 „	0 18 17	„
„ - - -	6 „	12 20 „	8 „	9 26 „	1 21 6	„
„ - - -	6 „	5 40 „	8 „	9 31 „	1 16 51	„
Rangoon - - -	22 Feb.	11 58 „	8 „	9 35 „	13 9 37	„
Calcutta - - -	6 March	10 0 „	8 „	9 40 „	1 11 40	„
„ - - -	6 „	1 0 „	8 „	9 40 „	1 20 40	„
„ - - -	6 „	1 15 „	8 „	9 46 „	1 20 31	„
„ - - -	6 „	4 28 „	8 „	9 42 „	1 17 14	„
„ - - -	6 „	2 45 „	8 „	9 52 „	1 19 7	„
„ - - -	6 „	5 48 „	8 „	9 58 „	1 16 10	„
„ - - -	6 „	5 0 „	8 „	10 2 „	1 17 2	„
„ - - -	6 „	2 58 „	8 „	10 11 „	1 19 13	„
„ - - -	26 Feb	5 20 „	8 „	11 5 „	9 17 45	Moldavia.
Kurrachee - - -	6 March	7 50 „	8 „	11 6 „	1 15 16	No *viâ*.
Bombay - - -	26 Feb.	2 5 „	8 „	12 29 p.m.	9 22 24	Moldavia.
„ - - -	26 „	1 30 „	8 „	2 38 „	10 1 8	„
Madras - - -	25 „	4 15 „	8 „	3 2 „	10 22 47	„
Calcutta - - -	26 „	12 0 „	8 „	4 6 „	10 4 6	„
„ - - -	26 „	1 15 „	8 „	4 14 „	10 2 59	„
Bombay - - -	7 March	6 37 „	8 „	5 5 „	0 22 28	Belgrade.
Madras - - -	6 „	4 0 „	8 „	5 47 „	2 1 47	„
Calcutta - - -	6 „	5 20 „	8 „	6 5 „	2 0 45	„
„ - - -	6 „	3 0 „	8 „	6 7 „	2 3 7	„
Madras - - -	7 „	1 10 „	8 „	11 5 „	1 9 55	„
Calcutta - - -	7 „	12 0 „	8 „	11 17 „	1 11 17	„
„ - - -	7 „	5 15 „	8 „	11 21 „	1 6 6	Wallachia.
Kurrachee - - -	6 „	7 25a.m.	8 „	11 40 „	2 16 15	No *viâ*.
Calcutta - - -	7 „	6 11 p.m.	8 „	11 49 „	1 5 38	Wallachia.
Akyab - - -	22 Feb.	3 22 „	9 „	12 0 a.m.	14 8 38	Belgrade.
Calcutta - - -	6 March	10 26 a.m.	9 „	12 3 „	2 13 37	„
Kurrachee - - -	6 „	5 7 p.m.	9 „	12 9 „	2 7 2	„
Calcutta - - -	7 „	2 45 „	9 „	12 15 „	1 9 30	Wallachia.
Rangoon - - -	20 Feb.	10 30 a.m.	9 „	12 40 „	16 14 10	No *viâ*.
Calcutta - - -	7 March	12 6 p.m.	9 „	9 9 „	1 21 3	Belgrade.
Rangoon - - -	26 Feb.	2 0 „	9 „	9 48 „	10 19 48	„
Calcutta - - -	7 March	3 10 „	9 „	9 52 „	1 18 42	„
Rangoon - - -	28 Feb.	6 0 „	9 „	9 55 „	8 15 55	„
Calcutta - - -	8 March	12 20 „	9 „	10 12 „	0 21 52	„
Akyab - - -	8 „	11 0 a.m.	9 „	12 6 p.m.	1 1 6	„
Kurrachee - - -	8 „	3 5 p.m.	9 „	12 10 „	0 21 5	„
Calcutta - - -	8 „	11 5 a.m.	9 „	12 20 „	1 1 15	„
Bombay - - -	8 „	12 12 p.m.	9 „	3 32 „	1 3 20	„
Rangoon - - -	1 „	4 30 „	9 „	8 50 „	8 4 20	„
Bombay - - -	8 „	1 45 „	9 „	9 0 „	1 7 15	„
„ - - -	8 „	2 5 „	9 „	9 16 „	1 7 11	„
„ - - -	8 „	5 10 „	9 „	9 12 „	1 4 2	„
„ - - -	8 „	4 4 „	9 „	9 7 „	1 5 3	„
Calcutta - - -	7 „	2 30 „	9 „	9 38 „	2 7 8	Wallachia.
Rangoon - - -	1 „	3 32 „	9 „	11 8 „	8 7 36	Belgrade.
Bombay - - -	8 „	5 50 „	10 „	2 50 a.m.	1 9 0	„
Calcutta - - -	7 „	5 21 „	10 „	7 20 „	2 13 59	Wallachia.
Galle - - -	7 „	1 25 „	10 „	7 28 „	2 18 3	„
Madras - - -	7 „	11 11 „	10 „	7 31 „	2 8 20	„
Mangalore - - -	7 „	1 20 „	10 „	7 24 „	2 18 4	„
Kurrachee - - -	8 „	8 53 „	10 „	8 46 „	1 11 53	„
Madras - - -	7 „	12 55 „	10 „	8 50 „	2 19 55	„
Calcutta - - -	8 „	9 30 a.m.	10 „	8 53 „	1 23 23	„
Bombay - - -	8 „	1 29 p.m.	10 „	8 59 „	1 19 30	„

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MESSAGES from *India*, March 1866—*continued*.

Station from.	Time of Departure. Date.	Time of Departure. Hour.	Arrival in London. Date.	Arrival in London. Hour.	Time taken in Transmission. Days.	hrs.	m.	Route.
Calcutta	8 March	11 40 p.m.	10 March	9 2 a.m.	1	9	22	Wallachia.
"	8 "	9 5 a.m.	10 "	9 8 "	2	0	3	"
"	7 "	5 20 p.m.	10 "	9 13 "	2	15	53	"
"	8 "	11 0 a.m.	10 "	9 27 "	1	21	27	"
Rangoon	25 Feb.	1 22 p.m.	10 "	3 40 p.m.	13	2	18	Belgrade.
Madras	8 March	7 40 "	10 "	3 55 "	1	20	15	"
Calcutta	8 "	5 11 "	10 "	5 27 "	2	0	16	"
Bombay	8 "	8 5 "	10 "	6 4 "	1	21	59	"
Calcutta	7 "	2 25 "	10 "	9 35 "	3	7	10	"
Rangoon	1 "	4 3 "	10 "	10 0 "	9	5	57	Moldavia.
"	23 Feb.	5 2 "	10 "	10 19 "	15	5	17	"
Calcutta	8 March	5 4 "	10 "	10 33 "	2	5	29	Belgrade.
Rangoon	28 Feb.	1 40 "	10 "	10 33 "	10	8	53	Moldavia.
Bombay	9 March	3 50 "	10 "	10 43 "	1	7	28	Belgrade.
Rangoon	23 Feb.	11 12 "	10 "	10 42 "	14	23	30	Moldavia.
"	28 "	1 40 "	10 "	11 7 "	10	9	27	"
Calcutta	8 March	4 20 "	10 "	10 47 "	2	6	27	Belgrade.
"	8 "	4 55 "	10 "	10 57 "	2	6	2	"
"	8 "	1 14 "	10 "	11 11 "	2	9	57	Moldavia.
"	8 "	1 44 "	10 "	11 22 "	2	9	38	"
Rangoon	28 Feb.	3 5 "	10 "	11 25 "	10	8	20	"
Calcutta	22 "	4 0 "	10 "	11 36 "	16	7	36	"
"	8 March	4 20 "	10 "	11 40 "	2	7	20	"
Bombay	9 "	12 9 "	10 "	11 45 "	1	11	36	Belgrade.
Poona	9 "	11 39 a.m.	10 "	11 50 "	1	12	11	"
Bombay	9 "	2 5 p.m.	11 "	12 43 a.m.	1	10	38	"
"	8 "	6 0 "	11 "	12 45 "	2	6	45	Belgrade.
Calcutta	8 "	12 10 "	11 "	12 49 "	2	12	39	Nem.
Bombay	27 Feb.	6 0 "	11 "	1 4 "	11	7	4	Moldavia.
Colombo	1 March	10 30 a.m.	11 "	1 13 "	9	14	43	"
Bombay	1 "	12 24 p.m.	11 "	1 17 "	9	12	53	"
Calcutta	2 "	12 20 "	11 "	4 15 "	8	15	55	"
Kurrachee	2 "	6 50 "	11 "	4 20 "	8	9	30	"
Bombay	1 "	5 0 "	11 "	4 31 "	9	11	31	"
"	1 "	2 0 "	11 "	4 36 "	9	14	36	"
Calcutta	26 Feb.	1 2 "	11 "	4 41 "	12	15	39	No *viâ*.
"	26 "	5 35 "	11 "	4 46 "	12	11	11	"
Madras	2 March	6 2 "	11 "	4 49 "	8	10	47	Moldavia.
Calcutta	1 "	5 20 "	11 "	5 0 "	9	11	40	"
Bombay	2 "	3 40 "	11 "	5 6 "	8	13	26	"
Colombo	9 "	9 23 "	11 "	5 10 "	1	7	47	"
Hong Kong	2 "	2 3 "	11 "	4 12 "	8	14	9	"
Bombay	1 "	12 27 "	11 "	5 18 "	9	16	51	"
Calcutta	1 "	4 10 "	11 "	5 21 "	9	13	11	"
"	1 "	11 15 a.m.	11 "	5 23 "	9	18	8	"
Rangoon	2 "	2 12 "	11 "	5 38 "	9	3	26	"
Bombay	9 "	12 50 p.m.	11 "	8 10 "	1	19	20	Belgrade.
Calcutta	8 "	4 52 "	11 "	8 16 "	2	15	24	"
Bombay	9 "	4 10 "	11 "	8 21 "	1	16	11	"
"	9 "	6 8 "	11 "	8 26 "	1	14	18	"
Calcutta	11 "	10 45 a.m.	11 "	10 6 p.m.	0	11	21	Moldavia.
"	8 "	4 40 p.m.	11 "	10 29 "	3	5	49	Nem.
"	8 "	2 0 "	12 "	12 10 a.m.	3	10	10	"
"	8 "	10 40 "	12 "	12 25 "	3	1	45	"
"	8 "	5 0 "	12 "	12 17 "	3	7	17	"
"	8 "	2 50 "	12 "	12 30 "	3	9	40	Nem.
"	10 "	8 0 "	12 "	8 49 "	1	12	49	Belgrade.
"	9 "	1 59 "	12 "	10 40 "	2	20	41	"
Madras	9 "	10 0 "	12 "	10 45 "	2	12	45	"
Colombo	9 "	4 0 "	12 "	10 49 "	2	18	49	"
"	9 "	2 9 "	12 "	11 1 "	2	20	52	"
Calcutta	9 "	1 10 "	12 "	11 7 "	2	21	57	"
Colombo	No date	12 3 "	12 "	4 54 p.m.	-	-	-	"
Bombay	9 March	5 0 "	12 "	4 58 "	2	23	50	"
"	9 "	5 39 "	12 "	5 3 "	2	23	24	"
"	9 "	5 30 "	12 "	5 58 "	3	0	28	"
Calcutta	9 "	12 5 "	12 "	6 6 "	3	6	1	"
"	9 "	2 0 "	12 "	6 0 "	3	4	0	"
Bombay	No date	5 39 "	12 "	6 34 "	-	-	-	"
Calcutta	9 March	1 30 "	12 "	7 9 "	3	5	39	"
"	9 "	11 43 a.m.	12 "	9 45 "	3	10	2	"
Akyab	9 "	12 0 p.m.	12 "	10 20 "	3	10	20	"
Rangoon	5 "	4 25 "	12 "	11 55 "	7	7	30	Wallachia.
"	7 "	8 25 a.m.	13 "	4 41 a.m.	5	20	16	"
Bombay	10 "	4 10 p.m.	13 "	5 7 "	2	11	57	Belgrade.
Akyab	9 "	2 0 "	13 "	5 12 "	3	8	10	"
Madras	9 "	4 50 "	13 "	5 18 "	3	12	28	"
Rangoon	9 "	4 35 "	13 "	5 24 "	3	12	49	"
"	9 "	5 20 "	13 "	5 27 "	3	12	7	"
Bombay	9 "	4 24 "	13 "	5 33 "	3	13	9	"
"	9 "	5 29 "	13 "	5 35 "	3	12	6	"
"	9 "	5 5 "	13 "	8 42 "	3	15	37	"
Calcutta	9 "	2 10 "	13 "	8 45 "	3	18	35	"
Kurrachee	10 "	5 45 "	13 "	8 55 "	2	15	10	"
Calcutta	10 "	4 45 "	13 "	9 2 "	2	16	17	No *viâ*.
"	10 "	4 23 "	13 "	9 29 "	2	17	6	Belgrade.
Bombay	10 "	7 35 a.m.	13 "	9 35 "	3	2	0	"
Calcutta	10 "	12 6 p.m.	13 "	9 38 "	2	21	32	"

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MESSAGES from *India*, March 1866—*continued.* App. No. 6.

Station from.	Time of Departure. Date.	Time of Departure. Hour.	Arrival in London. Date.	Arrival in London. Hour.	Time taken in Transmission.	Route.
					Days. hrs. m.	
Calcutta	10 March	4 34 p.m.	13 March	9 49 a.m.	2 17 15	Belgrade.
,,	10 ,,	5 0 ,,	13 ,,	9 52 ,,	2 16 52	,,
,,	10 ,,	2 20 ,,	13 ,,	9 56 ,,	2 19 36	,,
,,	9 ,,	5 27 ,,	13 ,,	9 59 ,,	3 16 32	,,
,,	9 ,,	5 10 ,,	13 ,,	10 8 ,,	3 16 58	No *viâ*.
,,	10 ,,	1 55 ,,	13 ,,	10 16 ,,	2 20 21	Belgrade.
,,	10 ,,	3 49 ,,	13 ,,	11 11 ,,	2 19 22	,,
,,	No date	1 40 ,,	13 ,,	12 15 p.m.	- - -	,,
,,	10 March	3 4 ,,	13 ,,	12 40 ,,	2 21 36	,,
,,	No date	12 30 ,,	13 ,,	2 34 ,,	- - -	,,
,,	10 March	12 7 ,,	13 ,,	3 47 ,,	3 3 47	,,
,,	10 ,,	1 38 ,,	13 ,,	4 54 ,,	3 3 16	,,
,,	10 ,,	1 55 ,,	13 ,,	5 36 ,,	3 3 41	,,
Bombay	12 ,,	11 27 a.m.	13 ,,	5 40 ,,	1 6 13	,,
Madras	10 ,,	8 5 p.m.	13 ,,	7 5 ,,	2 23 0	,,
Calcutta	10 ,,	1 4 ,,	13 ,,	9 36 ,,	3 8 32	,,
Bangalore	10 ,,	12 53 ,,	13 ,,	10 38 ,,	3 9 45	,,
Akyab	7 ,,	2 10 ,,	13 ,,	11 17 ,,	6 9 7	Wallachia.
Rangoon	8 ,,	4 7 ,,	13 ,,	11 31 ,,	5 7 24	,,
Calcutta	10 ,,	4 30 ,,	13 ,,	11 36 ,,	3 7 6	Belgrade.
Akyab	7 ,,	6 5 ,,	13 ,,	11 38 ,,	6 5 33	No *viâ*.
,,	8 ,,	3 8 ,,	13 ,,	11 42 ,,	5 8 34	,,
Calcutta	12 ,,	10 40 ,,	13 ,,	11 45 ,,	1 1 5	Belgrade.
Bombay	10 ,,	2 35 ,,	14 ,,	12 56 a.m.	3 10 21	,,
Kurrachee	12 ,,	1 55 ,,	14 ,,	1 0 ,,	1 11 5	,,
Calcutta	10 ,,	12 30 ,,	14 ,,	1 22 ,,	3 12 52	,,
Bombay	12 ,,	12 0 ,,	14 ,,	1 33 ,,	1 13 33	,,
Calcutta	10 ,,	5 10 ,,	14 ,,	8 59 ,,	3 15 49	,,
Madras	12 ,,	5 51 ,,	14 ,,	9 20 ,,	1 15 29	,,
Bombay	13 ,,	11 30 a.m.	14 ,,	9 27 ,,	0 21 57	,,
,,	12 ,,	2 59 p.m.	14 ,,	9 34 ,,	1 18 35	Port.
Madras	12 ,,	4 20 ,,	14 ,,	9 32 ,,	1 17 7	Belgrade.
Colombo	10 ,,	2 15 ,,	14 ,,	9 40 ,,	3 19 25	,,
Delhi	10 ,,	8 40 a.m.	14 ,,	9 35 ,,	4 0 55	,,
Bombay	11 ,,	10 10 ,,	14 ,,	9 47 ,,	2 23 37	,,
Calcutta	12 ,,	5 21 p.m.	14 ,,	9 50 ,,	1 16 29	,,
,,	12 ,,	2 30 ,,	14 ,,	9 48 ,,	1 19 18	,,
,,	12 ,,	3 8 ,,	14 ,,	9 52 ,,	1 18 44	,,
Bombay	12 ,,	4 35 ,,	14 ,,	9 55 ,,	1 17 20	No *viâ*.
Madras	12 ,,	7 27 ,,	14 ,,	10 0 ,,	1 14 33	Wallachia.
Calcutta	12 ,,	5 17 a.m.	14 ,,	10 18 ,,	2 5 1	Belgrade.
,,	12 ,,	3 50 p.m.	14 ,,	10 24 ,,	1 18 34	,,
Bombay	12 ,,	5 15 a.m.	14 ,,	12 9 p.m.	2 6 54	,,
Calcutta	14 ,,	12 26 p.m.	14 ,,	11 27 ,,	0 11 1	,,
,,	12 ,,	3 0 ,,	14 ,,	11 34 ,,	2 8 34	,,
Bombay	12 ,,	7 7 ,,	14 ,,	11 57 ,,	2 4 50	,,
,,	12 ,,	3 10 ,,	15 ,,	8 58 a.m.	2 17 48	Wallachia.
,,	12 ,,	5 57 ,,	15 ,,	8 54 ,,	2 14 57	,,
Calcutta	11 ,,	4 0 ,,	15 ,,	8 57 ,,	3 16 57	,,
,,	12 ,,	3 0 ,,	15 ,,	9 12 ,,	2 18 12	,,
,,	12 ,,	5 21 ,,	15 ,,	10 30 p.m.	3 5 9	Belgrade.
,,	12 ,,	5 20 ,,	15 ,,	10 35 ,,	3 5 15	,,
Bombay	13 ,,	1 4 ,,	15 ,,	11 54 ,,	2 10 50	,,
Calcutta	12 ,,	5 20 ,,	16 ,,	10 22 a.m.	3 17 2	,,
,,	12 ,,	5 25 ,,	16 ,,	11 17 ,,	3 17 52	,,
,,	12 ,,	6 10 a.m.	16 ,,	11 27 ,,	4 5 17	,,
,,	12 ,,	5 23 p.m.	16 ,,	11 30 ,,	3 18 7	,,
,,	12 ,,	6 0 ,,	16 ,,	12 58 p.m.	3 18 58	,,
Akyab	9 ,,	10 56 ,,	16 ,,	1 6 ,,	6 14 10	,,
Bombay	13 ,,	4 38 ,,	16 ,,	3 38 ,,	2 23 0	,,
,,	13 ,,	3 30 ,,	16 ,,	4 0 ,,	3 0 30	,,
,,	13 ,,	4 0 ,,	16 ,,	4 36 ,,	3 0 36	,,
,,	13 ,,	2 40 ,,	16 ,,	4 51 ,,	3 2 11	,,
,,	13 ,,	2 40 ,,	16 ,,	4 55 ,,	3 2 15	,,
,,	13 ,,	4 10 ,,	16 ,,	5 0 ,,	3 0 50	,,
,,	No date	2 1 ,,	16 ,,	8 57 ,,	- - -	,,
Shanghai	No date	12 57 ,,	16 ,,	9 53 ,,	- - -	,,
Singapore	12 March	5 26 ,,	16 ,,	10 0 ,,	4 4 34	,,
Calcutta	12 ,,	5 20 ,,	17 ,,	1 26 a.m.	4 8 6	,,
Galle	12 ,,	5 30 ,,	17 ,,	1 45 ,,	4 8 15	,,
,,	12 ,,	5 36 ,,	17 ,,	1 55 ,,	4 8 19	,,
Hong Kong	12 ,,	5 8 ,,	17 ,,	2 25 ,,	4 9 17	,,
Galle	12 ,,	5 0 ,,	17 ,,	2 39 ,,	4 9 39	,,
,,	12 ,,	5 25 ,,	17 ,,	3 0 ,,	4 9 35	,,
,,	12 ,,	5 20 ,,	17 ,,	8 25 ,,	4 15 5	,,
,,	12 ,,	5 26 ,,	17 ,,	8 24 ,,	4 14 58	,,
Bombay	13 ,,	1 45 ,,	17 ,,	8 21 ,,	3 18 36	,,
,,	13 ,,	4 40 ,,	17 ,,	8 27 ,,	3 15 47	,,
,,	13 ,,	5 6 ,,	17 ,,	8 50 ,,	3 15 44	,,
,,	13 ,,	5 55 ,,	17 ,,	8 54 ,,	3 14 59	,,
,,	13 ,,	3 10 ,,	17 ,,	8 55 ,,	3 17 45	,,
,,	13 ,,	4 40 ,,	17 ,,	8 51 ,,	3 16 11	,,
,,	13 ,,	5 12 ,,	17 ,,	9 5 ,,	3 15 53	,,
,,	13 ,,	2 12 ,,	17 ,,	9 10 ,,	3 18 58	,,
Galle	13 ,,	5 18 ,,	17 ,,	9 19 ,,	3 16 1	,,
,,	14 ,,	3 30 ,,	17 ,,	9 19 ,,	2 17 49	,,
Bombay	14 ,,	2 5 ,,	17 ,,	9 22 ,,	2 19 17	,,
Galle	12 ,,	5 33 ,,	17 ,,	9 26 ,,	4 15 53	,,

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MESSAGES from *India*, March 1866—*continued*.

Station from.	Time of Departure.		Arrival in London.		Time taken in Transmission.	Route.
	Date.	Hour.	Date.	Hour.		
					Days. hrs. m.	
Singapore	12 March	5 20 p.m.	17 March	9 24 a.m.	4 16 4	Belgrade.
Galle	12 „	5 35 „	17 „	9 36 „	4 16 1	„
„	12 „	5 28 „	17 „	9 30 „	4 16 2	„
Bombay	13 „	3 54 „	17 „	9 40 „	3 17 46	„
„	13 „	4 3 „	17 „	9 46 „	3 17 43	„
Galle	12 „	5 30 „	17 „	9 50 „	4 16 20	„
Calcutta	No date	No time	17 „	9 59 „	- -	„
Bombay	13 March	5 27 p.m.	17 „	6 5 p.m.	4 0 33	No *viâ*.
„	13 „	8 0 „	17 „	7 0 „	3 23 0	Belgrade.
„	13 „	6 3 „	17 „	8 18 „	4 2 15	„
Calcutta	13 „	4 0 „	17 „	8 20 „	4 4 20	„
Manilla	12 „	5 35 „	17 „	8 30 „	5 2 55	„
Bombay	13 „	5 28 „	17 „	8 40 „	4 3 12	„
Calcutta	13 „	4 40 „	17 „	11 6 „	4 6 26	„
Bombay	13 „	5 57 „	17 „	11 7 „	4 5 10	„
Galle	12 „	5 40 „	18 „	2 0 a.m.	5 8 20	„
Bombay	13 „	3 30 „	18 „	12 12 „	4 8 42	„
Madras	13 „	5 35 „	18 „	12 20 „	4 6 45	„
Negapatam	13 „	8 58 „	18 „	1 10 „	4 4 12	„
Calcutta	13 „	2 9 „	18 „	2 12 „	4 12 3	„
Bombay	14 „	5 50 „	18 „	2 36 p.m.	3 20 46	„
Calcutta	16 „	5 50 „	18 „	2 56 „	1 21 6	„
„	14 „	5 27 „	18 „	3 0 „	3 21 33	„
„	15 „	3 43 „	18 „	3 21 „	2 23 38	„
„	14 „	2 32 „	18 „	3 32 „	4 1 -	„
„	14 „	11 36 a.m.	18 „	3 44 „	4 4 8	„
„	14 „	5 14 p.m.	18 „	3 46 „	3 22 32	„
„	14 „	5 30 „	18 „	3 54 „	3 22 24	„
„	14 „	11 5 a.m.	18 „	3 55 „	4 4 50	„
Bombay	14 „	12 0 p.m.	18 „	4 4 „	4 4 4	„
Calcutta	14 „	11 18 a.m.	18 „	5 30 „	4 6 12	No *viâ*.
„	13 „	4 2 p.m.	18 „	5 40 „	5 1 38	Wallachia.
„	13 „	5 0 „	18 „	6 45 „	5 1 45	„
„	13 „	4 40 „	18 „	6 50 „	5 2 10	„
„	13 „	2 28 „	18 „	7 24 „	5 4 56	„
Bombay	13 „	3 50 „	18 „	7 40 „	5 3 50	„
Madras	13 „	2 30 „	18 „	9 10 „	5 6 40	„
Calcutta	13 „	5 15 „	18 „	9 16 „	5 4 1	„
„	13 „	5 2 „	18 „	9 12 „	5 4 10	„
Bombay	13 „	5 42 „	18 „	11 18 „	5 5 31	„
Madras	13 „	2 30 „	18 „	11 27 „	5 8 57	„
Calcutta	13 „	4 15 „	18 „	11 32 „	5 7 17	„
Bombay	13 „	2 17 „	18 „	11 36 „	5 9 19	„
Galle	13 „	8 35 a.m.	19 „	12 36 a.m.	5 16 1	„
Bombay	14 „	5 56 p.m.	19 „	12 49 „	4 6 53	„
„	13 „	5 52 „	19 „	2 6 „	5 8 14	„
„	14 „	7 0 „	19 „	2 16 „	4 7 16	„
„	14 „	2 20 „	19 „	2 46 „	4 12 26	„
Calcutta	15 „	4 37 „	19 „	9 6 „	3 16 29	Belgrade.
Bombay	15 „	4 25 „	19 „	9 10 „	3 16 45	„
„	15 „	3 53 „	19 „	9 13 „	3 17 20	„
Calcutta	15 „	3 7 „	19 „	9 13 „	3 18 6	„
Bombay	15 „	3 5 „	19 „	9 16 „	3 18 11	„
„	15 „	4 40 „	19 „	9 20 „	3 16 40	„
„	15 „	4 20 „	19 „	11 9 „	3 18 49	„
Calcutta	16 „	5 8 „	19 „	1 50 p.m.	2 20 42	„
Colombo	13 „	4 0 „	19 „	6 10 „	6 2 10	„
Bombay	16 „	5 10 „	19 „	7 43 „	3 2 33	„
Madras	14 „	5 45 „	19 „	7 52 „	5 2 7	„
Hong Kong	15 „	11 30 a.m.	19 „	9 19 „	4 9 49	„
Kurrachee	No date	5 1 p.m.	19 „	9 8 „	- -	„
Akyab	15 March	8 40 a.m.	19 „	9 30 „	4 12 50	„
Bombay	15 „	2 0 p.m.	19 „	9 50 „	4 7 50	„
„	16 „	4 5 „	19 „	10 40 „	3 6 35	„
„	15 „	5 0 „	19 „	11 2 „	4 6 2	„
Rangoon	12 „	2 10 „	19 „	11 5 „	7 8 55	„
Moulmein	12 „	5 50 „	19 „	11 50 „	7 7 12	„
Bombay	16 „	3 40 „	19 „	11 55 „	3 8 15	No *viâ*.
Colombo	13 „	2 15 „	19 „	11 51 „	6 9 36	Belgrade.
Galle	15 „	1 5 „	20 „	1 8 a.m.	4 12 13	„
Kurrachee	14 „	3 55 „	20 „	1 50 „	5 9 55	Wallachia.
Hong Kong	15 „	5 30 „	20 „	1 25 „	4 7 55	Belgrade.
Bombay	16 „	12 40 „	20 „	2 25 „	3 13 45	„
„	16 „	1 25 „	20 „	2 43 „	3 13 18	„
„	13 „	5 8 „	20 „	2 47 „	6 9 39	„
„	16 „	4 55 „	20 „	2 48 „	3 9 53	„
„	16 „	4 30 „	20 „	2 52 „	3 10 22	„
„	14 „	5 45 „	20 „	3 14 „	5 9 29	Wallachia.
Calcutta	16 „	4 20 „	20 „	3 16 „	3 10 56	Belgrade.
„	14 „	11 40 „	20 „	3 20 „	5 15 40	Wallachia.
Bombay	14 „	4 57 „	20 „	3 26 „	5 10 29	„
Calcutta	16 „	3 16 „	20 „	3 35 „	3 12 19	Belgrade.
Bombay	15 „	1 43 „	20 „	3 39 „	4 13 56	Wallachia.
„	14 „	1 35 „	20 „	3 50 „	5 14 15	„
Calcutta	14 „	1 15 „	20 „	3 54 „	5 14 39	„
„	14 „	4 20 „	20 „	3 56 „	5 11 36	„
Bombay	14 „	2 0 „	20 „	4 0 „	5 14 0	
„	14 „	1 35 „	20 „	8 57 „	5 19 22	„

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MESSAGES from *India*, March 1866—*continued*. App. No. 6.

Station from.	Time of Departure. Date.	Time of Departure. Hour.	Arrival in London. Date.	Arrival in London. Hour.	Time taken in Transmission.	Route.
					Days. hrs. min.	
Calcutta	15 March	12 7 p.m.	20 March	8 59 a.m.	4 20 52	Wallachia.
Bombay	15 „	3 25 „	20 „	8 54 „	4 17 29	„
Calcutta	14 „	5 20 „	20 „	9 2 „	5 15 42	„
Bombay	14 „	4 54 „	20 „	9 9 „	5 16 15	„
„	14 „	1 35 „	20 „	9 17 „	5 20 42	„
„	14 „	12 10 „	20 „	9 20 „	5 21 10	„
Calcutta	14 „	5 20 „	20 „	11 10 „	5 17 50	„
„	14 „	10 32 „	20 „	11 10 „	5 12 38	„
Bombay	14 „	12 10 „	20 „	11 15 „	5 23 5	„
Calcutta	14 „	4 52 „	20 „	11 19 „	5 18 27	„
Bombay	14 „	4 45 „	20 „	12 3 p.m.	5 19 18	„
Galle	14 „	3 35 „	20 „	7 8 „	6 3 33	Belgrade.
„	14 „	4 35 „	20 „	7 7 „	6 2 32	„
Calcutta	19 „	2 46 „	20 „	7 24 „	1 4 38	„
Singapore	15 „	10 50 a.m.	20 „	7 30 „	5 8 40	„
Hong Kong	15 „	11 1 „	20 „	9 7 „	5 10 6	„
Galle	14 „	5 5 p.m.	20 „	9 48 „	6 4 43	„
Calcutta	15 „	5 0 „	20 „	9 46 „	5 9 46	Wallachia.
Bombay	14 „	5 56 „	20 „	10 6 „	6 4 10	„
Hong Kong	15 „	11 10 a.m.	20 „	10 13 „	5 11 3	„
Calcutta	15 „	9 36 p.m.	20 „	10 15 „	5 0 39	„
Bombay	14 „	11 30 „	20 „	10 20 „	5 22 50	„
Calcutta	15 „	4 20 „	20 „	10 30 „	5 6 10	No *viâ*.
„	14 „	11 45 a.m.	20 „	10 35 „	6 10 50	Wallachia.
„	15 „	5 40 p.m.	20 „	11 46 „	5 6 6	„
„	15 „	9 55 a.m.	21 „	12 8 a.m.	5 14 13	„
„	15 „	2 52 p.m.	21 „	12 10 „	5 9 18	„
Bombay	15 „	11 15 „	21 „	12 15 „	5 1 0	„
Kurrachee	15 „	2 15 „	21 „	12 20 „	5 10 5	„
Bombay	14 „	5 40 „	21 „	12 33 „	6 6 53	„
„	15 „	12 11 „	21 „	1 12 „	5 13 1	„
„	15 „	3 53 „	21 „	12 52 „	5 8 59	„
Galle	14 „	5 38 „	21 „	1 12 „	6 7 34	Belgrade.
Melbourne	16 „	4 6 „	21 „	1 27 „	4 9 21	„
Singapore	15 „	11 15 „	21 „	1 17 „	5 14 2	„
Bombay	15 „	1 55 „	21 „	2 5 „	5 12 10	No *viâ*.
Calcutta	16 „	11 45 „	21 „	2 9 „	4 2 24	„
„	15 „	4 25 „	21 „	1 51 „	1 9 26	„
Bombay	16 „	5 28 „	21 „	2 25 „	4 8 57	„
Galle	14 „	5 36 „	21 „	2 34 „	6 8 58	Belgrade.
Hong Kong	15 „	6 11 „	21 „	2 37 „	5 8 26	„
Calcutta	16 „	4 20 „	21 „	2 40 „	4 10 20	„
Galle	14 „	5 48 „	21 „	2 12 „	6 8 24	„
Melbourne	12 „	5 36 „	21 „	2 52 „	8 9 16	„
Galle	14 „	5 56 „	21 „	3 28 „	6 9 32	„
Calcutta	17 „	2 45 „	21 „	3 5 „	3 12 20	„
Galle	14 „	3 6 „	21 „	3 20 „	6 12 14	„
Calcutta	15 „	5 30 „	21 „	3 46 „	5 10 16	„
Galle	15 „	10 5 „	21 „	8 30 „	5 22 25	„
Bombay	15 „	2 20 „	21 „	9 47 „	5 19 27	Wallachia.
„	15 „	4 28 „	21 „	9 51 „	5 17 23	„
„	15 „	3 20 „	21 „	10 14 „	5 18 54	„
Hong Kong	15 „	11 50 a.m.	21 „	11 34 a.m.	5 23 44	Belgrade.
Galle	15 „	11 20 p.m.	21 „	12 19 p.m.	5 12 59	„
„	14 „	5 48 p.m.	21 „	6 0 „	7 0 12	„
„	No date	7 5 „	21 „	6 40 „	- - -	„
Singapore	15 March	12 0 „	21 „	6 36 „	6 6 36	„
Hong Kong	15 „	11 3 a.m.	21 „	10 45 „	6 11 42	„
Galle	14 „	5 57 p.m.	21 „	11 50 „	7 5 53	„
„	15 „	11 5 a.m.	22 „	12 0 a.m.	6 12 55	„
Bombay	15 „	7 10 p.m.	22 „	12 5 „	6 4 55	„
Hong Kong	15 „	11 11 a.m.	22 „	12 9 „	6 12 58	„
„	15 „	11 50 „	22 „	12 13 „	6 12 23	„
Calcutta	16 „	11 0 p.m.	22 „	12 16 „	5 1 16	„
„	17 „	4 20 „	22 „	12 19 „	4 7 59	„
Bombay	17 „	7 49 „	22 „	1 52 „	4 6 3	„
Calcutta	17 „	2 14 „	22 „	1 56 „	4 11 32	„
„	17 „	2 20 „	22 „	2 0 „	4 11 40	„
Bombay	17 „	12 5 „	22 „	2 4 „	4 13 59	„
Galle	17 „	7 0 a.m.	22 „	2 6 „	4 19 6	„
Calcutta	17 „	2 12 p.m.	22 „	2 12 „	4 12 0	„
Bombay	17 „	1 6 „	22 „	2 35 „	4 13 29	„
„	17 „	3 40 „	22 „	2 40 „	4 11 0	„
„	17 „	1 10 „	22 „	2 48 „	4 13 38	„
„	17 „	1 30 „	22 „	2 54 „	4 13 24	„
Calcutta	17 „	1 30 „	22 „	2 59 „	4 13 29	„
„	17 „	4 2 „	22 „	3 35 „	4 11 33	„
Galle	15 „	7 45 „	22 „	8 42 p.m.	7 0 57	„
Rangoon	14 „	5 20 „	22 „	10 4 „	8 4 44	„
Hong Kong	15 „	11 58 a.m.	23 „	12 0 a.m.	7 12 2	„
Calcutta	17 „	4 7 p.m.	23 „	12 13 „	5 8 6	„
Galle	15 „	1 35 „	23 „	12 52 „	7 11 17	„
Akyab	14 „	10 50 a.m.	23 „	1 34 „	8 14 44	„
Bombay	17 „	4 27 p.m.	23 „	8 27 „	5 16 0	„
„	17 „	4 6 „	23 „	8 35 „	5 16 29	„
„	17 „	7 40 „	23 „	8 37 „	5 12 57	„
„	16 „	7 20 „	23 „	8 48 „	6 13 28	„
Madras	17 „	3 30 „	23 „	8 48 „	5 17 18	„

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MESSAGES from *India*, March 1866—*continued.*

Station from.	Time of Departure. Date.	Time of Departure. Hour.	Arrival in London. Date.	Arrival in London. Hour.	Time taken in Transmission.	Route.
					Days. hrs. min.	
Colombo - - -	16 March	3 20 p.m.	23 March	8 55 a.m.	6 17 35	Belgrade.
Bombay - - -	16 „	5 0 „	23 „	9 32 „	6 16 32	„
Calcutta - - -	16 „	4 40 „	23 „	9 46 „	6 17 6	„
Bombay - - -	19 „	4 4 „	23 „	9 50 „	3 17 46	„
Calcutta - - -	16 „	5 20 „	23 „	10 5 „	6 16 45	„
„ - - -	16 „	4 0 „	23 „	10 32 „	6 18 32	„
„ - - -	15 „	4 30 „	23 „	10 35 „	7 18 5	„
„ - - -	16 „	6 5 „	23 „	10 40 „	6 16 35	„
Madras - - -	17 „	3 15 „	23 „	11 8 „	5 19 53	„
Akyab - - -	15 „	8 2 a.m.	23 „	2 50 p.m.	8 6 48	„
Rangoon - - -	No date -	10 35 „	23 „	3 2 „	- - -	„
Bombay - - -	22 March	3 36 p.m.	23 „	10 40 „	1 7 4	„
Rangoon - - -	17 „	2 15 „	23 „	11 9 „	6 8 54	„
Madras - - -	17 „	4 0 „	23 „	11 12 „	6 7 12	„
„ - - -	17 „	4 15 „	23 „	11 25 „	6 7 10	„
Rangoon - - -	17 „	10 3 „	23 „	11 34 „	6 1 31	„
Bombay - - -	17 „	4 55 „	23 „	11 42 „	6 6 47	„
Calcutta - - -	17 „	4 30 „	23 „	11 58 „	6 7 28	„
„ - - -	17 „	5 11 „	24 „	12 20 a.m.	6 7 9	„
„ - - -	17 „	4 24 „	24 „	12 4 „	6 7 40	„
Bombay - - -	17 „	5 55 „	24 „	12 25 „	6 6 30	„
Madras - - -	20 „	4 15 „	24 „	1 38 „	3 9 23	„
Bombay - - -	19 „	5 0 „	24 „	2 0 „	4 9 0	„
Colombo - - -	17 „	12 2 „	24 „	2 7 „	6 14 5	„
Rangoon - - -	13 „	1 15 „	24 „	2 20 „	10 13 5	„
Calcutta - - -	19 „	4 24 „	24 „	2 7 „	4 9 43	„
Bombay - - -	19 „	4 30 „	24 „	2 10 „	4 9 40	„
Calcutta - - -	19 „	10 45 „	24 „	2 23 „	4 3 38	„
Akyab - - -	16 „	3 17 „	24 „	2 25 „	7 11 18	„
Calcutta - - -	16 „	5 25 „	24 „	2 45 „	7 9 20	„
Bombay - - -	18 „	10 10 a.m.	24 „	2 51 „	5 16 41	„
„ - - -	19 „	5 20 p.m.	24 „	8 11 „	4 14 51	„
„ - - -	19 „	4 24 „	24 „	8 18 „	4 15 54	„
Kurrachee - - -	19 „	6 27 „	24 „	8 24 „	4 13 57	„
Calcutta - - -	19 „	7 0 „	24 „	8 26 „	4 13 26	„
Bombay - - -	No date -	2 6 „	24 „	8 31 „	- - -	„
„ - - -	19 March	12 6 „	24 „	8 34 „	4 20 28	„
„ - - -	19 „	3 23 „	24 „	8 46 „	4 17 23	„
Calcutta - - -	19 „	12 4 „	24 „	8 40 „	4 20 36	„
„ - - -	19 „	1 46 „	24 „	8 43 „	4 18 57	„
Bombay - - -	19 „	2 16 „	24 „	8 50 „	4 18 34	„
Calcutta - - -	19 „	11 20 a.m.	24 „	9 5 „	4 21 45	„
Bombay - - -	19 „	5 22 p.m.	24 „	9 8 „	4 15 46	„
„ - - -	19 „	4 58 „	24 „	9 10 „	4 16 12	„
„ - - -	19 „	4 50 „	24 „	9 14 „	4 16 24	„
Calcutta - - -	20 „	4 0 „	24 „	9 16 „	3 17 16	„
„ - - -	20 „	1 12 „	24 „	9 20 „	3 20 8	„
Bombay - - -	24 „	5 29 a.m.	24 „	9 35 „	0 4 6	„
Kurrachee - - -	19 „	6 25 p.m.	24 „	9 40 „	4 15 15	„
Calcutta - - -	19 „	5 7 „	24 „	9 50 „	4 16 43	„
„ - - -	20 „	3 55 „	24 „	10 0 „	3 18 5	„
„ - - -	20 „	4 19 „	24 „	10 16 „	3 17 57	„
Bombay - - -	20 „	5 57 „	24 „	10 20 „	3 16 23	„
Colombo - - -	20 „	4 40 „	24 „	10 25 „	3 17 45	„
Calcutta - - -	20 „	4 40 „	24 „	10 46 „	3 18 6	„
„ - - -	19 „	4 26 „	24 „	10 50 „	4 18 24	No *viâ*.
Bombay - - -	19 „	4 49 „	24 „	10 48 „	4 17 59	Belgrade.
„ - - -	20 „	2 10 „	24 „	10 50 „	3 20 40	„
„ - - -	19 „	5 52 „	24 „	10 53 „	4 17 1	„
Rangoon - - -	19 „	2 7 „	24 „	10 54 „	4 20 47	„
Galle - - -	19 „	11 5 „	24 „	11 8 „	4 12 3	„
Calcutta - - -	23 „	11 30 a.m.	24 „	11 46 „	1 0 16	„
Bombay - - -	20 „	10 50 p.m.	24 „	1 5 p.m.	3 14 15	„
Calcutta - - -	20 „	2 20 „	24 „	1 55 „	3 23 35	„
Colombo - - -	19 „	1 56 „	24 „	2 0 „	5 0 4	„
Calcutta - - -	20 „	2 21 „	24 „	2 4 „	3 22 43	„
Colombo - - -	20 „	10 0 „	24 „	2 20 „	3 16 20	„
Calcutta - - -	20 „	5 45 „	24 „	2 16 „	3 20 31	„
„ - - -	20 „	4 18 „	24 „	3 29 „	3 23 11	„
„ - - -	20 „	5 8 „	24 „	3 34 „	3 22 26	„
Bombay - - -	20 „	4 22 „	24 „	3 36 „	3 23 14	„
Madras - - -	18 „	5 0 „	24 „	5 2 „	6 0 2	„
Rangoon - - -	16 „	2 55 „	24 „	6 54 „	8 3 59	„
Colombo - - -	19 „	4 40 „	24 „	7 10 „	5 2 30	„
Bombay - - -	20 „	10 45 a.m.	24 „	7 18 „	4 8 33	„
Madras - - -	20 „	6 0 p.m.	24 „	7 58 „	4 1 58	„
Calcutta - - -	20 „	3 20 „	24 „	8 30 „	4 5 10	„
Rangoon - - -	17 „	3 15 „	24 „	10 15 „	7 7 0	„
Cochin - - -	19 „	4 56 „	25 „	12 20 a.m.	5 7 24	Wallachia.
Calcutta - - -	19 „	5 0 „	25 „	12 58 „	5 7 58	„
Madras - - -	19 „	4 10 „	25 „	12 4 „	5 7 54	„
Colombo - - -	19 „	4 5 „	25 „	1 3 „	5 8 58	„
Calcutta - - -	20 „	11 40 a.m.	25 „	1 15 „	4 13 35	„
„ - - -	20 „	1 0 p.m.	25 „	1 10 „	4 12 10	„
Bombay - - -	20 „	4 5 „	25 „	1 18 „	4 9 13	„
Madras - - -	19 „	7 55 „	25 „	9 25 „	5 13 30	„
Bombay - - -	20 „	5 50 „	25 „	2 55 p.m.	4 21 5	„
Calcutta - - -	20 „	4 0 „	25 „	3 12 „	4 23 12	Belgrade.

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Messages from *India*, March 1866—*continued.*

Station from.	Time of Departure. Date.	Time of Departure. Hour.	Arrival in London. Date.	Arrival in London. Hour.	Time taken in Transmission.	Route.
					Days. hrs. min.	
Bombay - - -	20 March	11 8 p.m.	25 March	3 15 p.m.	4 16 7	Belgrade.
„ - - -	20 „	12 1 „	25 „	3 20 „	5 3 19	„
„ - - -	20 „	1 0 „	25 „	3 25 „	5 2 25	„
„ - - -	21 „	3 55 „	25 „	6 45 „	4 2 50	Wallachia.
„ - - -	21 „	1 35 „	25 „	6 52 „	4 5 17	Belgrade.
Calcutta - - -	21 „	11 16 a.m.	25 „	7 12 „	4 7 56	„
„ - - -	21 „	12 46 p.m.	25 „	7 21 „	4 6 35	Wallachia.
Akyab - - -	21 „	6 20 „	25 „	7 25 „	4 1 5	„
Merut - - -	21 „	5 30 „	25 „	7 28 „	4 1 58	„
Bombay - - -	21 „	12 10 „	25 „	7 31 „	4 7 21	„
„ - - -	21 „	2 40 „	25 „	7 35 „	4 4 55	„
„ - - -	21 „	3 30 „	25 „	7 45 „	4 4 15	„
„ - - -	25 „	5 15 „	25 „	7 51 „	0 2 36	„
Calcutta - - -	21 „	5 10 „	25 „	8 19 „	4 3 9	„
Akyab - - -	21 „	5 23 „	25 „	8 40 „	4 3 17	Belgrade.
Kurrachee - - -	20 „	3 3 „	25 „	8 45 „	5 5 42	„
Bombay - - -	21 „	5 26 „	25 „	8 56 „	4 3 30	Wallachia.
Calcutta - - -	21 „	10 54 „	25 „	9 0 „	4 10 6	„
„ - - -	20 „	5 20 „	25 „	10 56 „	5 5 36	„
Colombo - - -	21 „	2 55 „	25 „	11 2 „	4 8 7	„
Calcutta - - -	21 „	9 12 a.m.	26 „	12 35 a.m.	4 15 23	„
Bombay - - -	21 „	2 45 p.m.	26 „	12 53 „	4 10 8	„
„ - - -	21 „	4 25 „	26 „	1 2 „	4 8 37	„
Calcutta - - -	21 „	10 40 „	26 „	1 25 „	4 2 45	„
„ - - -	21 „	4 24 „	26 „	5 57 „	4 13 33	Belgrade.
„ - - -	25 „	3 44 „	26 „	6 7 „	0 14 23	„
Madras - - -	21 „	5 0 „	26 „	6 12 „	4 13 12	„
Calcutta - - -	23 „	4 25 „	26 „	6 17 „	2 13 53	No *viâ*.
Madras - - -	21 „	8 0 a.m.	26 „	6 22 „	4 22 22	Belgrade.
Bombay - - -	22 „	11 35 „	26 „	6 32 „	3 18 57	„
Kurrachee - - -	22 „	2 15 p.m.	26 „	6 35 „	3 16 20	„
„ - - -	22 „	1 40 „	26 „	6 40 „	3 17 0	„
Bombay - - -	21 „	6 18 „	26 „	6 43 „	4 12 25	„
Calcutta - - -	22 „	11 25 a.m.	26 „	6 45 „	3 19 20	„
„ - - -	22 „	5 25 p.m.	26 „	7 59 „	3 14 34	„
„ - - -	22 „	8 0 a.m.	26 „	8 19 „	4 0 19	„
Bombay - - -	22 „	4 32 p.m.	26 „	8 27 „	3 15 55	„
Calcutta - - -	22 „	10 11 „	26 „	8 32 „	3 10 21	„
Bombay - - -	23 „	12 17 „	26 „	8 34 „	2 20 17	No *viâ*.
Calcutta - - -	22 „	6 0 „	26 „	8 38 „	3 14 38	Belgrade.
„ - - -	22 „	11 15 a.m.	26 „	8 44 „	3 21 29	„
Bombay - - -	21 „	5 48 p.m.	26 „	8 49 „	4 15 1	„
Calcutta - - -	21 „	11 0 a.m.	26 „	8 55 „	4 21 55	„
„ - - -	21 „	10 6 „	26 „	9 2 „	4 22 56	„
Bombay - - -	21 „	1 37 p.m.	26 „	9 10 „	4 19 33	„
Calcutta - - -	21 „	5 20 „	26 „	9 17 „	4 15 57	„
Agra - - -	21 „	9 40 a.m.	26 „	6 41 p.m.	5 9 1	Nem.
Bombay - - -	23 „	1 25 p.m.	26 „	7 6 „	3 5 41	Belgrade.
Galle - - -	23 „	11 15 „	26 „	7 10 „	2 19 55	„
Calcutta - - -	23 „	3 44 „	26 „	7 15 „	3 3 31	„
Bombay - - -	21 „	11 56 a.m.	26 „	10 6 „	5 10 10	Moldavia.
„ - - -	21 „	2 55 p.m.	26 „	10 35 „	5 7 40	No *viâ*.
Calcutta - - -	23 „	10 20 „	26 „	10 30 „	3 0 10	Belgrade.
Bombay - - -	21 „	1 55 „	26 „	10 55 „	5 9 0	Wallachia.
Calcutta - - -	24 „	3 25 „	26 „	11 4 „	2 7 29	Belgrade.
Colombo - -	22 „	5 10 „	26 „	11 12 „	4 6 2	„
Madras - - -	21 „	2 0 „	26 „	11 17 „	5 9 17	Moldavia.
Kurrachee - - -	21 „	3 20 „	26 „	11 30 „	5 8 10	„
Calcutta - - -	23 „	8 0 „	26 „	11 16 „	3 3 16	Belgrade.
Bombay - - -	No date -	12 15 „	26 „	11 28 „	- - -	Moldavia.
„ - - -	21 March	11 50 „	26 „	11 31 „	5 11 41	„
„ - - -	23 „	4 3 „	26 „	11 36 „	3 7 33	„
Calcutta - - -	21 „	4 56 „	26 „	11 30 „	5 6 34	Belgrade.
Bombay - - -	21 „	5 40 „	26 „	11 41 „	5 6 1	Moldavia.
„ - - -	22 „	4 5 „	26 „	11 48 „	4 7 43	Wallachia.
„ - - -	22 „	3 35 „	26 „	11 55 „	4 8 20	Moldavia.
Calcutta - - -	24 „	3 10 „	27 „	12 11 a.m.	2 9 1	No *viâ*.
„ - - -	24 „	3 51 „	27 „	12 16 „	2 8 25	Belgrade.
Bombay - - -	21 „	1 40 „	27 „	12 32 „	5 10 52	Moldavia.
Calcutta - - -	21 „	3 32 „	27 „	12 40 „	5 9 8	Wallachia.
Rangoon - - -	21 „	2 0 „	27 „	12 42 „	5 10 42	„
Calcutta - - -	22 „	2 25 „	27 „	12 45 „	4 10 20	Moldavia.
Madras - - -	21 „	2 0 „	27 „	12 49 „	5 10 49	„
Rangoon - - -	20 „	6 30 „	27 „	12 47 „	6 6 17	„
Akyab - - -	21 „	10 50 a.m.	27 „	1 3 „	5 14 13	Wallachia.
Bombay - - -	21 „	3 30 p.m.	27 „	1 0 „	5 9 30	Moldavia.
„ - - -	22 „	4 0 „	27 „	1 7 „	4 9 7	„
Calcutta - - -	22 „	5 19 „	27 „	1 10 „	4 7 51	Wallachia.
„ - - -	22 „	3 0 „	27 „	1 12 „	4 10 12	Moldavia.
Bombay - - -	21 „	5 50 „	27 „	1 16 „	5 7 26	„
Colombo - - -	21 „	4 40 „	27 „	1 17 „	5 8 37	„
Calcutta - - -	22 „	5 0 „	27 „	1 21 „	4 8 21	„
„ - - -	22 „	2 20 „	27 „	1 30 „	4 11 10	„
Colombo - - -	22 „	10 15 a.m.	27 „	1 34 „	4 15 19	Belgrade.
Bombay - - -	22 „	1 53 p.m.	27 „	1 36 „	4 11 43	Moldavia.
Calcutta - - -	22 „	4 20 „	27 „	1 39 „	4 9 19	„
Madras - - -	22 „	10 0 „	27 „	1 42 „	4 3 42	„
Kurrachee - - -	23 „	9 35 „	27 „	1 45 „	3 4 10	Belgrade.

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MESSAGES from *India*, March 1866—*continued*.

Station from.	Time of Departure. Date.	Time of Departure. Hour.	Arrival in London. Date.	Arrival in London. Hour.	Time taken in Transmission.	Route.
					Days. hrs. min.	
Bombay	22 March	11 20 p.m.	27 March	1 47 a.m.	4 2 27	Moldavia.
"	22 "	2 25 "	27 "	2 0 "	4 11 35	No *viâ*.
"	22 "	3 15 "	27 "	2 6 "	4 10 51	Moldavia.
"	22 "	5 50 "	27 "	5 20 "	4 11 30	"
Kurrachee	22 "	1 5 "	27 "	5 25 "	4 16 20	"
Bombay	23 "	5 43 "	27 "	5 30 "	3 11 47	No *viâ*.
Calcutta	23 "	4 24 "	27 "	5 35 "	3 13 11	Moldavia.
"	23 "	5 4 "	27 "	5 37 "	3 12 33	No *viâ*.
"	23 "	4 22 "	27 "	5 40 "	3 13 18	Moldavia.
"	22 "	2 30 "	27 "	5 42 "	4 15 12	"
Akyab	22 "	2 40 "	27 "	5 45 "	4 15 5	"
Calcutta	24 "	2 40 "	27 "	5 50 "	2 15 10	"
"	24 "	5 30 "	27 "	5 54 "	2 12 24	"
Bombay	22 "	2 50 "	27 "	9 0 "	4 18 10	"
Calcutta	22 "	3 20 "	27 "	9 22 "	4 18 2	"
"	24 "	12 0 "	27 "	9 28 "	2 21 28	"
Kurrachee	23 "	10 0 "	27 "	9 35 "	3 11 35	"
"	23 "	5 10 "	27 "	9 39 "	3 16 29	"
Calcutta	23 "	10 40 a.m.	27 "	9 42 "	3 23 2	"
"	23 "	1 16 p.m.	27 "	9 46 "	3 20 30	"
"	22 "	1 2 "	27 "	9 50 "	4 20 48	"
Akyab	23 "	12 50 "	27 "	11 25 "	3 22 35	"
Calcutta	24 "	11 48 "	27 "	12 8 p.m.	2 12 20	"
Bombay	23 "	4 10 "	27 "	12 51 "	3 20 41	"
"	26 "	5 55 "	27 "	11 0 "	1 5 5	Wallachia.
Calcutta	26 "	2 40 "	27 "	11 2 "	1 8 22	No *viâ*.
"	26 "	12 6 "	28 "	1 15 a.m.	1 13 9	Wallachia.
"	27 "	3 31 "	28 "	1 32 "	0 10 1	"
Bombay	24 "	1 20 "	28 "	1 40 "	3 12 20	"
"	26 "	5 50 "	28 "	1 51 "	1 8 1	"
Calcutta	26 "	4 10 "	28 "	1 57 "	1 9 47	"
Bombay	27 "	6 10 "	28 "	2 10 "	0 8 0	"
Colombo	23 "	3 0 "	28 "	10 15 "	4 19 15	Belgrade.
Calcutta	24 "	5 12 "	28 "	10 31 "	3 17 19	"
"	23 "	4 16 "	28 "	11 1 "	4 18 45	"
Bombay	24 "	3 10 "	29 "	1 35 "	4 10 25	"
Calcutta	26 "	11 54 a.m.	29 "	1 42 "	2 13 48	Wallachia.
Akyab	24 "	1 50 p.m.	29 "	8 0 "	4 18 10	Belgrade.
Calcutta	26 "	5 24 "	29 "	8 14 "	2 14 50	"
"	24 "	11 9 "	29 "	8 20 "	4 9 11	"
Kurrachee	24 "	11 22 a.m.	29 "	8 23 "	4 21 1	"
Bombay	26 "	5 55 p.m.	29 "	8 26 "	2 14 31	No *viâ*.
"	27 "	4 47 "	29 "	8 30 "	1 15 43	Belgrade.
Calcutta	24 "	2 51 "	29 "	8 34 "	4 17 43	"
Bombay	26 "	2 55 "	29 "	8 37 "	2 17 42	"
Calcutta	24 "	2 50 "	29 "	8 45 "	4 17 55	"
"	24 "	1 10 "	29 "	8 51 "	4 19 41	"
"	24 "	2 20 "	29 "	8 40 "	4 18 20	"
Lucknow	26 "	11 16 a.m.	29 "	8 44 "	2 21 28	"
Calcutta	24 "	5 0 p.m.	29 "	8 51 "	4 15 51	"
"	24 "	5 17 "	29 "	8 55 "	4 15 38	"
Madras	24 "	1 10 "	29 "	9 0 "	4 19 50	"
"	24 "	2 10 "	29 "	9 4 "	4 18 54	"
Bombay	24 "	4 10 "	29 "	9 5 "	4 16 55	"
Calcutta	24 "	11 40 a.m.	29 "	9 9 "	4 21 29	"
"	24 "	12 52 p.m.	29 "	9 7 "	4 20 15	"
Bombay	24 "	8 3 "	29 "	9 10 "	4 13 7	"
"	24 "	4 40 "	29 "	9 15 "	4 16 35	"
Calcutta	24 "	5 20 "	29 "	9 24 "	4 16 4	"
"	24 "	2 54 "	29 "	9 34 "	4 18 40	"
Bombay	23 "	4 40 "	29 "	12 50 p.m.	5 20 10	No *viâ*.
"	23 "	6 30 "	29 "	1 45 "	5 19 15	"
Calcutta	26 "	10 15 a.m.	29 "	4 6 "	3 5 51	Belgrade.
Bombay	26 "	5 8 p.m.	29 "	4 11 "	2 23 3	"
"	23 "	12 20 "	29 "	4 17 "	6 3 57	No *viâ*.
Calcutta	26 "	5 27 "	29 "	4 22 "	2 22 55	Belgrade.
"	23 "	5 15 "	29 "	5 30 "	6 0 15	No *viâ*.
Madras	24 "	5 0 "	29 "	5 5 "	5 3 5	Belgrade.
Calcutta	24 "	4 38 "	29 "	8 30 "	5 3 52	"
Colombo	26 "	1 50 "	29 "	8 35 "	3 6 45	"
Calcutta	23 "	7 50 "	29 "	8 32 "	6 0 42	Moldavia.
"	23 "	3 0 "	29 "	8 37 "	6 5 37	"
Bombay	23 "	2 30 "	29 "	8 47 "	6 6 17	"
Calcutta	24 "	3 20 "	29 "	9 0 "	5 5 40	Belgrade.
"	24 "	12 50 "	29 "	9 12 "	5 8 22	No *viâ*.
Bombay	29 "	11 45 a.m.	29 "	9 55 "	0 10 10	Belgrade.
"	29 "	2 20 p.m.	29 "	10 3 "	0 7 43	"
"	24 "	5 50 "	29 "	11 5 "	5 5 15	"
Calcutta	24 "	2 0 "	29 "	11 23 "	5 9 23	"
Bombay	23 "	7 30 "	29 "	11 36 "	6 4 6	Moldavia.
"	24 "	1 42 "	30 "	12 12 a.m.	5 10 30	Belgrade.
Colombo	26 "	11 58 a.m.	30 "	12 15 "	3 12 17	"
Bombay	24 "	5 55 p.m.	30 "	12 35 "	5 6 40	"
"	26 "	4 15 "	30 "	12 40 "	3 8 25	"
Akyab	26 "	1 40 "	30 "	12 41 "	3 11 1	"
Bombay	26 "	12 35 "	30 "	12 44 "	3 12 9	"
Rangoon	24 "	1 40 "	30 "	12 47 "	5 11 7	"
Akyab	26 "	2 55 "	30 "	12 52 "	3 9 57	"

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MESSAGES from *India*, March 1866—*continued*.

Station from.	Time of Departure. Date.	Time of Departure. Hour.	Arrival in London. Date.	Arrival in London. Hour.	Time Taken in Transmission.	Route.
					Days. hrs. min.	
Bombay - - -	26 March	1 10 p.m.	30 March	12 56 a.m.	3 11 46	Belgrade.
Calcutta - - -	23 „	1 30 „	30 „	12 56 „	6 11 26	„
„ - - -	26 „	5 0 „	30 „	1 6 „	3 8 6	„
Bombay - - -	26 „	12 52 „	30 „	1 25 „	3 12 33	No *viâ*.
Akyab - - -	26 „	8 28 „	30 „	1 29 „	3 5 1	„
„ - - -	23 „	1 25 „	30 „	1 45 „	6 12 20	Moldavia.
Madras - - -	23 „	4 40 „	30 „	1 54 „	6 9 14	„
Bombay - - -	23 „	4 0 „	30 „	1 57 „	6 9 57	„
„ - - -	26 „	4 0 „	30 „	1 45 „	3 9 45	No *viâ*.
Calcutta - - -	24 „	5 16 „	30 „	1 50 „	5 8 34	„
Akyab - - -	23 „	2 50 „	30 „	2 0 „	6 11 10	Moldavia.
Bombay - - -	23 „	1 30 „	30 „	2 4 „	6 12 34	„
Calcutta - - -	23 „	5 0 „	30 „	2 10 „	6 9 10	„
Bombay - - -	23 „	2 50 „	30 „	2 20 „	6 11 30	„
Colombo - - -	26 „	11 10 a.m.	30 „	2 25 „	3 15 15	Belgrade.
Madras - - -	26 „	2 45 p.m.	30 „	2 30 „	3 11 45	„
Bombay - - -	22 „	8 0 „	30 „	2 40 „	7 6 40	Moldavia.
Rangoon - - -	21 „	5 0 „	30 „	2 40 „	8 9 40	„
Calcutta - - -	23 „	3 40 „	30 „	3 1 „	6 11 21	„
Bombay - - -	23 „	5 25 „	30 „	3 13 „	6 9 48	„
Calcutta - - -	26 „	11 2 a.m.	30 „	9 5 „	3 22 3	Belgrade.
Akyab - - -	26 „	9 40 „	30 „	9 20 „	3 23 40	„
Calcutta - - -	26 „	4 0 p.m.	30 „	9 43 „	3 17 43	„
„ - - -	26 „	11 27 a.m.	30 „	9 50 „	3 22 23	„
Galle - - - -	26 „	12 28 p.m.	30 „	10 2 „	3 21 34	„
Calcutta - - -	27 „	5 5 „	30 „	10 4 „	2 16 59	„
Akyab - - - -	27 „	11 45 a.m.	30 „	10 8 „	2 22 23	„
Calcutta - - -	27 „	10 25 „	30 „	10 13 „	2 23 48	„
„ - - -	27 „	5 26 „	30 „	10 38 „	2 17 12	„
„ - - -	27 „	5 0 p.m.	30 „	10 40 „	2 17 40	„
„ - - -	27 „	4 9 „	30 „	10 59 „	2 18 50	„
Bombay - - -	28 „	2 55 „	30 „	11 15 „	1 20 20	„
Colombo - - -	27 „	12 15 „	30 „	11 20 „	2 23 5	„
Calcutta - - -	27 „	4 25 „	30 „	11 25 „	2 19 0	„
Bombay - - -	28 „	5 15 „	30 „	11 34 „	1 17 19	„
„ - - -	27 „	3 0 p.m.	30 „	11 43 „	2 20 43	„
Calcutta - - -	27 „	3 48 „	30 „	11 48 „	2 20 0	„
Bombay - - -	27 „	2 25 „	30 „	11 52 „	2 21 27	„
„ - - -	27 „	3 30 „	30 „	11 59 „	2 20 29	„
„ - - -	27 „	5 48 „	30 „	12 5 p.m.	2 18 17	„
Calcutta - - -	27 „	11 43 a.m.	30 „	12 11 „	3 0 28	„
„ - - -	27 „	7 35 „	30 „	12 49 „	3 5 14	„
Bombay - - -	27 „	3 37 p.m.	30 „	12 56 „	2 21 19	„
Calcutta - - -	27 „	12 20 „	30 „	1 2 „	3 0 42	„
Akyab - - -	27 „	1 50 „	30 „	1 2 „	2 23 12	„
Bombay - - -	28 „	3 20 „	30 „	1 42 „	1 22 22	„
Calcutta - - -	28 „	4 20 „	30 „	2 0 „	1 21 40	„
Bombay - - -	28 „	3 43 „	30 „	2 4 „	1 22 21	„
„ - - -	28 „	4 30 „	30 „	3 12 „	1 22 42	„
Madras - - -	28 „	1 22 „	30 „	2 21 „	2 0 59	„
Bombay - - -	28 „	3 40 „	30 „	2 23 „	1 22 43	„
Calcutta - - -	27 „	4 25 „	30 „	2 45 „	2 22 20	„
Bombay - - -	27 „	3 20 „	30 „	2 50 „	2 23 30	„
Calcutta - - -	27 „	4 30 „	30 „	3 4 „	2 22 34	„
„ - - -	27 „	1 45 „	30 „	3 14 „	3 1 29	„
Madras - - -	27 „	12 50 „	30 „	3 49 „	3 2 59	„
„ - - -	27 „	5 55 „	30 „	3 52 „	2 21 57	„
Colombo - - -	27 „	5 54 „	30 „	4 47 „	2 22 53	„
Bombay - - -	28 „	5 12 „	30 „	10 18 „	2 5 6	„
„ - - -	28 „	5 31 „	30 „	10 28 „	2 4 57	„
„ - - -	28 „	5 51 „	30 „	10 29 „	2 4 38	„
„ - - -	28 „	5 48 „	30 „	11 13 „	2 5 25	„
„ - - -	27 „	5 4 „	30 „	11 40 „	3 6 36	„
„ - - -	28 „	5 25 „	30 „	11 43 „	2 6 18	„
„ - - -	28 „	5 5 „	30 „	11 53 „	2 6 48	„
„ - - -	28 „	5 3 „	31 „	12 20 a.m.	2 7 17	„
„ - - -	28 „	5 7 „	31 „	12 25 „	2 7 18	„
Akyab - - -	28 „	12 55 „	31 „	12 28 „	2 11 33	„
Calcutta - - -	29 „	4 58 „	31 „	8 25 „	1 15 27	„
„ - - -	29 „	5 35 „	31 „	8 28 „	1 14 53	„
„ - - -	30 „	5 50 „	31 „	9 30 „	0 14 40	Last.

NUMBER of Messages received by the Electric and International Telegraph Company from *India*, between the 1st and 31st March.

1,011

Average number per day - - - - - - - - - 32½.

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App. No. 6.

THE ELECTRIC AND INTERNATIONAL TELEGRAPH COMPANY.

MESSAGES received from India, April 1866.

Station from.	Time of Departure. Date.	Time of Departure. Hour.	Arrival in London. Date.	Arrival in London. Hour.	Time taken in Transmission.	Route.
					Days. hrs. min.	
Calcutta	29 March	4 45 p.m.	1 April	8 38 a.m.	2 15 53	Nem.
"	31 "	1 50 "	1 "	9 14 "	0 19 24	"
Madras	29 "	12 15 "	1 "	9 25 "	2 21 10	"
"	29 "	7 5 "	1 "	9 35 "	2 14 30	"
"	29 "	10 40 "	1 "	10 55 "	2 12 15	"
Shanghai	29 "	10 50 "	1 "	11 0 "	3 0 10	"
Bombay	30 "	1 43 "	1 "	11 28 "	1 21 43	Belgrade.
Calcutta	29 "	4 35 "	1 "	11 32 "	2 18 57	"
"	30 "	1 47 "	1 "	11 45 "	1 21 58	"
"	30 "	4 20 "	1 "	11 52 "	1 19 23	"
"	29 "	6 57 "	1 "	12 0 p.m.	2 17 3	"
Bangalore	29 "	7 0 "	1 "	12 8 "	2 17 8	"
Calcutta	29 "	4 35 "	1 "	1 35 "	2 21 0	"
Bombay	30 "	2 45 "	1 "	2 0 "	1 23 15	No *viâ*.
Calcutta	29 "	5 10 "	1 "	2 33 "	2 21 23	"
"	29 "	1 4 "	1 "	2 38 "	3 1 34	"
"	29 "	3 20 "	1 "	2 45 "	2 23 25	"
"	31 "	11 8 "	3 "	1 29 a.m.	2 2 21	Belgrade.
Galle	29 "	12 26 "	3 "	1 30 "	4 13 4	"
Singapore	29 "	12 0 "	3 "	1 35 "	4 13 35	"
Galle	29 "	12 0 "	3 "	7 27 "	4 19 27	Nem.
"	29 "	11 45 a.m.	3 "	7 44 "	4 19 59	Belgrade.
"	29 "	2 45 p.m.	3 "	7 55 "	4 17 10	"
Calcutta	2 April	4 5 "	3 "	8 30 "	0 16 25	Nem.
Bombay	2 "	8 40 "	4 "	2 45 "	1 6 5	Belgrade.
"	2 "	3 45 "	4 "	2 10 p.m.	1 22 25	"
Calcutta	2 "	9 40 "	4 "	4 0 "	1 18 20	No *viâ*.
"	2 "	11 35 a.m.	4 "	4 28 "	2 4 53	Belgrade.
Colombo	2 "	12 56 p.m.	4 "	4 30 "	2 3 34	"
Calcutta	2 "	6 4 "	4 "	9 20 "	2 3 16	"
Kurrachee	3 "	1 15 "	4 "	9 35 "	1 8 20	"
Bombay	3 "	4 10 "	5 "	7 47 a.m.	1 15 37	"
Kurrachee	3 "	4 20 "	5 "	8 50 "	1 16 30	"
Bombay	3 "	2 15 "	5 "	8 53 "	1 18 38	"
"	3 "	12 45 "	5 "	8 43 "	1 19 58	"
Calcutta	2 "	5 0 "	5 "	8 47 "	2 15 47	"
Kurrachee	3 "	5 15 "	5 "	9 38 "	1 16 23	"
Bombay	3 "	3 50 "	5 "	9 41 "	1 17 51	"
"	3 "	1 37 "	5 "	9 56 "	1 20 19	"
"	3 "	3 0 "	5 "	10 11 "	1 19 11	"
"	3 "	1 30 "	5 "	10 14 "	1 20 44	"
Madras	3 "	1 10 "	5 "	10 16 "	1 21 6	"
Calcutta	2 "	4 55 "	5 "	10 25 "	2 17 30	"
Bombay	3 "	5 20 "	5 "	10 36 "	1 17 16	"
"	3 "	5 20 "	5 "	11 27 "	1 18 7	"
Calcutta	2 "	4 4 "	5 "	11 33 "	2 19 29	"
Bombay	4 "	1 5 a.m.	5 "	12 22 p.m.	1 11 17	"
"	3 "	11 48 "	5 "	2 38 "	2 2 50	"
Calcutta	3 "	1 30 p.m.	5 "	3 3 "	2 1 33	"
Rangoon	3 "	2 45 "	5 "	3 26 "	2 0 41	"
Bombay	3 "	5 5 "	5 "	9 46 "	2 4 41	"
"	3 "	2 10 "	6 "	4 13 a.m.	2 14 3	Moldavia.
Calcutta	3 "	11 36 "	6 "	3 12 "	2 3 36	"
Rangoon	5 "	5 30 "	6 "	4 16 "	0 10 46	"
Bombay	5 "	4 15 "	6 "	4 20 "	0 12 5	"
Calcutta	3 "	2 5 "	6 "	4 26 "	2 14 21	"
Rangoon	3 "	3 0 "	6 "	4 3 "	2 13 3	Belgrade.
Madras	4 "	4 40 a.m.	6 "	8 39 "	2 3 59	"
"	4 "	3 0 p.m.	6 "	9 11 "	1 18 11	"
Bombay	3 "	5 50 "	6 "	11 50 "	2 18 0	Moldavia.
Kurrachee	3 "	4 30 "	6 "	12 55 p.m.	2 20 25	"
Calcutta	4 "	4 40 "	6 "	5 8 "	2 0 28	Belgrade.
"	4 "	3 0 "	6 "	5 10 "	2 2 10	"
Bombay	5 "	6 52 "	6 "	6 9 "	0 23 17	"
Calcutta	no date	3 52 "	6 "	6 12 "	- - -	"
"	4 April	10 0 "	6 "	7 18 "	1 21 18	"
"	4 "	4 20 "	6 "	7 48 "	2 3 28	"
"	5 "	1 5 "	6 "	8 50 "	1 7 45	"
Rangoon	4 "	5 0 "	6 "	8 57 "	2 3 57	"
Akyab	4 "	1 0 "	6 "	9 13 "	2 8 13	"
Calcutta	no date	2 15 "	6 "	10 30 "	- - -	"
"	"	2 50 "	6 "	10 52 "	- - -	Wallachia.
"	2 April	5 0 "	6 "	11 3 "	4 6 3	"
Bombay	6 "	3 20 "	6 "	11 10 "	0 7 50	"
Calcutta	5 "	5 55 "	7 "	8 35 a.m.	1 14 40	Belgrade.
"	6 "	10 50 a.m.	7 "	8 38 "	0 21 48	"
"	6 "	10 19 p.m.	7 "	8 49 "	0 10 30	"
"	4 "	6 30 "	7 "	9 0 "	2 14 30	"

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MESSAGES from *India*, April 1866 – *continued.*

Station from.	Time of Departure. Date.	Time of Departure. Hour.	Arrival in London. Date.	Arrival in London. Hour.	Time taken in Transmission.	Route.
					Days. hrs. min.	
Rangoon - - -	3 April	5 20 p.m.	7 April	9 10 a.m.	3 15 50	Belgrade.
Bombay - - -	5 „	2 7 „	7 „	10 6 „	1 19 59	„
Calcutta - - -	5 „	11 12 „	7 „	10 20 „	1 11 8	„
Bombay - - -	6 „	3 50 „	7 „	10 15 „	0 18 25	„
„ - - -	5 „	4 54 „	7 „	10 53 „	1 17 59	„
Calcutta - - -	4 „	5 30 „	7 „	10 58 „	2 17 28	„
Galle - - - -	7 „	5 4 „	7 „	8 45 p.m.	0 3 41	„
Bombay - - -	5 „	4 45 „	7 „	8 40 „	2 3 55	„
„ - - -	5 „	3 55 „	7 „	8 46 „	2 4 51	„
„ - - -	5 „	6 55 „	7 „	9 52 „	2 2 57	„
„ - - -	6 „	5 25 „	7 „	8 58 „	1 3 33	„
Colombo - - -	5 „	3 52 „	7 „	9 3 „	2 5 11	„
Calcutta - - -	5 „	5 27 „	7 „	8 57 „	2 3 30	„
Bombay - - -	6 „	7 5 a.m.	7 „	9 35 „	1 14 30	„
Calcutta - - -	6 „	11 18 p.m.	7 „	9 0 p.m.	0 21 42	„
Bombay - - -	6 „	3 9 „	7 „	10 0 „	1 6 51	„
Calcutta - - -	6 „	12 50 „	7 „	10 7 „	1 9 17	„
Simla - - - -	6 „	9 0 „	7 „	10 10 „	1 1 10	„
Calcutta - - -	5 „	4 20 „	7 „	10 15 „	2 5 55	„
„ - - -	4 „	11 45 a.m.	7 „	10 18 „	3 10 33	„
„ - - -	4 „	7 30 p.m.	7 „	10 40 „	3 3 10	„
„ - - -	6 „	5 0 „	7 „	10 40 „	1 5 40	„
Bombay - - -	6 „	12 53 „	7 „	10 51 „	1 9 58	Wallachia.
Madras - - -	6 „	12 0 „	7 „	10 55 „	1 10 55	Belgrade.
Calcutta - - -	4 „	5 20 „	7 „	11 0 „	3 5 40	„
Madras - - -	5 „	5 50 „	7 „	11 6 „	2 5 16	„
Bombay - - -	7 „	12 45 „	7 „	11 26 „	0 10 41	„
Calcutta - - -	6 „	11 20 „	7 „	11 26 „	1 – 6	„
„ - - -	6 „	11 40 „	7 „	11 32 „	0 23 52	No *viâ.*
„ - - -	6 „	12 40 „	7 „	11 32 „	1 10 52	Wallachia.
„ - - -	6 „	11 53 a.m.	7 „	11 48 „	1 11 55	Belgrade.
„ - - -	6 „	12 20 p.m.	7 „	11 52 „	1 11 32	„
Bombay - - -	5 „	3 35 „	7 „	11 59 „	2 8 24	Wallachia.
Madras - - -	6 „	5 15 „	7 „	11 59 „	1 6 44	Belgrade.
Calcutta - - -	6 „	12 10 „	8 „	12 14 a.m.	1 12 4	„
„ - - -	6 „	3 17 „	8 „	12 18 „	1 9 1	„
„ - - -	6 „	2 25 „	8 „	12 30 „	1 10 4	„
„ - - -	4 „	1 15 „	8 „	12 32 „	3 11 17	„
„ - - -	6 „	6 15 „	8 „	12 24 „	1 6 9	„
„ - - -	4 „	5 30 „	8 „	12 21 „	3 6 51	„
Colombo - - -	6 „	7 0 „	8 „	7 55 „	1 12 55	Wallachia.
Calcutta - - -	6 „	2 5 „	8 „	7 38 „	1 17 33	„
„ - - -	5 „	11 47 „	8 „	7 33 „	2 7 46	„
Colombo - - -	6 „	2 10 „	8 „	7 30 „	1 17 20	„
Bombay - - -	7 „	2 43 „	8 „	9 40 „	0 18 57	Belgrade.
„ - - -	7 „	2 45 „	8 „	10 24 „	0 19 39	„
Calcutta - - -	6 „	3 37 „	8 „	10 28 „	1 18 51	No *viâ.*
Bombay - - -	7 „	2 23 „	8 „	10 30 „	0 20 7	Belgrade.
„ - - -	7 „	3 18 „	8 „	10 34 „	0 19 16	„
Calcutta - - -	6 „	4 40 „	8 „	10 38 „	1 17 58	„
„ - - -	6 „	5 27 „	8 „	10 41 „	1 17 14	„
Bombay - - -	7 „	2 5 „	8 „	10 52 „	0 20 47	„
„ - - -	7 „	3 15 „	8 „	10 50 „	0 19 35	„
„ - - -	7 „	1 42 „	8 „	10 55 „	0 21 13	„
„ - - -	7 „	3 20 „	8 „	11 0 a.m.	0 19 40	„
Calcutta - - -	7 „	1 35 „	8 „	10 34 p.m.	1 8 59	„
„ - - -	7 „	7 15 „	8 „	10 40 „	1 3 25	„
„ - - -	7 „	2 7 „	8 „	10 44 „	1 8 37	„
„ - - -	7 „	12 20 „	8 „	10 50 „	1 10 30	„
„ - - -	7 „	1 45 „	8 „	10 56 „	1 9 11	„
„ - - -	7 „	11 55 a.m.	9 „	7 21 a.m.	1 19 26	„
„ - - -	7 „	10 10 „	9 „	7 44 „	1 21 34	Moldavia.
„ - - -	5 „	11 0 p.m.	9 „	7 55 „	3 8 55	„
„ - - -	6 „	8 0 „	9 „	8 3 „	2 12 3	„
„ - - -	6 „	5 11 „	9 „	8 14 „	2 15 3	„
Bombay - - -	7 „	4 10 „	9 „	8 19 „	1 16 9	„
Calcutta - - -	5 „	6 10 „	9 „	8 27 „	3 14 17	„
„ - - -	6 „	5 10 „	9 „	8 31 „	2 15 21	„
„ - - -	6 „	5 10 „	9 „	8 37 „	2 15 27	„
„ - - -	6 „	4 50 „	9 „	8 39 „	2 15 49	„
Bombay - - -	5 „	3 35 „	9 „	8 45 „	3 17 10	No *viâ.*
Akyab - - - -	6 „	12 0 „	9 „	9 3 „	2 21 3	„
Calcutta - - -	no date -	4 48 „	9 „	8 59 „	- - -	Wallachia.
Bombay - - -	7 April	4 35 „	9 „	9 15 „	1 16 40	„
Calcutta - - -	7	11 35 a.m.	9 „	9 22 „	1 21 47	„
„ - - -	7 „	11 48 „	9 „	9 32 „	1 21 44	„
„ - - -	7 „	2 16 p.m.	9 „	9 43 „	1 19 27	„
Madras - - -	7 „	10 30 „	9 „	9 58 „	1 11 28	„
Bombay - - -	7 „	4 35 „	9 „	10 8 „	1 17 33	„
Calcutta - - -	7 „	2 45 „	9 „	10 40 „	1 19 55	Belgrade.
Akyab - - - -	6 „	11 15 a.m.	9 „	11 2 „	2 23 47	„
Rangoon - - -	6 „	12 0 p.m.	9 „	11 8 „	2 23 8	„
Calcutta - - -	7 „	3 15 „	9 „	11 20 „	1 20 5	
„ - - -	7 „	3 10 „	9 „	11 27 „	1 20 17	„

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App. No. 6.

MESSAGES from *India*, April 1866—*continued*.

Station from.	Time of Departure. Date.	Time of Departure. Hour.	Arrival in London. Date.	Arrival in London. Hour.	Time taken in Transmission.	Route.
					Days. hrs. min.	
Calcutta	7 April	4 10 p.m.	9 April	11 30 p.m.	1 19 20	Belgrade.
"	7 "	5 26 "	9 "	7 46 "	2 2 20	"
Akyab	6 "	4 0 "	9 "	7 40 "	3 3 40	"
Calcutta	7 "	5 0 "	9 "	7 49 "	2 2 49	No *vid.*
"	7 "	5 20 "	9 "	7 50 "	2 2 30	"
"	5 "	2 0 "	9 "	7 53 "	4 5 53	Belgrade.
Bombay	8 "	12 20 "	9 "	8 6 "	1 7 46	"
"	9 "	1 10 "	9 "	8 36 "	0 7 26	"
Calcutta	7 "	4 30 "	9 "	8 45 "	2 4 15	"
Bombay	9 "	11 40 a.m.	9 "	8 39 "	0 8 59	"
Akyab	7 "	9 25 p.m.	9 "	9 54 "	2 0 29	"
Calcutta	no date	5 20 "	9 "	10 34 "	- - -	"
Bombay	"	6 35 "	9 "	10 42 "	- - -	"
"	9 April	1 20 "	10 "	2 20 a.m.	0 13 0	"
Bangalore	9 "	11 40 "	10 "	2 22 "	0 2 42	"
Bombay	9 "	12 42 "	10 "	2 26 "	0 13 44	"
"	9 "	12 37 "	10 "	2 34 "	0 13 57	"
Rangoon	7 "	4 36 a.m.	10 "	7 0 "	3 2 24	"
Bombay	9 "	4 0 p.m.	10 "	9 28 "	0 17 28	"
"	9 "	5 56 "	10 "	12 32 p.m.	0 18 36	"
Calcutta	9 "	10 0 "	10 "	3 33 "	0 17 33	"
"	7 "	6 50 "	10 "	4 58 "	2 22 8	"
Bombay	9 "	5 3 "	10 "	2 51 "	0 21 48	"
"	9 "	5 5 "	10 "	2 56 "	0 21 51	"
Calcutta	9 "	11 15 a.m.	10 "	3 0 "	1 3 45	"
Bombay	9 "	5 50 p.m.	10 "	3 3 "	0 21 13	"
"	9 "	5 35 "	10 "	3 8 "	0 21 33	"
Calcutta	9 "	12 50 "	10 "	9 50 "	1 9 0	"
Bombay	9 "	5 58 "	10 "	10 42 "	1 4 44	"
"	10 "	7 22 "	11 "	1 0 a.m.	0 5 38	"
Akyab	10 "	12 12 "	11 "	1 0 "	0 12 40	"
Madras	9 "	3 50 "	11 "	1 4 "	1 9 14	"
Rangoon	9 "	8 12 a.m.	11 "	1 9 "	1 16 57	"
Calcutta	9 "	1 10 "	11 "	1 12 "	1 12 2	"
"	9 "	12 40 "	11 "	1 16 "	1 12 36	"
Kurrachee	10 "	10 49 "	11 "	1 36 "	0 14 47	"
Madras	9 "	5 0 p.m.	11 "	2 40 "	1 9 40	"
Calcutta	9 "	2 8 "	11 "	2 48 "	1 12 40	"
Madras	9 "	5 40 "	11 "	2 46 "	1 9 6	"
Bombay	10 "	1 50 "	11 "	10 3 "	0 20 13	"
Calcutta	9 "	11 49 "	11 "	4 35 p.m.	2 4 46	"
Bombay	10 "	1 0 "	11 "	4 44 "	1 3 44	"
"	10 "	5 56 "	11 "	5 30 "	0 23 34	"
Calcutta	9 "	5 0 "	11 "	6 4 "	2 1 4	"
"	9 "	1 5 "	11 "	6 12 "	2 5 7	"
Hong Kong	9 "	5 3 "	11 "	6 12 "	2 1 9	"
Singapore	9 "	1 8 "	11 "	6 20 "	2 5 12	"
Calcutta	9 "	1 30 "	11 "	9 15 "	2 7 45	"
"	9 "	5 26 "	11 "	10 15 "	2 4 49	"
Bombay	9 "	5 30 "	11 "	10 32 "	2 5 2	"
"	10 "	1 15 "	11 "	10 58 "	1 9 43	"
Calcutta	9 "	5 15 "	12 "	12 14 a.m.	2 6 59	"
Akyab	10 "	8 20 "	12 "	12 28 "	1 4 8	"
Calcutta	9 "	5 29 "	12 "	12 39 "	2 7 10	"
"	9 "	5 20 "	12 "	7 8 "	2 13 48	"
Rangoon	9 "	12 50 "	12 "	5 8 p.m.	3 4 18	Moldavia.
Calcutta	9 "	5 7 "	12 "	6 20 "	3 1 13	"
"	9 "	3 10 "	12 "	7 37 "	3 4 27	"
Bombay	10 "	12 25 a.m.	12 "	7 58 "	2 19 33	"
"	10 "	5 50 p.m.	12 "	8 31 "	2 2 41	"
"	10 "	5 52 "	12 "	8 48 "	2 2 56	"
Galle	no date	5 10 "	13 "	12 14 a.m.	- - -	"
Singapore	8 April	5 26 "	13 "	6 31 p.m.	5 1 5	"
Calcutta	11 "	1 9 a.m.	13 "	7 43 "	2 18 34	Belgrade.
Hong Kong	9 "	5 50 p.m.	13 "	7 55 "	4 2 5	"
Calcutta	10 "	11 8 "	13 "	7 49 "	2 20 41	"
Hong Kong	9 "	5 20 "	13 "	7 51 "	4 2 31	"
Singapore	9 "	5 20 "	13 "	8 0 p.m.	4 2 40	No *vid.*
Calcutta	10 "	3 10 "	14 "	2 0 a.m.	3 10 50	Belgrade.
Galle	9 "	5 5 "	14 "	2 6 p.m.	4 21 1	"
Singapore	9 "	5 20 "	14 "	4 51 "	4 23 31	"
Calcutta	10 "	10 25 "	14 "	8 17 "	3 21 52	"
Shanghai	9 "	5 20 "	14 "	8 25 "	5 3 5	"
Singapore	9 "	5 40 "	14 "	8 34 "	5 2 54	"
Galle	9 "	5 30 "	15 "	1 0 a.m.	5 7 30	"
Rangoon	no date	3 10 "	15 "	12 42 "	- - -	"
Calcutta	12 April	5 0 "	15 "	3 35 p.m.	2 22 35	"
"	10 "	10 42 "	15 "	6 40 "	4 19 58	"
"	11 "	4 29 "	15 "	8 13 "	4 3 44	"
Bombay	11 "	4 10 "	15 "	8 26 "	4 4 16	"
Calcutta	10 "	5 37 "	15 "	7 32 "	5 1 55	"
Galle	10 "	5 30 "	15 "	8 35 "	5 3 5	"
Bombay	11 "	5 0 "	15 "	8 40 "	4 3 40	"
Calcutta	11 "	2 10 "	15 "	8 44 "	4 6 34	"

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App. No. 6.

MESSAGES from *India*, April 1866—*continued*.

Station from.	Time of Departure. Date.	Time of Departure. Hour.	Arrival in London. Date.	Arrival in London. Hour.	Time taken in Transmission.	Route.
					Days. hrs. min.	
Rangoon - - -	10 April	8 17 p.m.	15 April	9 20 p.m.	5 1 3	Belgrade.
Calcutta - - -	12 „	12 48 „	15 „	9 24 „	3 8 36	„
„ - - -	10 „	2 0 „	15 „	9 31 „	5 7 31	Wallachia.
Rangoon - - -	10 „	3 30 „	15 „	10 15 „	5 6 45	„
Calcutta - - -	10 „	2 50 „	15 „	10 20 „	5 7 30	„
„ - - -	10 „	4 37 „	15 „	10 26 „	5 5 49	„
Bombay - - -	13 „	4 25 „	15 „	11 47 „	2 7 22	Belgrade.
„ - - -	10 „	4 30 „	16 „	7 2 a.m.	5 14 32	Wallachia.
Madras - - - -	10 „	10 0 a.m.	16 „	7 4 „	5 21 4	„
Bombay - - -	13 „	1 33 p.m.	16 „	7 7 „	2 17 34	„
Calcutta - - -	11 „	5 20 „	16 „	7 35 „	4 14 15	„
„ - - -	11 „	2 4 „	16 „	7 42 „	4 17 38	„
Bombay - - -	11 „	2 25 „	16 „	7 46 „	4 17 21	„
„ - - -	11 „	5 30 „	16 „	8 19 „	4 14 49	„
Calcutta - - -	11 „	5 17 „	16 „	8 15 „	4 14 58	„
Madras - - - -	11 „	12 55 „	16 „	8 17 „	4 19 22	„
Calcutta - - -	11 „	1 40 „	16 „	8 26 „	4 18 46	„
Bombay - - -	13 „	3 50 „	16 „	8 30 „	2 16 40	„
„ - - -	13 „	3 15 „	16 „	8 36 „	2 17 21	„
„ - - -	13 „	7 14 „	16 „	8 40 „	2 13 16	„
„ - - -	12 „	5 47 „	16 „	8 40 „	3 14 53	„
„ - - -	13 „	12 48 „	16 „	8 55 „	2 20 7	„
Calcutta - - -	10 „	4 37 „	16 „	9 5 „	5 16 28	„
Bombay - - -	11 „	4 0 p.m.	16 „	9 15 „	4 17 15	„
Calcutta - - -	10 „	10 22 a.m.	16 „	9 24 „	5 23 2	„
„ - - -	13 „	3 39 p.m.	16 „	9 27 „	2 17 48	„
„ - - -	13 „	12 45 „	16 „	9 30 „	2 20 45	„
Colombo - - -	11 „	2 55 „	16 „	9 32 „	4 18 37	Belgrade.
Bombay - - -	13 „	3 30 „	16 „	9 33 „	2 18 3	Wallachia.
Calcutta - - -	13 „	4 27 „	16 „	9 35 „	2 17 8	„
„ - - -	11 „	11 20 a.m.	16 „	9 59 „	4 22 39	„
Bombay - - -	14 „	6 35 p.m.	16 „	10 7 „	1 15 32	Belgrade.
Calcutta - - -	11 „	5 50 „	16 „	10 8 „	4 16 18	Wallachia.
Madras - - -	13 „	7 0 a.m.	16 „	10 11 „	3 3 11	„
Colombo - - -	13 „	10 57 „	16 „	10 25 „	2 23 28	Belgrade.
Bombay - - -	12 „	5 50 p.m.	16 „	10 46 „	3 16 56	Wallachia.
Galle - - - -	11 „	11 20 a.m.	16 „	11 0 „	4 23 40	„
Bombay - - -	13 „	3 55 p.m.	16 „	3 18 p.m.	2 23 23	Belgrade.
Colombo - - -	10 „	2 45 „	16 „	3 55 „	6 1 10	„

NUMBER of Messages received by the Electric and International Telegraph Company from *India* between the 1st April and 16th April:

285

Average number per day - - - - - - - - - 17¼.

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Appendix, No. 7.

App. No. 7.

MEMORANDUM relating to the Transmission of MESSAGES to *India* through the Persian Gulf Cable.

ROUTE.—(Same as Hague.)

1.—Through Paris, Munich, Vienna, Belgrade, Nissa, Constantinople, and Turkey in Asia, to the head of the Gulf.

2.—Paris, Turin, the Otranto and Valona Cable, Constantinople, and Turkey in Asia, to the head of the Gulf.

3. Brussels, Berlin, Vienna, Belgrade, Nissa, Constantinople, and Turkey in Asia, to the head of the Gulf.

4. Brussels, Berlin, Myslowitz, Tiflis, Djoulfa, Tauris, Teheran, Ispahan, and Bushire.

(The fourth route is never used, except when all others are unavailable.)

Place sent to.

Paris for the first and second routes, and Brussels or Berlin for the third and fourth. (The messages are usually sent to France, but sometimes to Belgium, in order to prevent delay, and the blocking up of the French lines.)

Number of Messages.

About 6,000 have been forwarded since the opening of the line (at present about 150 a week are sent); about two-thirds sent through France, and one-third through Belgium. The Company always gives the preference to the Belgrade route.

Rate, and how accounted for.

To Calcutta, and places west of Calcutta - - - - - £.5. 1.

	Fr. cts.		*Fr. cts.*
London to Calais -	3 –	London to Hague -	5 –
Calais to Calcutta, &c.	123 37½	Hague to Calcutta, &c.	121 50
Total - - -	126 37½ or £.5. 1. 1.	Total - - -	126 50 or £.5. 1. 3.

The rates were given to the Company by the India Office, the annexed tariff having been received from that Office.

Time of Transmission.

Longest, 17 days; shortest, 17 hours. Average, about 48 hours.

There have been latterly some favourable instances of quick transmission. A message received in London—

On the 1st April, at 6.12 a.m., is dated Bombay, 31st March, 2.20 p.m. = 21 hours.
" " " 6.20 " " " " 1.55 " = 20 "
" " " 7.52 " " " " 4.40 " = 20 "
" 15th April, at 11.44 " " " 13th April, 5.22 " = 46 "
" " " 8.57 " " " " 5.49 " = 44 "
" " " 8.55 " " " " 6.30 " = 44 "

Allowing five hours for difference of time between Bombay and Greenwich.

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App. No. 7.

Accounts.

Are exchanged monthly, and a statement or décompte is sent to the Company quarterly, and the balance shown thereby paid a few weeks afterwards.

Complaints, and how investigated.

The Company have received 109 complaints of delay, non-delivery, or mutilation of the messages sent.

The investigation of complaints proceeds as follows:—We search out the original message and make a copy of it. We then put the matter forwarded, specifying the ground of complaint, accompanied by the necessary copies to the Administration to whom the message had been forwarded, viz. French or Belgian, and they having investigated its transit over their territory pass it on until it shall have reached the point or points where the irregularities arose.

In only two cases have we obtained solutions of complaints; one where the French sent a message to St. Gall, in Switzerland, instead of to Galle, Colombo; the other, where the message was entirely lost in Italy. In these cases the Administrations in fault refunded the charges paid for the telegrams. We have received no complaints whatever from the other side.

By Lord Dufferin's letter, dated 1st March 1865, notifying the opening of the line, the authorities repudiated any responsibility on account of irregularities, owing to a part of the line over which the messages had to pass being in an inefficient state. Notice of this was therefore given to our customers and the public by circular.

Submarine Telegraph Company,
April 1866.

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Appendix, No. 8.

App. No. 8.

PAPERS handed in by Mr. *Frederick Hill.*

[*See* Questions 157 and 381.]

(A.)—STATEMENT showing the Amount Repaid by the Government of India to the Post Office on account of the Loss incurred on the Mail Service between the United Kingdom and India, China, Ceylon, Mauritius, and the Mediterranean, &c., during the Year ended 31st March 1866, after deducting the proportion payable by the Australian Colonies on account of the Mail Service between England and Point de Galle.

		£.
Amount Paid to the Peninsular and Oriental Steam Navigation Company for Conveyance of Mails during the year		204,508
Amount of Expenses incurred in the Conveyance of Mails during the year; *see* Statement (B.)		16,790
Cost of Conveyance of the Indian Mails by Special Packets between Dover and Calais during the year		580
Salaries of Naval Agents in charge of the Indian Mails, during the year		2,795
	£.	224,673
DEDUCT:		
Net Produce of the Mails during the year; *see* Statement (C.)		137,760
	£.	86,913
One-half of this Amount has been Repaid by the Indian Government, viz.	£.	43,456

General Post Office,
14 April 1866.

Geo. Chetwynd,
Receiver and Accountant General.

(B.)—STATEMENT of the Expenses incurred for the Conveyance of Mails to and from the East Indies and China, during the Year to 31st March 1866.

	£.
The Expenses of the Agencies at Alexandria and Suez	2,216
The Salaries and Expenses of Officers travelling in charge of Indian Mails	1,335
The Sum paid to the Pacha of Egypt for Conveyance of Mails through his territory (including 160 *l.* loss by exchange)	8,921
The Cost of the Supply, Repair, and Painting of Indian Mail Boxes	3,550
Allowances to Janissaries for accompanying Mails between Alexandria and Suez	768
£.	16,790

General Post Office,
14 April 1866.

Geo. Chetwynd,
Receiver and Accountant General.

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(C.)—An Estimated Statement of the Gross and Net Produce of the Mails between the United Kingdom and the East Indies, Ceylon, China, the Mauritius, and the Mediterranean, for the Year to 31st March 1866.

	£.	£.
1. Total Postage on Ordinary, Official, and Soldiers' Letters, inwards and outwards, *viâ* Southampton		60,250
2. Total Postage on Ordinary, Official, and Soldiers' Letters, inwards and ontwards, *viâ* Marseilles		105,180
3. Total Postage on Newspapers, inwards and outwards, *viâ* Southampton		7,269
4. Total Postage on Newspapers, inwards and outwards, *viâ* Marseilles		23,684
5. Total Postage on Books, inwards and outwards, *viâ* Southampton and *viâ* Marseilles		8,702
6. Total Postage on the intermediate Correspondence of the several Offices of India, Ceylon, China, Mauritius, and the Mediterranean		19,500
7. Packet Postage between Spain and the Philippine Islands		1,880
9. Postage on account of Correspondence forwarded in transit through the United Kingdom		7,455
9. Amount Credited to the United Kingdom by France and the Netherlands for the Conveyance of the French and Dutch Closed Mails		9,742
		243,662
Deduct:		
1. For Transit Rate Payable to France for Conveyance of the Marseilles portion of the Mails (letters, papers, and books)	£. 37,200	
2. The Colonial Share of Postage on the Correspondence between the United Kingdom and India, &c., inwards and outwards, *viâ* Southampton and *viâ* Marseilles	38,821	
3. The British Inland Rate	26,621	
4. Returned Letters	3,260	
		105,902
Net Postage for the Year £.		137,760

General Post Office,
14 April 1866.

Geo. Chetwynd,
Receiver and Accountant General.

[*See* Question 204.]

The Secretary of the Treasury to the Postmaster General.

(13,285—7/7.)

My Lord, Treasury Chambers, 11 July 1864.

I am directed by the Lords Commissioners of Her Majesty's Treasury to acquaint you that my Lords have had under their consideration, with the view to the framing of the Post Office Packet Estimates of the year, the subject of the new contracts for conveying the mails to the East, and the mode in which the cost should be borne by the Revenue of the United Kingdom, and of India respectively.

I have to state that, under the old contracts in force prior to this year, the following were the arrangements:

1. The British Government defrayed all cost of transmitting the letters from this country to Alexandria.

2. The East India Company defrayed the cost of transmitting them through Egypt (6,000 *l.*), but latterly 2,000 *l.* additional has been paid by the Post Office on account of the extension of the service to Australia.

3. The Bombay mail has been conveyed from Aden to Bombay by the vessels of the East India Company, at an estimated cost of 100,000 *l.*, towards which the British Government had paid the East India Company the sum of 50,000 *l.*

4. The remaining services were contracted for at a cost of 160,000 *l.*, of which the East India Company paid seven-sixteenths, or 70,000 *l.*, and the British Government 90,000 *l.*

5. Under these arrangements the British Government received all the postage, amounting to 127,896 *l.* (*see* report of Committee on Contract Packets, page 79), while the East India Company receive their letters free. The above sum, including the amount of the letters of the British Government, the amount of postage which the Post Office would receive, according to the said account, if the East India Company paid their share, as is done by the British Government, would be 146,878 *l.*

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According to the new arrangements made for these services, the entire cost would be as follows:

1. Contract with Peninsular and Oriental Steam Navigation Company, for the conveyance of mails from England to the East, including the service to Australia, but not to Bombay, amounts to 199,600 *l.*

3. The contract with the same Company for conveying the mails from Aden to Bombay is 24,700 *l.*

3. The entire cost of transmission through Egypt is 8,000 *l.* The whole cost may then be thus stated:

1.	- - - - - -	£. 199,600
2.	- - - - - -	- 24,700
3.	- - - - - -	- 8,000
	TOTAL COST - - -	£. 232,300

It appears to my Lords that it is extremely desirable to reduce to a clear and simple form the relations of the Home Government and that of India, in respect to this expenditure, and the following are the principles which my Lords are of opinion may be adopted, with a view equitably to define those relations:

1. The whole cost may be said to be incurred with a view to the commercial and political relations of this country with India chiefly, but also to a considerable extent with China and Australia.

2. So far as the commercial relations between this country and India are concerned, my Lords are of opinion that each country is equally interested, and therefore the Revenues of England and India may fairly be called upon to contribute equally to any expenditure, the object of which is to encourage such commercial intercourse.

So far as political considerations are involved, it appears to my Lords, adverting to the principle upon which the Indian Government is conducted, in relation to financial matters, that the whole cost on this consideration should be defrayed from Indian Revenue.

3. In respect to the cost of this service, so far as China is concerned, the proportions which should be assigned to the two Revenues respectively, appear to my Lords to be equal moieties to each. In the first place, the commerce between England and China, and between India and China, may be said to be about equal; and, in the second place, as the establishment of a British Colony and Consular Agents in China have for their only object the protection and extension of commerce, the political interest may also be said to be equal to the British and Indian Governments.

4. So far as Australia is concerned, the interests of England, commercially considered, greatly preponderate over those of India, and political interest may be said to be entirely British; but this branch of the service is small compared with the others, and especially with that of India.

5. In the whole, then, my Lords are of opinion that a fair arrangement between the Revenues of the United Kingdom and those of India will be, that any loss incurred from these services shall be borne in equal moieties by each.

6. In order to reduce services so complex into the greatest simplicity, my Lords are of opinion that it will be desirable, that the British Government should pay the whole of the expenditure, and receive all the postage, including that belonging to the Home Government, as well as to the East India Company; and that one-half of the loss then left should be paid by the East India Company to the Home Government.

On this principle, the account will stand as follows:

1. General Contract with Peninsular and Oriental Steam Navigation Company - - - - - - - - -	£. 199,600
2. Ditto to Bombay - - - - - - - - -	24,700
3. Transmission through Egypt (6,000 *l.* now paid by the East India Company, and 2,000 *l.* by the Post Office) - -	8,000
	232,300
Deduct receipts of Post Office, including the letters of both Governments - - - - - - - - -	146,878
	£. 85,422

My Lords, therefore, propose that in future all the costs included in the sum of 232,300 *l.* shall be defrayed by the Home Government, that the Post Office shall charge the postage of the Indian Government to the East India Company, receiving the same into its Revenue, and that the sum of 42,711 *l.* shall be paid by the East India Company to the Home Government as a moiety of the net loss.

I have, &c.

(signed) *James Wilson.*

The Postmaster General,
&c. &c. &c.

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[*See* Question 264.]

FRENCH MAIL STEAM SHIPS.

Compagnie des Services Maritimes des Messageries Impériales.

Handbook of Information.

Overland Route to India, China, Japan, Reunion, and Mauritius.

Steam Fleet of the Messageries Impériales.

Indian Ocean Lines.

		Horse Power.			Horse Power.
Tigre	screw	500	La Bourdonnais	screw	280
Impératrice	„	500	Meïnam	„	280
Donnaï	„	500	Dupleix	„	280
Cambodge	„	500	Emirne	„	200
Alphee	„	400	Mozambique	„	200
Érymanthe	„	400	Capitolle	paddle	200

Atlantic Lines.

		Horse Power.			Horse Power.
Guienne	paddle	500	Carmel	paddle	370
Navarre	„	500	Pericles	„	120
Estramadure	„	500			

Mediterranean and Black Sea Lines.

		Horse Power.			Horse Power
Amerique	screw	450	Copernic	screw	200
Peluse	„	400	Cheliff	„	180
Mœris	„	400	Mitidja	„	180
Said	„	400	Delta	„	150
Danube	„	370	Sinaï	paddle	370
Cydnus	„	370	Thabor	„	370
Newa	„	370	Pausilippe	„	320
Phase	„	370	Quirinal	„	320
Euphrate	„	350	Aunis	„	250
Volga	„	320	Saintonge	„	250
Indus	„	300	Caire	„	220
Gange	„	300	Osiris	„	220
Godavery	„	280	Vatican	„	200
Nil	„	280	Oronie	„	180
Menzaleh	„	280	Merovée	„	180
Aréthuse	„	250	Bosphore	„	180
Borysthene	„	240	Balkan	„	160
Meandre	„	240	Taurus	„	160
Simoïs	„	240	Rion	„	65
Hermus	„	240			
Ilissus	„	240	Chartered.		
Mersey	„	200	Kabyle	screw	280
Tamise	„	200	Oasis	„	280
Clyde	„	200	Marabout	„	280

Building.

		Horse Power.			Horse Power.
Niémen	screw	320	Eridan	screw	320
Tibre	„	280			

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App. No. 8.

INDIA, CHINA, JAPAN, AND MAURITIUS LINES.

Marseilles to Hong Kong.

STATIONS.	DATES. Arrival.	Departure.
Marseilles	„	19 — 2 p.m.
Messina	21 —	21 — —
Alexandria	25 —	„
Suez	„	27 — —
Aden	3 —	3 — —
Point-de-Galle	13 —	14 — —
Singapore	20 —	21 — —
Saigon	24 —	25 — —
Hong Kong	29 —	25 — 2 p.m.
Saigon	29 —	30 — —
Singapore	3 —	4 — —
Point-de-Galle	10 —	12 — —
Aden	21 —	22 — —
Suez	27 —	„
Alexandria	„	29 — —
Messina	3 —	3 — —
Marseilles	5 —	„

Point-de-Galle to Calcutta.

STATIONS.	DATES. Arrival.	Departure.
Point-de-Galle	„	13 — —
Pondicherry	15 —	15 — —
Madras	16 —	16 — —
Calcutta	20 —	3 — 8 a.m.
Madras	6 —	7 — —
Pondicherry	7 —	7 — —
Point-de-Galle	10 —	„

Hong Kong to Shanghae.

STATIONS.	DATES. Arrival.	Departure.
Hong Kong	„	30 — —
Shanghae	4 —	20 — 8 a.m.
Hong Kong	23 —	„

Shanghae to Japan.

STATIONS.	DATES. Arrival.	Departure.
Shanghae	„	5 — 6 a.m.
Yokohama	10 —	13 — 6 p.m.
Shanghae	18 —	„

Singapore to Batavia.

STATIONS.	DATES. Arrival.	Departure.
Singapore	„	21
Batavia	24	29 a.m. 8 1/2
Singapore	2	„

Marseilles to Réunion and Mauritius.

STATIONS.	DATES. Arrival.	Departure.
Marseilles	„	9 — 2 p.m.
Messina	11 —	11 — —
Alexandria	15 —	„
Suez	„	17 — 4 p.m.
Aden	23 —	23 — —
Mahé (Seychelles)	30 —	30 — —
Saint-Denis (Réunion)	5 —	5 — —
Port-Louis (Mauritius)	6 —	18 — p.m.
Saint-Denis (Réunion)	19 —	19 — —
Mahé (Seychelles)	24 —	24 — —
Aden	1 —	1 — —
Suez	7 —	„
Alexandria	„	9 — —
Messina	13 —	13 — —
Marseilles	15 —	„

The following dates are approximate only, except those relating to Marseilles, Hong Kong, Calcutta, Mauritius, Batavia, Shanghae, and Yokohama, at all other ports the dates of departure depend on those of arrival.

Information for the use of Passengers.

India, China, and Japan Lines.

The Company's steamers leave Marseilles on the 19th of every month at 2 p.m., and after staying a few hours at Messina, arrive at Alexandria, generally, on the 25th, the official date being early on the 26th.

See regulations for the transit through Egypt.

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At Suez one of the Company's steamers will receive passengers, and, as the passage up the Mediterranean and the transit may permit, will leave on the 26th or 27th, touching at Aden *en route*, and arrive at Point de Galle on the 11th or 13th of the following month, according to the departure from Suez, the length of the month, or the weather.

At Point de Galle another steamer belonging to the Company will await passengers for India, and sail a few hours after the arrival of the steamer from Suez, calling at Pondicherry and Madras *en route* to Calcutta.

The steamer arriving from Suez will continue the voyage to Singapore, arriving there on the 18th to 20th; Saigon 23rd to 24th; and Hong Kong, port of destination, on the 28th to 29th.

Passengers for Shanghae will embark at Hong Kong on another of the Company's steamers, due there on the 24th, and proceed to their destination shortly after. The passage between those two ports is usually made in four days.

Passengers for Batavia are conveyed by another of the Company's steamers, leaving Singapore for Batavia about eight hours after the arrival of the steamer from Suez.

The steamer going from Hong Kong to Shanghae, leaves Hong Kong only after the arrival of steamer coming from Suez; the steamer going from Shanghae and Yokohama, leaves Shanghae only after the arrival of the steamer coming from Hong Kong.

On the homeward voyage the dates of arrivals and departures are as follows:

Leave Yokohama on the 13th, arrive at Shanghae on the 18th.

Leave Shanghae on the 21st, arrive at Hong Kong on the 24th.

Leave Hong Kong on the 26th, arrive at Saigon on the 30th.

Leave Saigon on the 30th or 1st, arrive on the 3rd at Singapore; one finds the steamer departed from Batavia on the 29th of the last month.

Leaving the same day for, and arriving at Point de Galle on the 10th, where the steamer of the 3rd from Calcutta, after touching at Madras and immediate Pondicherry, is due on the 9th or 10th.

The steamer from Singapore, after a few hours' stay at Galle, will proceed on to the Red Sea, calling at Aden to coal, and arrive at Suez on the 25th to 27th.

It should be observed that the only fixed dates are those of sailing from Shanghae, Hong Kong, Calcutta, and Batavia; the dates of calling at intermediate stations are dependent on the weather, etc.

During the months of April, May, June, July, August, and September, the departures from Yokohama, Shanghae, and Hong Kong, will be advanced two days, unless the stated duration of stoppage would be expired. In case of delay in the arriving at Shanghae, Hong Kong, and Point de Galle on the return voyage from Yokohama, Shanghae and Calcutta, the greatest stoppage will be of three days after the stated date of departure.

The transit through Egypt is uniformly arranged for the outward and for the homeward journey.

One of the Company's steamers will await the homeward passengers at Alexandria, and leave there on the 27th to 29th, arriving at Marseilles after touching at Messina, on the 3rd to 5th of the month.

Mauritius and Réunion Line.

The Company's steamers leave Marseilles on the 9th of every month at 2 p.m., and after staying a few hours at Messina, arrive at Alexandria generally on the 15th, the official date being early on the 16th.

See regulations for transit through Egypt.

At Suez, another of the Company's steamers awaits the passengers, leaving generally on the 17th. This steamer calls at Aden, and at Mahé (Seychelles), except in June, July, and August.

From Seychelles this steamer proceeds on her voyage to Réunion, arriving there on about the 5th, and at Mauritius on the following day.

On the homeward voyage, the steamer leaves Mauritius on the 18th at 4 p.m., calls at Réunion on the 19th, and on the same day proceeds on her voyage, calling at Seychelles and Aden, and arriving at Suez on about the 7th.

The transit through Egypt is uniformly arranged for the outward and the homeward journey.

Another of the Company's steamers receives the homeward passengers at Alexandria, and leaves there on the 9th to 11th, arriving at Marseilles, after calling at Messina, on the 15th or 16th of the month.

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STATEMENT of VOYAGES between *Suez* and *Bombay* performed by the Contract Mail Packets during the Years 1864 and 1865, corresponding with the Return, No. 3, Appendix, No. 1, page 214.

FROM SUEZ TO BOMBAY.

Departure from Suez.	Stop at Aden.	Arrival at Bombay.	Duration of Voyage.
1864.	h. m.	1864.	Days. h. m.
29 Jan. - 9 40 p.m.	11 40	14 Feb. 3 20 p.m.	15 17 40
13 Feb. - 6 30 a.m.	11 0	1 Mar. 11 15 „	17 16 45
1 March 4 50 p.m.	11 15	16 „ - 10 55 a.m.	14 18 5
14 „ 7 15 „	10 30	28 „ - 6 0 „	13 10 45
29 „ 6 15 „	9 0	12 April midnight -	14 5 45
14 April 8 50 „	9 10	26 „ - 5 0 p.m.	12 4 10
28 „ - 10 15 „	13 15	12 May 4 0 a.m.	13 5 45
12 May - 6 25 „	8 15	25 „ - 6 20 p.m.	12 23 55
28 „ - 8 0 a.m.	9 0	10 June 2 30 „	13 6 30
12 June - 6 15 p.m.	9 50	24 „ - 3 40 a.m.	11 9 25
27 „ - 7 0 „	6 45	9 July 11 45 „	11 16 45
13 July - 6 6 „	12 40	26 „ - 1 25 p.m.	12 19 19
27 „ - 0 20 „	6 10	8 Aug. 10 50 „	12 10 30
12 Aug. - 8 10 „	8 12	24 „ - 4 15 „	11 20 5
27 „ - 2 0 „	7 15	10 Sept. 2 30 a.m.	13 12 30
12 Sept. - 7 30 „	8 7	26 „ - 10 2 „	13 14 32
28 „ - 8 40 „	7 50	12 Oct. 8 40 p.m.	14 0 0
13 Oct. - 0 20 a.m.	13 0	30 „ - 8 30 „	17 20 10
27 „ - 7 0 p.m.	7 5	9 Nov. 6 20 „	12 23 20
12 Nov. - 10 10 „	9 0	29 „ - 3 30 „	16 17 20
29 „ - 0 30 a.m.	9 20	12 Dec. 1 25 a.m.	13 0 55
12 Dec. - 6 40 p.m.	7 35	26 „ - 7 45 p.m.	14 1 5
		1865.	
28 „ - 6 50 „	13 30	15 Jan. 4 30 „	17 21 40
1865.			
12 Jan. - 11 5 p.m.	11 45	29 „ - 1 20 p.m.	16 14 15
29 „ - 9 25 a.m.	10 8	11 Feb. 10 50 „	13 13 25
15 Feb. - 9 45 „	7 30	1 Mar. 7 0 „	14 9 15
28 „ - 10 30 „	6 10	14 „ - 6 0 „	14 7 30
14 March 9 0 „	9 10	28 „ - 11 10 a.m.	14 2 10
28 „ - 6 20 „	7 50	12 April midnight -	15 17 40
13 April 5 0 „	9 10	25 „ - 7 20 p.m.	12 14 20
27 „ - midnight -	5 30	11 May 10 0 a.m.	13 10 0
13 May - 0 50 a.m.	6 5	27 „ - 11 20 „	14 10 30
27 „ - 0 40 „	9 0	8 June 5 0 p.m.	12 16 20
12 June - 3 0 „	7 20	24 „ - 3 54 a.m.	12 0 54
28 „ - 6 40 „	8 2	11 July 0 15 „	12 17 35
13 July - 10 40 „	7 20	24 „ - 3 0 p.m.	11 4 20
27 „ - midnight -	9 30	8 Aug. 6 0 a.m.	11 6 0
13 Aug. - 3 30 a.m.	7 15	24 „ - 5 45 p.m.	11 14 15
28 „ - 7 7 „	7 16	11 Sept. 3 50 a.m.	13 20 43
15 Sept. 0 20 „	15 10	27 „ - 1 30 „	12 1 10
27 „ - 7 10 p.m.	7 40	13 Oct. 6 0 p.m.	15 22 50
13 Oct. - 6 30 „	10 45	29 „ - 11 55 „	16 5 25
27 „ - 11 35 „	7 30	9 Nov. 7 10 a.m.	12 7 35
13 Nov. - 11 20 „	16 0	30 „ - 4 30 „	16 5 10
28 „ - 6 40 a.m.	7 40	14 Dec. 10 25 p.m.	16 15 45
15 Dec. - 6 50 p.m.	7 5	29 „ - 2 0 „	13 19 10
		1866.	
30 „ - 8 50 a.m.	5 50	13 Jan. 5 5 „	14 8 15
1866.			
13 Jan. - 6 0 „	13 0	28 „ - 4 20 a.m.	14 22 20

FROM BOMBAY TO SUEZ.

Departure from Bombay.	Stop at Aden.	Arrival at Suez.	Duration of Voyage.
1864.	D. h. m.	1864.	Days. h. m.
14 Jan. 10 35 a.m.	0 11 32	28 Jan. 6 58 a.m.	13 20 23
29 „ - 10 40 „	0 15 20	11 Feb. 10 0 „	12 23 20
14 Feb. 10 30 „	0 14 30	28 „ - 5 15 p.m.	14 6 45
29 „ - 10 25 „	0 11 55	13 Mar. 8 10 a.m.	12 21 45
14 Mar. 10 30 „	1 10 30	28 „ - 0 30 p.m.	14 2 0
29 „ - 11 20 „	0 9 10	10 April 5 0 a.m.	11 17 40
14 April 10 30 „	0 9 15	27 „ - 11 15 p.m.	13 12 45
29 „ - 10 35 „	0 13 0	14 May 5 45 a.m.	14 19 10
14 May 10 50 „	0 10 0	26 „ - 10 10 p.m.	12 11 20
24 „ - 10 0 „	0 9 30	8 June 5 45 a.m.	14 19 45
9 June 10 30 „	0 18 55	30 „ - 6 55 „	20 20 25
24 „ - 11 35 „	0 8 30	13 July 4 40 „	18 17 5
9 July 11 0 „	0 13 0	26 „ - 5 45 p.m.	17 6 45
24 „ - 10 35 „	0 9 0	11 Aug. 6 0 „	18 7 25
9 Aug. 11 15 „	0 13 55	28 „ - 2 40 a.m.	18 15 25
24 „ - 0 40 p.m.	0 9 0	9 Sept. 11 55 „	15 23 15
9 Sept. 0 45 „	3 0 0	2 Oct. 4 30 „	22 15 45
29 „ - 1 20 „	0 7 5	11 „ - 6 50 p.m.	12 5 30
14 Oct. 11 0 a.m.	0 17 13	30 „ - 1 0 „	16 2 0
29 „ - 11 0 „	0 9 0	9 Nov. 2 30 „	11 3 30
14 Nov. 10 43 „	0 8 57	26 „ - 4 0 „	12 5 17
29 „ - 10 20 „	1 19 30	16 Dec. 5 0 a.m.	16 18 40
14 Dec. 11 20 „	0 8 50	27 „ - 4 30 p.m.	13 5 10
		1865.	
29 „ - noon - -	0 8 50	10 Jan. 4 0 a.m.	11 16 0
1865.			
14 Jan. 10 48 a.m.	0 11 55	27 „ - 11 20 p.m.	13 12 32
29 „ - 1 0 p.m.	0 8 5	12 Feb. 9 30 a.m.	13 20 30
14 Feb. 11 30 a.m.	0 8 30	27 „ - 3 40 p.m.	13 4 10
1 Mar. 11 10 „	0 10 30	16 Mar. 2 0 a.m.	14 14 50
14 „ - 11 0 „	0 10 40	26 „ - 1 15 p.m.	12 2 15
29 „ - noon - -	0 10 45	12 April 11 40 „	14 11 40
14 April 10 50 a.m.	0 8 5	28 „ - 1 40 a.m.	13 14 50
29 „ - 11 30 „	0 8 55	15 May 2 0 p.m.	16 2 30
14 May 10 30 „	0 10 30	27 „ 0 30 a.m.	12 14 0
24 „ - 10 45 „	0 21 45	8 June 5 30 „	14 18 45
9 June 4 15 p.m.	0 20 50	26 „ - 2 8 p.m.	16 21 53
9 July 10 45 a.m.	0 15 22	26 July 1 0 „	17 2 15
12 „ - 3 0 p.m.	0 8 0	28 „ - 11 30 „	16 8 30
24 „ - 5 45 „	0 12 10	12 Aug. 10 52 „	19 5 7
9 Aug. 5 10 „	0 13 15	26 „ - 2 20 a.m.	16 9 10
25 „ - 10 20 a.m.	1 0 50	17 Sept. 5 0 „	22 18 40
9 Sept. 5 30 p.m.	0 13 0	30 „ - 9 0 „	20 15 30
30 „ - 10 25 a.m.	0 9 5	12 Oct. 8 15 p.m.	12 9 50
15 Oct. 9 45 „	0 10 1	28 „ - 1 10 a.m.	12 15 25
29 „ - 11 30 „	0 9 30	13 Nov. 2 0 „	14 14 30
14 Nov. noon - -	0 7 30	26 „ - 8 30 „	11 20 30
29 „ - noon - -	0 9 15	12 Dec. 11 35 p.m.	13 11 35
14 Dec. 11 55 a.m.	0 22 55	28 „ - 4 30 „	14 4 35
		1866.	
29 „ - 11 55 a.m.	0 11 52	11 Jan. 2 18 a.m.	12 14 23

SUMMARY.

	Days. h. m.
Average length of Voyage from Suez to Bombay, inclusive of stoppage at Aden - - - - - - - - -	13 22 0
Average stoppage at Aden - - - - - - - -	0 8 36
Average length of Voyage from Suez to Bombay, exclusive of stoppage at Aden - - - - - - - - -	13 13 24
Contract time of 10 knots an hour reduced to an estimated equivalent (*after allowing for deviations from straight lines) in days and hours, exclusive of stoppage at Aden -	13 0 0

* The difference is 5 per cent. making the required rate of sailing, reckoned in straight lines, 9½ knots an hour.

SUMMARY.

	Days. h. m.
Average length of Voyage from Bombay to Suez, inclusive of stoppage at Aden - - - - - - - - -	15 0 36
Average length of stoppage at Aden - - - - - -	0 14 14
Average length of Voyage from Bombay to Suez, exclusive of stoppage at Aden - - - - - - - - -	14 10 22
Contract time of 10 knots an hour reduced to an estimated equivalent (*after allowing for deviations from straight lines) in days and hours, exclusive of stoppage at Aden :—	
In the months of January, February, March, April, October, November, and December - - - -	13 0 0
In the months of May, June, and July - - -	19 0 0
In the months of August and September - - -	17 0 0
Average - - - - - - - - - -	15 4 0

* The difference is 5 per cent., making the required rate of sailing, reckoned in straight lines, 9½ knots an hour.

GENERAL SUMMARY OF THE FOREGOING STATEMENTS.

	Days. h. m.
Average length of passage between Suez and Bombay, inclusive of stoppage at Aden - - - - - - - -	14 11 8
Average length of stoppage at Aden - - - - - - - - - - - - - - - -	0 11 25
Average length of passage between Suez and Bombay, exclusive of stoppage at Aden - - - - - - - -	13 23 53
Contract time of 10 knots an hour reduced to an estimated equivalent (*after allowing for deviations from straight lines) in days and hours, exclusive of stoppage at Aden - - - - - - - - - - - - - -	14 2 0

* The difference is 5 per cent., making the required rate of sailing, reckoned in a straight line, 9½ knots an hour.

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Appendix, No. 9.

PAPERS handed in by Mr. *Howell*, 24 April 1866. App. No. 9.

MILEAGE TABLE of the Services performed by the Peninsular and Oriental Company, under their India and China Contracts, during the Year 1865.

	Voyages.	Miles each.	Miles.	Miles.	Total Mileage.
Calcutta and China Line:					
Southampton and Alexandria	48	2,951	141,648		
Marseilles and Alexandria	48	1,478	70,944		
Suez and Point de Galle	48	3,442	165,216		
Total to and from Point de Galle	—	—	—	377,808	
Point de Galle and Calcutta	48	1,315	63,120		
Bombay and Shanghai	48	4,742	227,616		
				290,736	668,544
Bombay Line:					
Southampton and Alexandria	48	2,951	141,648		
Marseilles and Alexandria	48	1,478	70,944		
Suez and Bombay	48	2,972	142,656		
					355,248
				Total	1,023,792

	Miles.
Present mileage	1,023,792
Under suggested arrangement	1,147,900
Additional mileage under the proposed arrangement	124,108 per annum.

Pro formâ MILEAGE TABLE of a Weekly Mail to India, *viâ* Bombay, and a Fortnightly Mail to China from Suez.

	Miles.	*Miles.*
India Line:		
Southampton and Alexandria	2,951	
Marseilles and Alexandria	1,478	
Suez and Bombay	2,972	
	7,401	
104 voyages		769,704
China Line:		
Suez and Shanghai	7,273	
52 voyages		378,196
Total		1,147,900

Pro formâ MILEAGE TABLE of a Weekly Mail to India, *viâ* Bombay, and a Weekly Mail to China, *viâ* Bombay and Calcutta alternately.

		Miles.
India Line:		
Southampton and Marseilles	and Bombay, 104 voyages	769,704
China Line:	*Miles.*	
Bombay and Shanghai	4,742	
Calcutta and Shanghai	3,887	
52 voyages at	8,629 =	448,708
Total		1,218,412

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App. No. 9.

STATEMENT showing the Rate of Passage Money per Mile by the Steamers of the Peninsular and Oriental Steam Company, including First Class Victualling, Wines, Spirits, &c.

	Distance.	Passage.	Mileage Rate.
	Miles.	£.	*d.*
Southampton to Alexandria - - - -	2,701	30	2½ and fraction over, ($\frac{1}{8}$).
Ditto - - Bombay - - - -	5,937	85	3½ and fraction under, ($\frac{1}{12}$).
Ditto - - Calcutta - - - -	7,722	95	3 and fraction under, ($\frac{1}{76}$).
Ditto - - Hong Kong - - - -	9,438	120	3 and fraction over, ($\frac{1}{20}$).
Ditto - - Sydney - - - - -	12,631	120	2¼ and fraction under, ($\frac{1}{25}$).

Rate of chief cabin fare by British and North American Royal Mail Ships from Liverpool to New York, 3,068 miles, 26 *l.*; first class victualling (exclusive of wines, spirits, &c.) 2 *d.* and a fraction per mile.

RATES of Passage Money.

FROM MARSEILLES TO - - -		Aden.	Bombay.	Ceylon.	Madras.	Calcutta.	Penang.	Singapore.
		£.	£.	£.	£.	£.	£.	£.
Gentlemen or ladies travelling singly, and occupying one berth in a general cabin - -	Per Peninsular and Oriental Company's Steamers.	50	80	80	85	90	90	95
	Per Messageries Steamers -	50	0	80	85	90	0	95
Married couples occupying a reserved cabin - - -	Per Peninsular and Oriental Company's Steamers.	170	210	210	220	240	240	260
	Per Messageries Steamers -	170	0	210	220	240	0	260
Children with parents, 3 years and under 10, each - - -	Per Peninsular and Oriental Company's Steamers.	25	40	40	43	45	45	48
	Per Messageries Steamers -	25	0	40	43	45	0	48
One child under 3 years, no berth provided - - - -	Per Peninsular and Oriental Company's Steamers.	free	free	free	free	free	free	free
	Per Messageries Steamers -	free	0	free	free	free	0	free
European servants - - -	Per Peninsular and Oriental Company's Steamers.	30	48	48	50	53	53	55
	Per Messageries Steamers -	30	0	48	50	53	0	55

FROM MARSEILLES TO - - -		Hong Kong.	Shanghai.	Yokohama.	Seychelles.	Mauritius.	Australia.
		£.	£.	£.	£.	£.	£.
Gentlemen or ladies travelling singly, and occupying one berth in a general cabin - -	Per Peninsular and Oriental Company's Steamers.	115	125	145	75	80	115
	Per Messageries Steamers -	115	125	154	0	80	0
Married couples occupying a reserved cabin - - -	Per Peninsular and Oriental Company's Steamers.	290	320	360	190	210	290
	Per Messageries Steamers -	290	320	384	0	210	0
Children with parents, 3 years and under 10, each - - -	Per Peninsular and Oriental Company's Steamers.	58	63	73	38	40	58
	Per Messageries Steamers -	58	63	77	0	40	0
One child under 3 years, no berth provided - - - -	Per Peninsular and Oriental Company's Steamers.	free	free	free	free	free	free.
	Per Messageries Steamers -	free	free	free	0	free	0
European servants - - -	Per Peninsular and Oriental Company's Steamers.	63	73	83	43	48	73
	Per Messageries Steamers -	63	73	92	0	65	0

Marked thus 0 signifies that there is no communication.

RETURN of the Number of First Class Passengers conveyed to and from India and China by the Steam Ships of the Peninsular and Oriental Company during the Year 1865, distinguishing Officers of the Army and Navy and Government Officials from other Passengers.

OUTWARDS.						HOMEWARDS.					
Officers of the Army.	Officers of the Navy.	Civil Servants.	Ordinary Passengers.	Children.	Total.	Officers of the Army.	Officers of the Navy.	Civil Servants.	Ordinary Passengers.	Children.	Total.
* 84	* 45	* 12	† 2,696	† 54	2,891	* 23	* 48	* 13	† 2,012	† 352	2,448

* The passages for these officers were ordered and paid for by the Government to the Company.

† These passengers paid their passage money direct to the Company, but the number doubtless includes many army, navy, and civil servants who received an allowance from the Government.

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App. No. 9.

AVERAGE PERFORMANCES of the Cunard Mail Steamers for 1859, 1860, and 1861, as shown by a Parliamentary Return, dated 31st March 1862.

Since the steamers have called at Queenstown, the passages are taken between that port and America only.

1859.

26 Voyages, Liverpool to New York.

Distance - - - - - - 3,012 miles × 26 = 78,312 miles.

Total time - - - - - 8,115 hours.
Average speed - - - - 9 k. 5 frns.

1860.

6 Voyages, Liverpool to New York.

Distance - - - - - - 3,012 miles × 6 = 18,072 miles.

20 Voyages, Queenstown to New York.

Distance - - - - - - 2,780 miles × 20 = 55,600 „

TOTAL - - - - 73,672 „

Total time - - - - - 7,317 hours.
Average speed - - - - 10 k. ½ frn.

1861.

25 Voyages, Queenstown to New York.
(one short, broke down.)

Distance - - - - - - 2,780 miles × 25 = 69,500 miles.

Total time - - - - - 6,754 hours.
Average speed - - - - 10 k. 2 frns. (full.)

1859.

26 Voyages, New York to Liverpool.

Distance - - - - - - 3,012 miles × 26 = 78,312 miles.

Total time - - - - - 6,863 hours.
Average speed - - - - 11 k. 3 frns.

1860.

8 Voyages, New York to Liverpool.

Distance - - - - - - 3,012 miles × 8 = 24,096 miles.

18 Voyages, New York to Queenstown.

Distance - - - - - - 2,780 miles × 18 = 50,040 „

TOTAL - - - - 74,136 „

Total time - - - - - 6,581 hours.
Average speed - - - - 11 k. 2 frns.

1861.

26 Voyages, New York to Queenstown.

Distance - - - - - - 2,780 miles × 26 = 72,280 miles.

Total time - - - - - 6,483 hours.
Average speed - - - - 11 k. 1 frn.

	Total Miles.	Total Hours.	Average Speed
			k. *frns.*
Out 1859, 1860, and 1861 - - -	221,484	22,186	10 0
Home „ „ „ - - -	224,728	19,927	11 2
GRAND TOTAL - - -	446,212	42,113	

Average speed of the whole, 10 k. 5 frns.

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App. No. 9.

Boston Line.

1859.

22 Voyages, Liverpool to Boston.

Distance - - - - - - 2,875 miles × 22 = 63,250 miles.

4 Voyages, Queenstown to Boston.

Distance - - - 2,649 miles × 4 = 10,596 „

TOTAL - - - 73,846 „

Total time - - - - - 8,152 hours.
Average speed - - - - - 9 knots.

1860.

27 Voyages, Queenstown to Boston.

Distance - - - - - - - - 2,649 miles × 27 = 71,523.

Total time - - - - - 7,876 hours.
Average speed - - - - - 9 k. 1 frn.

1861.

26 Voyages, Queenstown to Boston.

Distance - - - - - 2,649 miles × 26 = 68,874 miles.

Total time - - - - - 7,244 hours.
Average speed - - - - - 9 k. 4 frns.

1859.

23 Voyages, Boston to Liverpool.

Distance - - - - - 2,875 miles × 23 = 66,125 miles.

3 Voyages, Boston to Queenstown.

Distance - - - - 2,649 miles × 3 = 7,947 „

TOTAL - - - 74,072 „

Total time - - - - - 6,892 hours.
Average speed - - - - - 10 k. 6 frns.

1860.

26 Voyages, Boston to Queenstown.

Distance - - - - - 2,649 miles × 26 = 68,874 miles.

Total time - - - - - 6,546 hours.
Average speed - - - - - 10 k. 4 frns.

1861.

26 Voyages, Boston to Queenstown.

Distance - - - - - 2,649 miles × 26 = 68,874 miles.

Total time - - - - - 6,678 hours.
Average speed - - - - - 10 k. 3 frns.

	Total Miles.	Total Hours.	Average Speed. K. frns.
Out, 1859, 1860, 1861 - - - - -	214,243	23,272	9 2
Home „ „ „ - - - - -	211,820	20,116	10 4
GRAND TOTAL - - -	426,063	43,388	

Average speed of the whole - - - - 9 k. 7 frns.

Note.—In all cases the stay at Halifax is deducted from the hours under weigh.

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App. No. 9.

RETURN exhibiting the Result of the Transfer of Steam Vessels from the Mediterranean to the Indian Seas, with regard to the Consumption of Fuel and Speed.

Ships.	Increase in Consumption of Fuel per Mile.			Decrease of Speed per Hour.	
	Cwt.	*qrs.*	*lbs.*	*K.*	*f.*
Mooltan	1	0	8	0	1 = ⅛ of a knot.
Ellora	0	3	25	0	4 = ½ „
Baroda	0	2	17	0	6 = ¾ „
Delhi	0	3	12	0	6 = ¾ „

NEW SHIPS added to the Fleet of the Peninsular and Oriental Steam Navigation Company, from January 1859 to present Date.

	Tons.	Horse Power.		Tons.	Horse Power.
Nepaul	796	200	Rangoon	1,776	400
Delta	1,618	400	Delhi	1,898	400
Massilia	1,640	400	Syria	1,932	450
Jeddo	1,632	450	Corea	609	200
Orissa	1,646	300	Nyanza	2,082	450
Behar	1,603	300	Mongolia	2,798	500
Mooltan	2,257	400	Geelong	1,500	250
China	2,010	400	Tanjore	1,971	400
Ellora	1,574	300	Niphon	694	140
Emu	1,538	300	Surat	2,666	500
Columbian	2,352	500	Avoca	1,284	250
Baroda	1,874	400	Malacca	1,700	300
Golconda	1,909	400	Simla	1,700	300
Poonah	2,152	500			
Carnatic	1,775	400	28 Ships	48,986	10,190

TOTAL Cost, say - - - £. 2,144,000.

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App. No. 9.

MEMORANDA of Mails conveyed from Southampton during the year 1864.

Date.	SHIP.	Number of Packages.	Weight.				Measurement.		
1864:			*Tons*	*cwt.*	*qrs.*	*lbs.*	*Tons*	*ft.*	*in.*
January - 4	Pera - - - -	176	7	7	0	18	16	8	6
12	Syria - - - -	134	5	13	1	4	12	28	0
20	Ripon - - - -	1,090	44	18	2	8	96	14	0
27	Poonah - - - -	106	4	9	2	8	10	1	4
February - 4	Ceylon - - - -	190	7	19	2	16	17	28	4
12	Ellora - - - -	138	5	16	2	8	13	2	0
20	Pera - - - -	1,075	44	6	1	0	95	1	6
27	Delhi - - - -	115	4	16	3	24	10	32	10
March - 4	Ripon - - - -	170	7	2	2	0	15	29	8
12	Syria - - - -	76	3	16	0	0	10	30	8
20	Baroda - - - -	931	38	7	3	4	82	15	4
27	Ellora - - - -	57	2	17	0	0	8	3	0
April - 4	Ceylon - - - -	177	7	8	2	12	16	18	6
12	Delta - - - -	81	4	1	0	0	11	19	0
20	Delhi - - - -	1,117	46	0	3	20	98	30	8
27	Poonah - - - -	63	3	3	0	0	8	37	0
May - - 4	Syria - - - -	195	8	3	0	4	17	37	2
12	Baroda - - - -	78	3	18	0	0	11	2	0
20	Ceylon - - - -	1,028	42	7	1	4	90	32	8
27	Ellora - - - -	66	3	6	0	0	9	14	0
June - - 4	Delta - - - -	197	8	5	0	4	18	8	6
12	Delhi - - - -	85	4	5	0	0	12	1	8
20	Poonah - - - -	938	38	13	1	12	82	37	8
27	Ripon - - - -	58	2	18	0	0	8	8	8
July - - 4	Baroda - - - -	169	7	2	0	24	15	32	8
12	Massilia - - - -	76	3	16	0	0	10	30	8
20	Ceylon - - - -	985	40	12	0	16	87	4	4
27	Syria - - - -	61	3	1	0	0	8	25	8
August - 4	Poonah - - - -	201	8	8	0	16	18	20	4
12	Ellora - - - -	85	4	5	0	0	12	1	8
20	Delta - - - -	1,028	42	7	1	24	90	34	10
27	Delhi - - - -	67	3	7	0	0	9	19	5
September - 4	Massilia - - -	177	7	9	1	8	16	27	2
12	Ripon - - - -	80	4	0	0	0	11	13	4
20	Poonah - - - -	1,002	41	6	0	12	88	23	10
27	Syria - - - -	66	3	6	0	0	9	14	0
October - 4	Baroda - - - -	202	8	8	3	4	18	21	8
12	Ellora - - - -	84	4	4	0	0	11	36	0
20	Ceylon - - - -	1,036	42	14	0	24	91	25	0
27	Massilia - - -	66	3	6	0	0	9	14	0
November 4	Delta - - - -	194	8	2	2	8	17	38	0
12	Syria - - - -	93	4	13	0	0	13	7	0
20	Delhi - - - -	966	39	18	2	20	86	3	10
27	Ripon - - - -	61	3	1	0	0	8	25	0
December - 4	Massilia - - -	150	6	9	0	12	14	36	6
12	Nyanza - - - -	88	4	8	0	0	12	18	8
20	Ceylon - - - -	1,015	42	2	0	36	91	16	6
27	Ellora - - - -	66	3	6	0	0	9	14	0
	TOTAL - - -	16,559	689	14	2	14	1,539	26	9

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App. No. 9.

MEMORANDA of Mails conveyed from Southampton during the Year 1865.

Date.	SHIP.	Number of Packages.	Weight.				Measurement.		
1865:			*Tons*	*cwt.*	*qrs.*	*lbs.*	*Tons*	*ft.*	*in.*
January - 4	Delhi - - - -	189	8	2	0	24	18	26	0
12	Syria - - - -	93	4	13	0	0	13	7	0
20	Poonah - - - -	1,098	45	11	2	8	99	0	0
27	Ripon - - - -	73	3	13	0	0	10	13	8
February - 4	Pera - - - -	191	8	3	3	12	18	33	0
12	Massalia - - -	85	4	5	0	0	12	1	8
20	Delta - - - -	950	39	8	3	20	85	29	0
27	Nyanza - - - -	67	3	7	0	0	9	19	8
March - 4	Ellora - - - -	169	6	4	2	24	16	23	0
12	Euxine - - - -	90	4	10	0	0	12	30	0
20	Ceylon - - - -	996	41	7	1	20	96	38	8
27	Poonah - - - -	66	3	6	0	0	9	14	0
April - 4	Delhi - - - -	185	7	18	2	8	18	7	8
12	Ripon - - - -	93	4	13	0	0	13	7	0
20	Pera - - - -	1,049	43	10	0	8	94	13	4
27	Massilia - - -	73	3	13	0	0	10	13	8
May - - 4	Nyanza - - - -	202	8	12	3	16	19	31	6
12	Delta - - - -	93	4	13	0	0	13	7	0
20	Syria - - - -	1,151	47	15	2	16	103	32	0
27	Delhi - - - -	70	3	10	0	0	9	36	8
June - - 4	Ellora - - - -	183	7	16	2	8	17	36	4
12	Ceylon - - - -	89	4	9	0	0	12	24	4
20	Poonah - - - -	1,063	43	16	1	16	93	39	6
27	Ripon - - - -	108	4	11	1	16	10	1	4
July - - 4	Pera - - - -	193	8	1	0	4	17	25	10
12	Euxine - - - -	141	5	19	0	4	13	12	6
20	Massilia - - -	1,095	45	2	2	0	96	29	4
27	Syria - - - -	101	4	5	1	4	9	21	8
August - 4	Nyanza - - - -	200	8	7	2	0	18	19	0
12	Delta - - - -	145	6	1	3	24	13	22	2
20	Ceylon - - - -	1,101	45	7	1	0	97	7	8
27	Poonah - - - -	105	4	8	1	16	9	33	6
September 4	Ripon - - - -	199	8	4	0	20	17	25	2
12	Tanjore - - - -	141	5	16	2	4	12	22	2
20	Mongolia - - -	1,099	45	3	1	24	96	15	2
27	Pera - - - -	98	4	2	1	24	9	6	10
October - 4	Delta - - - -	189	7	17	2	8	17	9	8
12	Nyanza - - - -	130	5	8	3	20	12	1	0
20	Syria - - - -	1,113	45	16	3	0	98	5	10
27	Massilia - - -	114	4	15	3	4	10	25	0
November 4	Poonah - - - -	220	9	3	1	6	20	2	4
12	Ripon - - - -	147	6	3	1	0	13	24	10
20	Tanjore - - - -	1,207	49	13	3	4	106	12	8
27	Mongolia - - -	105	4	8	1	16	9	33	6
December 4	Pera - - - -	194	8	2	0	4	17	22	4
12	Delta - - - -	141	5	18	2	0	13	6	0
20	Nyanza - - - -	1,131	46	11	1	12	99	26	8
27	Syria - - - -	104	4	7	0	24	9	25	8
	TOTAL - - -	17,839	746	18	2	26	1,660	2	6

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App. No. 9.

CONVENTION.

MANDONS et ordonnons que les présentes, revêtues du sceau de l'État et insérées au Bulletin des lois, soient adressées aux cours, aux tribunaux et aux autorités administratives, pour qu'ils les inscrivent sur leurs registres, les observent et les fassent observer, et notre ministre secrétaire d'État au département de la justice est chargé d'en surveiller la publication.

Fait au Palais des Tuileries, le 3 Juillet 1861.

Signé *Napoléon.*

Vu et scellé du grand sceau :

Par l'Empereur :

Le Garde des sceaux, Ministre Sécrétaire d'État au Département de la Justice,

Le Ministre d'État,

Signé *Delangle.*

Signé *A. Walewski.*

Convention entre le Ministre des Finances et la Compagnie des Services Maritimes des Messageries Impériales, pour l'exécution du Service Postal de l'Indo-Chine.

Entre Son Excellence le ministre des finances et la compagnie des services maritimes des messageries impériales, représentée par M. Armand Béhic, président du conseil d'administration, dûment autorisé par le délibération de ce conseil, en date du 21 Mars 1861.

Il a été convenu ce qui suit :

Art. 1er. La compagnie des services maritimes de messageries impériales, après avoir pris connaissance du cahier des charges annexé à la présente convention.

S'engage à desservir pendant vingt-quatre ans les lignes postales d'Indo-Chine, conformément aux clauses et conditions du cahier des charges précité et à celles ci-dessous, et ce, moyennant le payement d'une subvention annuelle moyenne de six millions de francs (6,000,000f).

Son Excellence le ministre des finances accepte, au nom de l'État, l'engagement contracté par la compagnie et lui garantit le payement de la subvention stipulée ci-dessus.

2. Pour constituer l'annuité moyenne de six millions de francs, la quotité de la subvention afférente à chacune des vingt-quatre années de concession est fixé ainsi qu'il suit :

Pendant les trois premières années	7,500,000f
Pendant les trois années suivantes	7,000,000
Pendant les trois années suivantes	6,500,000
Pendant les trois années suivantes	6,000,000
Pendant les six années suivantes	5,500,000
Pendant les six dernières années	5,000,000

Pour indemniser la compagnie des frais d'envoi des navires dans les mers de l'Indo-Chine, il lui sera alloué une somme de un million huit cent soixante et quinze mille francs, une fois payée, représentant trois mois de la subvention annuelle stipulée au paragraphe précédent, pour la première période d'exploitation.

Cette allocation sera payée à la compagnie dans les six mois qui suivront l'inauguration de la ligne principale de Suez à Saïgon.

3. Si par suite de circonstances de guerre ou d'événements imprévus ayant un caractère général et public, le fret des navires charbonniers ou le taux de l'assurance maritime, dans les mers de l'Indo-Chine, venait à éprouver une hausse considérable et de nature à rendre insuffisant le concours de l'État, il pourrait être alloué à la compagnie une indemnité qui serait réglée par décret, le Conseil d'État entendu.

4. L'Etat avancera à la compagnie une somme de douze millions, payable par tiers à la fin de chacune des trois années qui précéderont la date fixée par le cahier des charges pour l'ouverture des services complets.

Cette avance, augmentée des intérêts à cinq pour cent l'an, afférents aux sommes versées pendant ladite période préliminaire, formera la dette de la compagnie envers l'État.

Cette dette ne sera pas productive d'intérêts. Elle sera remboursée par la compagnie en douze annuités de un million cinquante mille huit cent trente-trois francs trente-trois centimes (1,050,833f 33c) chacune, dont la première sera exigible un an après l'ouverture des services complets.

A défaut de payement par la compagnie des annuités échues, elles seront prélevées, sans qu'il soit besoin de mise en demeure, sur le montant des subventions à payer par l'État.

Le matériel naval servant à l'exploitation des lignes de l'Indo-Chine sera affecté à la garantie de la dette qui fait l'objet du présent article. Le ministre des finances prendra à cet effet les mesures qu'il jugera convenables pour sauvegarder les droits de l'État, à raison des fonds par lui versés.

Cette garantie sera restreinte au fur et à mesure et à proportion des remboursements effectués par la compagnie.

5. Les

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5. Les contrats de concession relatifs aux services postaux de la Méditerranée et de la mer Noire, à l'exception des lignes d'Italie et de l'Algérie, sont prorogés jusqu'au terme de la concession du service du Brésil faite à la compagnie en vertu de la loi du 17 Juin 1857.

Pendant la période de prorogation, la compagnie aura droit à une subvention annuelle égale à celle dont elle aura joui pendant l'année 1871, déduction faite de la part de subvention afférente aux parcours des lignes d'Italie, et en tenant compte, sur les bases posées par l'article 6 ci-après, des modifications d'itinéraire qui auraient pu être introduites en vertu dudit article. Cette subvention sera fixe, sauf les modifications résultant des remaniements d'itinéraire qui pourraient avoir lieu ultérieurement, en vertu de la faculté ouverte au Gouvernement par le même article.

En considération de cette prorogation, la compagnie s'engage :

1° A comprendre sans augmentation de subvention, dans les itinéraires réglementaires à exploiter jusqu'au 9 Septembre 1871, une ligne directe hebdomadaire de Marseille à Naples par Civita-Vecchia :

2° A établir aussi, sans augmentation de subvention pendant toute la durée du contrat de concession relatif à l'Indo-Chine, une ligne mensuelle de Marseille à Alexandrie, en communication directe avec les lignes de l'Indo-Chine.

Le département des finances, sur la proposition de la compagnie, réglera l'itinéraire à observer sur cette ligne, dont l'exploitation demeurera d'ailleurs soumise à toutes les obligations résultant du cahier des charges ci-annexé.

6. Le Gouvernement se réserve faculté, la compagnie entendue, de supprimer à toute époque, dans les itinéraires de la Méditerranée et de la mer Noire (y compris les lignes d'Italie et à l'exception de celles d'Algérie), ceux des services qui pourraient être devenus inutiles tant au point de vue postal qu'au point de vue commercial.

Le Gouvernement se réserve également la faculté d'appliquer, la compagnie entendue, tout ou partie de la portion de subvention afférente aux services supprimés, à des parcours à accomplir dans les mêmes mers et sur d'autres points.

Il sera tenu compte, pour le remaniement des itinéraires et pour le réglement des subventions, du nombre des lieues marines supprimées et à parcourir à nouveau, ainsi que de la puissance des navires effectés à l'ancien service et à affecter au nouveau.

Pour servir de base à ce calcul, la subvention moyenne dont la compagnie est appelée à jouir jusqu'à l'expiration des contrats relatifs aux services de la Méditerranée et de la mer Noire, est fixée à vingt et un francs trois centimes par lieue marine parcourue, correspondant à un échantillon moyen de navires de deux cent quarante chevaux.

L'échantillon des navires sur les lignes à supprimer sera établi en prenant la moyenne des bâtiments employés par la compagnie sur ces lignes pendant les six années qui auront précéde la date de la suppression.

L'échantillon des navires à employer sur les lignes à établir à nouveau sera déterminé par le ministre des finances, la compagnie entendue, en tenant compte des nécessités postales et commerciales du service à accomplir.

Si le ministre des finances ne jugeait pas à propos de remplacer les parcours supprimes, la subvention serait diminuée proportionellement à ces parcours, et la compagnie aurait droit, s'il y avait lieu, à une indemnité qui sera réglée suivant les procédés prévus à l'article 45 du cahier des charges.

7. A l'expiration de la douzième année d'exploitation du service de l'Indo-Chine, et sous réserve de prévenir la compagnie, au moins un an à l'avance, l'État aura droit de résilier les concessions faites à la compagnie dans la Méditerranée, dans la mer Noire et dans les mers de l'Indo-Chine.

Si l'État n'a pas usé de cette faculté à la date ci-dessus indiquée, la présente convention sortira son plein et entier effet.

En cas de résiliation, l'État devrait, sur la demande de la compagnie, reprendre le matériel naval affecté au service de l'Indo-Chine. Il rachèterait, en outre, le combustible et les approvisionnements de toute espèce, formés au delà du Cap pour l'usage des ateliers et de la navigation de la compagnie, et enfin les établissements à terre spécialement créés pour ce service.

L'obligation de rachat ne s'appliquera ni au matériel naval, ni aux établissements existants dans la Méditerranée et dans la mer Noire, ni aux approvisionnements créés par la compagnie pour le service de ces mers.

En cas de reprise par l'État des objets énumérés dans le présent article, l'estimation en sera faite par voix d'expertise, suivant les formes déterminées par l'article 45 du cahier des charges.

La valeur des navires repris sera estimée non-seulement en considération de leur valeur intrinsèque comme instruments de navigation, mais en tenant compte de leur valeur comme instruments d'exploitation commerciale.

Le montant de l'expertise sera payé à la compagnie dans les six mois qui suivront la reprise par l'État du matériel des approvisionnements et des établissements.

8. La compagnie aura la faculté d'exploiter ses ateliers au delà du Cap et de les mettre à la disposition, soit du public, soit de la marine de l'État.

9. La compagnie est dispensée de l'exécution de la seconde ligne du Brésil et de la Plata partant de Marseille.

Les clauses de la convention du 16 Septembre 1857 et du cahier des charges, y annexé, relatives à cette seconde ligne, sont et demeurent annulées.

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La subvention accordée à la compagnie par la convention du 16 Septembre 1857 est réduite de la somme de deux millions trois cent quatre-vingt-treize mille huit cent vingt-huit francs.

10. La présente convention et les actes qui s'y rapportent seront enregistrés au droit fixe d'un franc.

11. La présente convention ne sera valable qu'après que ses stipulations financières auront été sanctionées par la loi, et qu'elle aura été approuvée par un décret impérial.

Cahier des Charges pour l'Exploitation du Service Postal de l'Indo-Chine.

Chapitre Premier.

Itinéraire.

Art. 1er. Le service à exécuter comprend une ligne principale et cinq services annexes indiqués ci-après.

L'itinéraire de la ligne principale partant une fois par mois de Suez, en communication avec les services de la Méditerranée par Alexandrie, et aboutissant à Saïgon, est fixé ainsi qu'il suit :

De Suez à Aden - - - - - - -	436 lieues marines.
D'Aden à Pointe-de-Galles - - - - -	711 2/3
De Pointe-de-Galles à Penang - - - -	404 1/3
De Penang à Singapore - - - - -	127
De Singapore à Saïgon - - - - -	212 1/3
	1,891 1/3

(Douze voyageurs aller et retour par an : parcours annuel quarante-cinq mille trois cent quatre-vingt-quatre lieues marines.)

Cinq services annexes seront établis avec les itinéraires suivants :

1°. D'Aden à la Réunion et Maurice, huit cent vingt-cinq lieues marines.
(Douze voyages par an : parcours annuel dix-neuf mille huit cents lieues marines.)

2°. De Pointe-de-Galles à Calcutta et Chandernagor, savoir :

De Pointe-de-Galles à Pondichéry - - -	163 1/3 lieues marines.
De Pondichéry à Madras - - - - -	30
De Madras à Calcutta et à Chandernagor - -	256 2/3
	450

(Douze voyages par an : parcours annuel dix-neuf mille huit cents lieues marines.)

3°. De Saingapore à Batavia, cent quatre-vingt-trois lieues marines un tiers.
(Douze voyages par an : parcours annuel quatre mille quatre cents lieues marines.)

4°. De Saïgon à Manille, trois cent deux lieues marines deux tiers.
(Douze voyages par an : parcours annuel sept mille deux cent soixante-quatre lieues marines.)

5°. De Saïgon à Shang-Haï, savoir :

De Saïgon à Hong-Kong - - - - -	305 lieues marines.
De Hong-Kong à Shang-Haï - - - -	266 2/3
	571 2/3

(Douze voyages par an : parcours annuel treize mille sept cent vingt lieues marines.)

La distance à parcourir annuellement sur la ligne principale et les annexes est de cent un mille trois cent soixante-huit lieues marines.

Le ministre aura la faculté de supprimer des escales ou d'en établir de nouvelles, d'augmenter le nombre des ordinaires sur les lignes ci-dessus mentionnées, ou bien encore d'établir des services nouveaux.

Dans ces divers cas, le nombre des bâtiments et les conditions du marché seront fixés de nouveau et de gré à gré.

2. L'État s'interdit la faculté de subventionner tout service particulier d'un port de France quelconque ou de Suez sur les points déjà desservis par la compagnie.

Cette interdiction ne s'applique néanmoins ni au prolongement des lignes desservies par la compagnie, ni à leur rayonnement.

Dans le cas où le Gouvernement reconnaîtrait l'utilité de prolonger ou de faire rayonner les lignes concédées par le présent marché, il réserverait de préférence à la compagnie, à conditions égales, la concession des nouveaux services à établir.

3. La compagnie s'engage à transporter gratuitement les correspondances sur la ligne principale et sur les lignes annexes, ainsi que sur toute ligne, soit parallèle, soit de prolongement ou d'embranchement, qu'elle ajouterait spontanément aux services qui font l'objet du présent marché, et pendant tout le temps qu'elle maintiendrait ces lignes.

Elle

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Elle est tenue, en outre, de transporter gratuitement les espèces d'or et d'argent pour le service de l'État.

4. L'administration, après avoir pris l'avis de la compagnie, fixera les jours et heures de départ des points extrêmes, tant des lignes principales que des embranchements.
Elle réglera aussi le temps maximum à passer aux escales, entenant compte des besoins du service pour les dépêches, les voyageurs et les marchandises, et déterminera enfin la durée moyenne des traversées.

5. Le départ de paquebots du port de Suez ne pourra avoir lieu avant l'arrivée des dépêches de France. Toutefois, ce retard, dont la cause devra être mentionnée sur le journal de bord par le commissaire de Gouvernement, ne pourra excéder douze heures sans le consentement de la compagnie.
La compagnie n'aura droit à aucune indemnité pour la cause de ce retard.

6. Les paquebots ne pourront faire escale ou relâche en d'autres points que ceux désignés par le présent cahier des charges ou fixés comme il est dit ci-dessus.
Si les paquebots se trouvent forcés de relâcher sur d'autres points que ceux indiqués, le cas de force majeure devra être constaté par procès-verbal dressé en la forme d'usage. Si la relâche avait lieu dans un port étranger, le procès-verbal devra être certifié par le consul de France.

7. Il est interdit á la compagnie d'embarquer ou de débarquer des voyageurs et des marchandises ailleurs que dans les ports de relâche réglementaires.

Chapitre II.

Cautionnement.

8. Dans les huit jours qui suivront la notification à elle faite de la concession du service la compagnie sera tenue de verser, soit en numéraire, soit en rente quatre et demi ou quatre pour cent au pair, ou trois pour cent, calculées à soixante et quinze francs, conformément à l'ordonnance 10 Juin 1825, un cautionnement fixé à neuf cent mille francs.
Si le cautionnement est fourni en numéraire, il devra être versé à la caisse des dépôts et consignations. Après que les déposants auront justifié de leurs qualités et auront fait constater sur le registre spécial de cette caisse que le versement a été fait à titre de cautionnement, il leur sera délivré par le caissier général de la caisse des dépôts et consignations une déclaration destinée à leur tenir lieu de récépissé.
Si le cautionnement est fourni en rentes, il sera réalisé entre les mains de l'agent judiciaire du trésor, avec lequel la compagnie ou sa caution sera tenue de passer un acte qui constatera le dépôt, à titre de nantissement, des inscriptions de rentes, avec affectation, par privilége spécial, a la garantie de l'entreprise. Il en sera délivré un bordereau personnel au propriétaire des rentes pour lui servir à toucher les arrérages.

9. Le cautionnement sera affecté à la garantie de l'exécution des obligations contractées par la compagnie pour l'établissement des services mentionnés en l'article 1^er^. Il sera remboursé au fur et à mesure de la réception régulièrement constatée du matériel exigé par l'article 17 ci-après etc., proportionnellement à l'importance de ce matérial.

Chapitre III.

Surveillance du Service.

10. Le commissaire du Gouvernement à Marseille sera chargé de veiller à l'exécution des clauses du présent cahier des charges.
Il pourra être institué, dans le même but, des commissaires du Gouvernement, soit à Suez, soit à Saïgon, soit à la Réunion.
Les commissaires du Gouvernement auront le droit de faire, à bord des paquebots, toute visite et vérification qu'ils croiront necessaires, et ils pourront se faire accompagner, à cet effet, des personnes qu'ils jugeront capables de les assister dans leur examen.

11. Les commissaires du Gouvernement seront nommés par le ministre des finances.

12. Une commission de surveillance, composée de personnes appartenant à la marine militaire, à l'administration et au commerce, sera constituée dans chacun des ports têtes de ligne où cela sera jugé nécessaire. La formation en appartiendra au ministre des finances.
Dans les visites et vérifications que le commissaire du Gouvernement fera à bord des paquebots, suivant le droit qui lui en est attribué par l'article 10, il pourra réclamer le concours de chacun des membres de cette commission.
La commission prononcera sur toutes les décisions qui pourraient être prises par le commissaire du Gouvernement, et dont la compagnie croirait devoir appeler devant elle.

13. Au moment du départ des paquebots, le tirant d'eau fixé pour la pleine charge sera vérifié par les soins du commissaire du Gouvernement, lequel s'assurera que l'équipage est au complet, et constatera l'heure du départ du bâtiment.

14. Le commissaire du Gouvernement et les agents des postes pourront, lorsqu'ils le jugeront convenable, exiger la communication du journal de bord.

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Chapitre IV.

Des Paquebots.

15. La compagnie s'engage à avoir à flot, trois ans après la date du décret de concession, douze bâtiments à vapeur mus par trois mille six cent vingt-cinq chevaux nominaux.

A la même date, le service de toutes les lignes sera en pleine activité.

La compagnie aura le droit de devancer l'époque ci-dessus fixée, en prévenant, un mois à l'avance, l'administration des postes.

Après ces délais et pendant la durée du traité, la compagnie sera tenue de justifier, à toute réquisition, de la possession de douze bâtiments donnant ensemble au minimum la force de chevaux nominaux stipulée au présent article.

16. Les paquebots employés par la compagnie devront naviguer sous pavillon français.

17. En exécution des dispositions de l'article 15, la compagnie achètera ou fera construire:

Quatre navires de quatre à cinq cents chevaux (en moyenne quatre cent cinquante chevaux), ensemble - - - - - - - - - - - -	1,800 chevaux.
Huit navires de deux cent vingt-huit chevaux (force moyenne), ensemble	1,825
	3,625

Ces douzes navires devront être ou avoir été construits en France.

La compagnie fera connaître les chantiers et ateliers dans lesquels seront effectuées les constructions.

L'Administration se réserve le droit d'exercer sa surveillance sur l'ensemble et sur tous les détails de ces constructions. Elle aura la faculté de déléguer à cet effet des agents qui pourront se faire communiquer les plans et marchés, et auxquels les chantiers et ateliers seront ouverts en tout temps.

18. La compagnie sera tenue de remplacer, dans le délai de trente mois, celui de ses navires qui viendrait à se perdre ou à être mis hors de service, de manière à compléter un minimum de trois mille six cent vingt-cinq chevaux.

19. Les vitesses moyennes, par heure, devront être de:

Neuf nœuds cinq dixièmes sur la ligne principale, et de neuf nœuds sur les embranchements.

20. Les bâtiments affectés au service des lignes mentionnées à l'article 1er ne seront employés qu'après avoir été examinés et reçus par une commission spéciale nommée par le ministre des finances, laquelle aura seule qualité pour autoriser la mise en service. Cette commission s'assurera que les bâtiments satisfont aux conditions suivantes:

1° Que les navires et les appareils sont en bon état, d'une solidité suffisante, et propres au service postal et commercial auquel ils sont destinés;

2° Que les chaudières peuvent supporter à froid, sans difformations sensibles, la charge d'epreuve en usage dans la marine impériale;

3° Qu'au tirant d'eau moyen correspondant au demi-chargement, les vitesses des navires sont supérieures de deux nœuds aux vitesses moyennes fixées pour chaque ligne;

4° Que le travail des machines, mesuré sur les pistons au moyen de l'indicateur, est égal à autant de fois deux cents kilogrammes par seconde qu'il y a de chevaux dans la puissance nominale mentionnée dans l'article 17 ci-dessus savoir:

Quatre cent cinquante chevaux en moyenne pour la ligne principale.

Et deux cent vingt-huit chevaux en moyenne pour les embranchements.

Toutefois, il sera accordé une tolérance de cinq pour cent en moins sur la valeur de ce travail mécanique, si le navire satisfait à la condition de vitesse ci-dessus mentionnée.

21. Les paquebots seront installés comme les meilleurs paquebots-poste français ou étrangers; ils comprendront, indépendamment des chambres nécessaires au logement de l'état-major et du poste d'équipage, des emménagements propres à recevoir des passagers de deux classes. Les installations seront pourvues de tous les objets nécessaires à l'usage des voyageurs.

22. Chaque paquebot devra embarquer, outre l'approvisionnement de combustible nécessaire pour accomplir la traversée à laquelle il est destiné, une réserve au moins égale au dixième dudit approvisionnement.

Il devra également prendre l'eau et les vivres solides et liquides nécessaires pour l'équipage et les passagers, même en cas de retard dans la navigation. Chaque paquebot des lignes principales devra être pourvu d'un appareil distillatoire.

23. Chaque paquebot sera, en outre, pourvu d'embarcations de sauvetage et de tous les objets d'armement exigés à bord d'un navire de commerce de première classe, des rechanges et des approvisionnements nécessaires pour assurer une bonne navigation. La commission chargée de la réception desdits navires en examinera l'inventaire, qui sera arrêté définitivement par l'administration, la compagnie entendue, et devra toujours être tenu au courant.

Les

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Les ancres, les câbles, les chaînes et autres objets en fer auront des dimensions et une force d'épreuve réglées d'après ce qui aura été décidé par le ministre des finances, sur l'avis du ministre de la marine, la compagnie entendue.

Tous les objets d'armement devront, de même, offrir toutes les garanties nécessaires à une bonne et sûre navigation.

Les paquebots se soumettront aux prescriptions réglementaires de la marine pour les feux de position à entretenir à bord.

24. A chaque départ, le commissaire du Gouvernement pourra vérifier si rien ne s'oppose à ce que le bâtiment puisse mettre en mer sans compromettre le service postal et la sûreté des personnes. S'il jugeait qu'il y eut lieu de l'empêcher, il convoquerait immédiatement la commission de surveillance, qui aurait le droit d'exiger que le bâtiment fût remplacé.

Faute par la compagnie de satisfaire à cette injonction, le commissaire prendra telles mesures qu'il jugera utiles pour assurer le départ des dépêches au jour fixé.

Chapitre V.

De l'entretien du Matériel des Paquebots.

25. Les paquebots, leurs machines et leurs objets d'armement devront être tenus en état constant de bon entretien.

Des inspections seront faites par tels agents que le ministre des finances voudra commettre à cet effet, afin de s'assurer de l'état du matériel et de tenir la main à ce que la compagnie n'apporte aucune négligence dans cette partie du service.

Chapitre VI.

De la Composition des Equipages.

26. Chaque paquebot aura une équipage dont le minimum est fixé ainsi qu'il suit :

	Par bâtiment de la force de		
	450 à 500 chevaux.	400 chevaux.	200 à 228 chevaux.
Capitaine	1	1	1
Second capitaine	1	1	1
Premier lieutenant	1	1	1
Second lieutenant	1	1	1
Troisième lieutenant	1	—	—
Chirurgien	1	1	1
Agent comptable	—	—	—
Premier maître d'équipage	1	1	1
Deuxième maître d'équipage	1	1	1
Charpentier, menuisier, calfat		2	1
Matelots		22	16
Novices		4	2
Mousses		2	2
Premier maître mécanicien	2	1	1
Deuxième maître mécanicien	1	3	2
Aides mécaniciens	3	3	2
Premier chauffeur et ouvriers graisseurs		16	12
Soutiers	12	10	6
Cuisinier d'équipage	3	3	2
Domestiques	8	8	4
Femme de chambre	1	1	1
Boulanger	1	1	1
Cuisinier et aides	—	—	—
Personnes	92	83	59

Chapitre VII.

De l'Agent des Postes à Bord.

27. Il pourra y avoir à bord de chaque paquebot un agent des postes nommé par le ministre des finances et payé par l'État, auquel seront confiées la réception, la conservation et la transmission des dépêches.

L'agent des postes aura une caractère officiellement reconnu par toutes les personnes du bord, ainsi qu'une autorité entière et exclusive pour tout ce qui concerne la réception et la transmission des dépêches qui lui seront confiées.

Une cabine de première classe sera gratuitement affectée au logement de l'agent des postes. Du plus, un local fermant à clef, contigu à cette cabine et approprié pour servir

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de bureau, sera disposé sur chaque paquebot d'après les indications qui seront fournies par l'administration des postes. Ce local devra être bien éclairé et suffisamment grand pour confectionner les dépêches qu'il y aura lieu de former pendant le cours du voyage. Un autre local, placé dans un lieu sûr et convenable, et fermant à clef, devra être disposé pour y déposer les dépêches.

L'agent des postes sera nourri à la table des passagers de première classe ou à celle des officiers pendant les relâches, moyennant moitié des prix du tarif.

Une embarcation convenablement armée sera mise à sa disposition, mais seulement pour les besoins du service.

Aucune personne autre que le capitaine ou l'un des officiers n'aura le droit de profiter de cette embarcation dès que les dépêches y seront embarquées.

Dans le cas où le bâtiment serait forcé de mouiller en rade par suite du mauvais temps, l'agent des postes pourra exiger qu'on mette à sa disposition celle des embarcations du bord tenant le mieux la mer. Dans cette circonstance, un officier devra en prendre le commandement.

28. Dans le cas où un agent de l'inspection générale des finances ou un agent du service des postes en mission relative au service de la correspondance serait embarqué à bord des bâtiments de la compagnie, il leur sera accordé gratuitement un passage de première classe, nourriture non comprise.

29. S'il n'est point placé d'agents des postes à bord des paquebots, ou si cet agent se trouvait, pendant le cours du voyage, empêché pour une cause quelconque de continuer son service, le commandant du bâtiment deviendrait responsable des dépêches au même titre qu'un agent des postes, et ce, sans avoir droit à aucune indemnité à raison de ce fait.

L'administration se réserve pour les cas énoncés ci-dessus, de prendre telles mesures qu'elle jugera convenables pour assurer la conservation et l'inviolabilité des dépêches.

30. Dans le cas où, par suite d'un accident éprouvé par un des bâtiments de l'entreprise, le voyage commencé ne pourrait s'achever, l'agent des postes sera chargé, si faire se peut, et en s'entendant à ce sujet avec les capitaines et les agents de la compagnie, d'assurer le transport des dépêches par le premier paquebot Français ou étranger se rendant au lieu de leur destination ou en communication avec les points intermédiaires ou correspondants. Les frais de ce transport extraordinaire seront à la charge de la compagnie, et retenus par l'administration sur le payement de la subvention, selon les formes établies par le paragraphe 1er de l'article 41.

31. Il ne sera reçu à bord que les dépêches et correspondances remises à l'agent des postes pour entrer dans le service postal, et les papiers de service comprenant les connaissements et les expéditions de navires, ainsi que la correspondance de la compagnie avec ses agents, et de ceux-ci avec elle. Les lettres et paquets formant cette correspondance devront être placés sous bandes, mais resteront entre les mains du capitaine.

Toutefois, en cas de suspicion de fraude, l'agent des postes aura le droit d'exiger l'ouverture des lettres et paquets, et procédera, à bord et en présence du destinataire, à un examen sommaire de leur contenu.

Conformément aux dispositions de l'arrêté du 27 prairial an IX. il est interdit à la compagnie de transporter de plis cachetés.

Toute contravention aux lois sur le transport des lettres commise par la compagnie ou par ses agents sera punie conformément aux lois.

En cas de récidive, et si les circonstances démontraient que le fait de contravention doit être attribué à l'un des agents de la compagnie, cet agent, sur la demande du ministre, devra être destitué, sans préjudice des peines qu'il aura encourues.

Chapitre VIII.

Du Transport des Passagers et des Marchandises.

32. La compagnie aura la faculté de transporter par les paquebots des passagers et des marchandises.

Le produit du transport des passagers, des matières d'or et d'argent et des marchandises, appartiendra à la compagnie.

Le produit de la taxe des correspondances et de leur transport appartiendra à l'administration des postes.

La compagnie ne pourra faire aucune opération commerciale, soit pour son compte, soit en participation, sur toutes les lignes indiquées au présent cahier des charges.

33. Les passagers fonctionnaires civils ou militaires et les ecclésiastiques Français voyageant sur réquisition de l'administration seront admis sur les paquebots de la compagnie avec leur famille et leur suite, en vertu d'une lettre des commissaires du Gouvernement en France; à Suez, à Saïgon ou à la Réunion, des gouverneurs et des commandants de station dans nos colonies, à trente pour cent de rabais sur les prix qui seront adoptés par la compagnie, tant pour les passagers de première et de deuxième classe que pour les passagers de pont.

Toutefois, si l'embarquement des passagers, en virtu du présent article, excédait le quart des places disponibles sur chaque navire, la compagnie devrait être prévenue un mois à l'avance pour les expéditions d'Europe dans l'Indo-Chine, et huit jours à l'avance pour les expéditions de l'Indo-Chine en Europe.

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Les lazaristes, missionnaires, sœurs de charité et tous autres membres des ordres religieux seront, s'ils sont Français, admis gratuitement à bord des paquebots, en France, sur la réquisition du ministre des finances transmise par les commissaires du Gouvernement; dans nos colonies, sur celle des gouverneurs, et à l'étranger, sur celle des agents diplomatiques ou consulaires.

Les marins, les soldats convalescents des stations et garnisons coloniales, les rapatriés et les indigents seront transportés aux frais de l'État au prix de sept francs par jour, nourriture comprise, la nourriture sera celle de l'équipage pour les classes énumérées ci-dessus, à l'exception des sous-officiers, qui seront admis à la table des maîtres.

Le nombre des personnes embarquées aux termes des deux paragraphes précédents ne pourra excéder, sur chaque ligne, dix par voyage, sans le consentement de la compagnie.

Le département de la marine aura, sur chaque paquebot, droit à vingt places pour sous-officiers, marins ou soldats et personnes assimilées, au prix de sept francs par jour et aux conditions de nourriture indiquées ci-dessus.

34. Les passagers seront traités convenablement à bord. Un registre sera toujours ouvert pour recevoir les plaintes que l'on croirait pouvoir exprimer. La commission de surveillance appréciera l'importance de ces plaintes, et jugera s'il y a lieu d'en référer au ministre des finances. Dans ce cas, le ministre aura le droit de provoquer le remplacement des agents reconnus coupables.

35. La compagnie sera tenue, sur chaque ligne, de recevoir à bord de ses paquebots, quand elle en sera requise, jusqu'à concurrence du dixième du tonnage du bâtiment, les armes et approvisionnements de diverses natures destinés au service de l'État. Les frais de transport de ces objets seront payés avec un rabais de trente pour cent sur le prix du tarif établi par la compagnie. En cas d'embarquement de munitions de guerre, toute la responsabilité des risques qu'elles occasionneront demeurera à la charge de l'État. Si l'Etat fait accompagner ces munitions par un agent spécial, la compagnie devra suivre ses indications pour l'arrimage des munitions à bord et les précautions à prendre.

Il est d'ailleurs bien entendu que la compagnie ne sera tenue de recevoir que les quantités d'objets qui pourront être contenues dans l'emplacement disponible à bord de ces paquebots au moment où elle aura été prévenue.

Chapitre IX.

Des Pénalités.

36. Les départs des paquebots auront lieu aux jours et heures fixés par l'administration des postes.

Tout retard dans l'heure du départ, tant des points extrêmes que des points intermédiaires de chaque ligne, hors les cas de force majeure dûment constatés, et ceux où les paquebots auront été retenus temporairement par l'autorité compétente, rendra la compagnie passibles d'une amende de cinquante francs par heure.

Au delà de douze heures consécutives de retard non justifié, l'amende sera portée à cent francs par heure.

S'il est prouvé que le retard a eu pour cause l'embarquement tardif de marchandises ces amendes seront doublées.

37. Dans le cas où le retard apporté au départ d'un paquebot dépasserait vingt-quatre heures, le commissaire du Gouvernement, et, à son défaut, les agents des postes prendront, de concert avec les autorités locales, la compagnie entendue, toutes les mesures nécessaires pour assurer le service des dépêches, et tous les frais résultant des dispositions prises seront mis à la charge de la compagnie.

Lorsque, pour une cause quelconque, les dépêches ne pourront être expédiées que par le paquebot qui effectuera le départ réglementaire postérieur au départ non accompli, le nombre de lieues qui n'aura pas été parcouru dans ces conditions donnera lieu à une reduction proportionnelle de la subvention.

38. En cas de relâche non justifiée par des circonstances de force majeure, l'amende sera portée pour une première relâche à mille francs et à deux mille francs pour la seconde; à la troisième infraction, cette amende pourra être portée à cinq mille francs.

Dans les cas prévus par le paragraphe précédent, s'il a été embarqué ou débarqué des marchandises ou des voyageurs, les amendes seront doublées.

39. En cas de perte d'un paquebot, si le remplacement prescrit par l'article 18 n'a pas lieu dans le délai fixé, la compagnie, sauf les circonstances imprévues dont le ministre des finances sera juge, sera passible, par chaque jour de retard, d'une amende de trois cents francs, s'il s'agit de remplacer un navire de quatre cent cinquante chevaux, et d'une amende de cent-cinquante francs s'il s'agit de remplacer un navire de moins de quatre cent cinquante chevaux.

40. Dans le cas où la compagnie ne commencerait pas le service dans le délais fixés par l'article 15 ci-dessus, elle subira une retenue de cent cinquante francs par jour de retard et par chaque ligne qui ne sera pas en pleine activité de service.

41. Le montant des amendes et des retenues, fixé conformément aux dispositions des articles ci-dessus, sera prélevé par l'administration sur les sommes dues à la compagnie.

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Chapitre X.

Durée du Traité.

42. La durée du traité sera de vingt-quartre années consécutives à partir de trois ans après la date du décret de concession, ou à partir de l'époque à laquelle tous les services seront en pleine activité, si cette époque est antérieure aux trois ans.

Chapitre XI.

Mode de Payement de la Subvention.—Epoque des Payements.

43. Moyennant la subvention qui sera allouée, la compagnie exécutera les services mentionnés à l'article 1er du présent cahier des charges, à ses frais, risques et périls, et toutes les dépenses de nature quelconque, y compris les risques de la mer, seront à sa charge.

44. Le payement de la subvention sera ordonnancé à terme échu par l'administration des postes, de mois en mois et par douzième, sous la déduction des retenues qui auraient pu être prononcées dans les cas prévus au présent cahier des charges.

Si, avant les délais fixés par l'article 15 du présent cahier des charges, la compagnie met en exploitation la ligne principale et l'un ou plusieurs des embranchements, il lui sera payé une subvention proportionnelle au parcours effectué et à la puissance des navires affectés à chaque ligne.

Les payements auront lieu à Paris ou à Marseille, au choix de la compagnie.

Chapitre XII.

En Cas de Guerre.—Du Règlement des Indemnités.

45. En cas de guerre maritime ou d'hostilités dans l'un quelconque des bassins desservis par la compagnie, le Gouvernement supportera les chances de guerre qui pourraient en résulter, à moins qu'il n'ait mis la compagnie en demeure de cesser son service.

Si l'État met la compagnie en demeure de cesser son service, la compagnie aura cependant la faculté de le continuer, en tout ou en partie, à ses risques et périls.

Le temps de la cessation totale ou partielle sera, au choix de la compagnie, compris ou non compris dans la durée de la concession.

Si le service est suspendu, l'État aura la faculté de prendre possession immédiate des bâtiments demeurés sans emploi, avec tout leur matériel et approvisionnements.

Il sera fait du tout une estimation par une commission composée de deux personnes au choix du ministre des finances, et de deux autres personnes au choix de la compagnie. Ces quatre personnes, à la majorité des voix, en désigneront une cinquième, à laquelle la présidence sera dévolue. En cas de partage des voix, cette désignation devra être faite par le tribunal civil du siége de la compagnie.

Après la guerre, les bâtiments, le matériel et les approvisionnements seront remis, lors de la reprise du service, sur une estimation semblable, qui tiendra compte des dépréciations et des pertes pour une cause quelconque.

Au préalable, l'État fera réparer les navires pour qu'ils puissent exécuter le service postal et commercial.

L'État payera à la compagnie, pour tout loyer, une somme annuelle représentant l'intérêt à cinq pour cent du capital réglé par la commission ci-dessus et la part des frais restant à sa charge. La subvention sera d'ailleurs suspendue pendant toute l'interruption du service.

46. Dans le cas où l'Etat n'userait pas de la faculté qui lui est donnée de prendre possession des bâtiments, du matériel et des approvisionnements de la compagnie, il aurait à lui payer, à partir du jour de la cessation de tous les services, un intérêt de cinq pour cent de son capital, plus cinq pour cent pour dépréciation de la valeur des bâtiments, du matériel des approvisionnements, le tout réglé par la commission instituée par l'article 45, plus la part des frais restant à sa charge.

47. Dans tous les cas, la guerre terminée, le ministre des finances pourra relever la compagnie des obligations du marché, si les événements de la guerre l'avaient mise dans l'impossibilité de reprendre le service.

De son côté, la compagnie aura la faculté de se refuser à exécuter immédiatement le traité, si les bâtiments livrés par elle à l'État ne lui étaient pas rendus en assez grand nombre pour permettre d'effectuer un service complet.

Dans ce cas, des arrangements seraient pris entre le ministre des finances et la compagnie, relativement aux époques de l'exécution partielle ou intégrale de telle ou telle ligne.

48. En toute circonstance politique extraordinaire, même hors le cas de guerre maritime, le Gouvernement pourra acheter ou prendre à fret un ou plusieurs paquebots. Dans les mêmes circonstances et en cas d'urgence, les gouverneurs, dans les colonies, qui auraient à opérer des mouvements de troupes, pourront requérir l'embarquement de ces troupes sur les navires de la compagnie.

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Dans ces deux cas, l'indemnité de vente ou d'affrétement, ainsi que celle due pour les dommages que la compagnie pourrait en éprouver dans l'exécution de son service, seront réglées par la commission instituée par l'article 45.

Chapitre XIII.

Mode de Concession.

49. La concession des services mentionnés dans le présent cahier des charges sera faite directement par le ministre des finances.

Chapitre XIV.

Dispositions Particulières.

50. Dans le cas où, pour toute autre cause que le cas de guerre, ou de force majeure, qui s'opposerait à la continuation du service faisant l'objet du présent cahier des charges, la compagnie suspendrait ou cesserait l'exploitation, l'État aurait le droit de reprendre, à dire d'experts, les bâtiments avec tout leur matériel et leurs approvisionnements, sans préjudice des dommages-intérêts qui pourraient être dus à l'État.

51. La compagnie ne pourra sous-traiter de son entreprise en tout ou en partie sans le consentement par écrit du ministre des finances. S'il était reconnu qu'elle eût sous-traité sans son consentement préalable, le ministre des finances serait en droit de réaliser le traité sans indemnité pour la compagnie.

52. Toutes les difficultés auxquelles pourrait donner lieu l'exécution ou l'interprétation des clauses du présent cahier des charges seront jugées administrativement par le ministre des finances, sauf recours au conseil d'État.

53. La compagnie aura son siége à Paris.

Vu pour être annexé au projet de loi adopté par le Corps législatif dans sa séance du 17 juin 1861.

Le Président,
Signé Comte *de Morny.*

Les Secrétaires,
Signé *Vernier, Joachim Murat,* baron *Jérôme David,*
comte *Le Peletier d'Aunay.*

Vu pour être annexé à la loi relative à l'exécution du service postal de l'Indo-Chine.

Le Sénateur secrétaire du Sénat,
Signé Baron *T. de Lacrosse.*

Vu pour être annexé à la loi du 3 juillet 1861.

Le Ministre d'État,
Signé *A. Walewski.*

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Appendix, No. 10.

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PAPERS handed in by Mr. *H. C. Forde.*

MALTA AND ALEXANDRIA TELEGRAPH.

FINAL REPORT of *H. C. Forde* to the Secretary to the Board of Trade. Dated 1st November 1861.

Sir, Malta, 1st November 1861.

THE last section of the Malta and Alexandria cable was completed on the 28th September, and the 30 days' probation, during which the Government official tests were taken, expired on the 28th October. It now therefore becomes my duty to lay before you, for the information of the Lords of the Committee of Privy Council for Trade, my final report and certificate of the state of the cable.

I have already forwarded to you, from time to time, detailed reports of the laying of each section. I shall therefore in this report confine myself to giving a description of the general measures adopted in the manufacture, transport, and laying of the cable, of the manner in which the work was performed, as well as of the electrical condition of the line before and after submersion, and at the expiration of the 30 days after the laying of the last section.

General Remarks.

The manufacture of this cable commenced in June 1859, and it has therefore been two years and four months in hand.

It was however only decided in December last (having been first destined to be laid between Falmouth and Gibraltar, and subsequently between Rangoon and Singapore) to submerge it between Malta and Alexandria, when orders were immediately given to have the route sounded and surveyed.

This portion of the work, so essential in carrying out an undertaking of this kind, was performed most expeditiously, and in a very complete manner, by Captain Spratt of Her Majesty's ship "Medina," and by Commander Mansel of the "Firefly," and I trust the result of their labours will tend materially to secure the permanence of the line, as in previously-laid cables failures can be traced to the want of knowledge of the depths, configuration and composition of the sea bottom. I have therefore every reason to expect that these precautions will have removed all risk of failure on that head.

The design adopted by the late Mr. Lionel Gisborne and myself has proved superior to that of any other cable hitherto laid.

Its conductor is far larger and therefore offers much less resistance to the passage of electricity than in any existing cable, and owing to the extra thickness and good quality of the gutta-percha covering, as well as to the improved method of manipulating and laying it on, there is strong additional reason to hope that the cable will remain in good condition for a considerable period.

During the progress of the work, and from its very commencement the cable has been subjected to the most searching and delicate system of tests, arranged and carried out by Messrs. Siemens, Halske, & Co., and under Mr. W. Siemens' immediate superintendence.

It was specified that the cable should be kept constantly under water and so tested, and this arrangement has been carried out with but few and unavoidable exceptions.

The tests so obtained are incomparably more valuable than if the cable had been tested in a dry condition, as has hitherto been the case.

Every length as the manufacture progressed was subjected to hydraulic pressure, from 600 to 800 lbs. to the square inch; this is, with one slight exception, a greater pressure than it has now to bear. I may here mention that when undergoing the pressure test the electrical condition of the cable invariably improved about 10 per cent.; the improvement that has been observed during its submersion is no doubt partly due to pressure.

It was decided by Her Majesty's Government, under our advice, to have the cable laid (with the exception of a length of about 70 miles from Malta, where deep water was unavoidable) in such depths as would enable repairs to be easily effected should such become necessary. And wherever the bottom was uneven and rocky, as was the case in several places between Benghazi and Alexandria, a very heavy cable, weighing about seven tons to the mile, was laid instead of the main or deep-sea cable which weighed 2½ tons to the mile (which latter, however, is more than double the weight of the Atlantic and Red Sea, and Indian cables).

In carrying out the principal of a shallow water line it was of course necessary to follow the general direction of coast; this could not be done without the expenditure of about 1,300 miles of cable instead of 900, which is all that would have been required had the direct and deeper route been adopted.

It therefore became desirable to divide the line into sections, and accordingly Tripoli and Benghazi were

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were selected as intermediate stations; this arrangement not only greatly increases the speed of transmission, but facilitates to a considerable extent testing operations and the determination of the position of faults or breaks in the cable if such should occur.

The Malta and Alexandria cable is not only the first instance of a cable during manufacture having been constantly kept and tested under water, but by the special arrangements made on board the ships "Rangoon" and "Malacca" it was carried to its destination completely submerged in water-tight tanks from which it was paid out into the sea.

This precaution we thought a most essential one, and is the only really reliable plan of preventing spontaneous heating, which is liable to take place to an injurious extent when the cable is coiled up in a large and compact mass. And it also preserves the gutta-percha from injury by oxidation from exposure to air and light. Gutta-percha, as far as past experience proves, is practically indestructible if constantly kept submerged in water.

It has also the further advantage of enabling those engaged in the operation of laying the cable to judge of its electrical condition to the last, and guard against faults passing over into the sea, whether these occur maliciously or otherwise.

Execution of the Work.

The contract for the cable was divided into three parts, viz:

1st, contract for the supply of the gutta-percha covered wire or core.

2nd, contract for the outer covering of this core, or making it into a finished cable.

3rd, contract for laying and maintaining the cable for 30 days after complete submersion.

The 1st contract was made between the Government and the Gutta-Percha Company, and it is but due to them to state that their contract was performed in a very liberal and spirited manner, their workmanship and materials improving as the work progressed and as experience enabled improvements to be made.

The second and third contracts were let to Messrs. Glass, Elliot, & Co., who have carried out their portion of the work in a manner which will I trust stand the test of time and do them credit.

The first portion of this cable left England on board the "Malacca" on the 25th April last, and on the 27th May the paying out was commenced at Malta; and the first section to Tripoli was finished on the 30th of the same month.

This was so successfully accomplished that it gives me every reason to believe the cable will continue in the same good condition for the transmission of messages, as it is at present, after having laid submerged for five months.

The length of cable in this section is 230·2 knots. The landing place at Malta is in a well-sheltered bay in Marsa Scirrocco, on the east side of the Island of Malta, and is connected with the chief office in Valetta by means of a well constructed two-wire land-line 5 miles in length, supported by iron posts firmly built into walls, or inserted into the rock.

The shore end, which is of the heaviest description, is about 4 miles in length, lies on an even and good bottom, and extends out to a depth of about 50 fathoms.

At Tripoli, the shore end is also laid on a good sandy bottom and beach, about 1 mile to the west of the town, and is connected with the office in the same manner as at Malta; its length is also 4 miles, and extends out into a depth of about 30 fathoms.

After the completion of this section, there remained on board 290 knots of cable, which were laid in the direction of Benghazi, the end being sealed and buoyed on the morning of the 3rd June, in the Gulf of Syrtis.

The next portion of the cable laid was from Alexandria towares Benghazi. This was the most difficult and critical portion of the whole line to lay, in consequence of the very uneven, and in parts rocky nature of the bottom.

Captain Spratt had prepared an enlarged chart of this part of the coast for 300 miles from Alexandria to the Gulf of Milhr, and had taken soundings much closer than on any other portion of the line.

Vice Admiral Sir W. F. Martin, Commander in Chief on the Mediterranean station, kindly gave us the assistance of Her Majesty's ship "Mohawk," in addition to Her Majesty's ships "Medina" and "Scourge," which last-named steam-vessels accompanied the first expedition. These three ships were well supplied with buoys to mark the course, in order to insure the cable being laid within the 100 fathom line, and on as even a bottom as possible; and as a further precaution, the work was only carried on by daylight, the ships anchoring each night soon after sunset.

The "Rangoon" on her first trip carried out this portion of the cable, in length 282½ knots, and weighing 1,241 tons, exclusive of 200 tons of water in the cable cylinders.

The paying out of this cable was commenced from Alexandria, on the 6th July, and it was laid in the following order, viz.:—

11·45	knots,	shore end 7	tons per knot.
55·22	„	main cable 2·4	„ ditto.
37·92	„	shore end 7	„ ditto.
14·62	„	main cable 2·4	„ ditto.
9·45	„	shore end 7	„ ditto.
24·62	„	main cable 2·4	„ ditto.
69·95	„	shore end 7	„ ditto.
59·46	„	main cable 2·4	„ ditto.

TOTAL, 282,69 knots of cable from Alexandria to the Gulf of Milhr.

The paying out of this cable occupied six days, and no accident of any sort occurred, with the exception of one kink which came into the cable when at anchor; this was immediately cut out, and advantage was taken of this circumstance to test the cable in two parts, the portion laid, and the remainder in the ship.

The laying of the continuation of this section was not commenced until the 20th September, on which occasion the buoyed end was picked up. The cable taken out by the "Rangoon" on her second trip was then spliced on, and on the morning of the 23rd, the end was landed close to the cable house at Benghazi, making in all, 593 knots of cable laid in this section.

One night was spent at anchor on the Dernah Bank, as it was necessary to pass Rasseen by daylight, the water in the vicinity of it being deep, and the coast very precipitous.

The landing-place at Alexandria is in the new port, to the east of the town, clear of anchorage; the shore ends are taken direct out to sea for 10 miles,

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miles, so as to give the outer anchorage where men-of-war anchor a wide and clear berth.

The cable is connected with the Red Sea and Indian Telegraph Company's Office by means of a land line, about 1 mile in length.

The landing-place at Benghazi is about 1 mile to the east of the town, and is connected with the station in a similar manner as that previously described.

After the completion of the Benghazi Alexandria section, there remained but a length of about 220 miles to complete the entire line. The cable for this was brought out by the "Malacca" on her second trip, and met the expedition at Benghazi.

On the morning of the 25th September, the "Malacca" arrived in the locality of the buoyed end of the Tripoli cable in the Gulf of Syrtis, but it was not until the day was far advanced when the "Medina" came up, and pointed out the exact position of the buoy that operations were commenced.

Notwithstanding a strong breeze and a rough sea the buoy was secured to a rope and was almost on board, when accidentally the rope slipped round the picking-up machinery, and the attempt had to be abandoned for the night.

On resuming operations the following morning, it was discovered that the buoy had disappeared; it therefore became necessary to dredge for the end, which was grapnelled in a few hours, notwithstanding the roughness of the bottom, causing the loss of one grapnell and hawser, and breaking a second grapnell.

About 5 p.m., the end of the laid cable was brought on board; and the cable between the ship and Tripoli testing satisfactorily, the splice was made, and paying out operations commenced at 8.30 p.m., the "Medina," as on all former occasions, leading the way; Her Majesty's Ship "Assurance" remained close to the "Malacca" to render assistance if required, and Her Majesty's Ship "Mohawk" proceeded in advance, to mark positions previously fixed by Captain Spratt, and also to take soundings, so that no time should be lost, which at this season of the year might have proved very prejudicial to the whole undertaking.

As was the case throughout all our previous operations, everything worked smoothly and quite to our satisfaction, and at 11 a.m. on the 28th September, the "Malacca" came to anchor about 9 miles to the west of the town of Benghazi, where a buoy had been previously placed to denote the position where to splice on the shore ends. A few hours sufficed for this, and the cable expedition was soon again in motion, and as the ships approached the shore, the "Malacca" made the following signal to the "Medina."

> "Many thanks for the valuable assistance rendered by Captain Spratt, and Her Majesty's ships."

To which Captain Spratt replied:

> "Fortune favours the enterprise. I congratulate you on success."

About 7 p.m. the last shore end was landed at Benghazi, under a salute of 21 guns, to announce the important event that Malta and Alexandria were in direct telegraphic communication. The weather, as on the previous occasion of landing the first shore end, was very kind and propitious, a matter of congratulation, as the coast at this place is much exposed and often unapproachable.

In reviewing the whole operation of laying the 1,330 knots of cable, which connects Malta with Alexandria, it is very gratifying to feel that as a mechanical operation nothing could have been more satisfactorily or successfully accomplished. The paying-out machinery, on all occasions worked evenly, and with the utmost precision, which reflects great credit not only on Messrs. Canning and Clifford, the contractors' engineers, but also upon every man employed on board in connection with it. The brakes, with the exception of a few instances, when the heaviest cable was being paid out into deepish water, were quite relieved of all weight; and it was evident from the appearance of the cable passing over the stern of the ship, that sufficient slack was being paid out to insure its resting in every instance upon the bottom.

The landing-places have been very carefully selected, all of them clear of anchorages, and with the exception of Benghazi, there is no danger of the shore ends being worn away by attrition. No better place, however, could be found at Benghazi; and I have recommended Mr. Glass, who has leased the working of the line, to keep some spare shore-ends at that station, so that any accident to them might be repaired without delay.

The ends of all the sections have been brought underground into well-constructed cable-houses of sufficient dimensions to enable testing operations to be conducted inside without having the air-wire in circuit. This plan also enables the connection between the air-wire and submarine cable to be made securely inside the cable-house, with proper lightning dischargers placed at the point of junction. On each post of the land-line, lightning conductors are also placed.

Electrical Condition of Cable.

In dealing with this part of the question, I shall confine myself to a very few remarks, preferring rather to draw your special attention to the very able report of Dr. Esselbach, attached to this Report.

Dr. Esselbach was selected in the first instance by Messrs. Siemens, Halske, & Co., to proceed to the Mediterranean, and take charge of their electrical staff, and I am happy to state, that in my opinion no better appointment could have been made. He has had considerable experience in testing long submarine cables, which experience has been fully and advantageously brought to bear in this instance.

I have had the benefit of consulting with Dr. Esselbach, not only during the manufacture of the cable, but also during all the final operations connected with the laying, and I am happy to state that upon every point we are perfectly agreed.

When the contract was first decided upon, it was stipulated that the electrical tests during paying out, were to be conducted by the Government staff. This arrangement was, however, altered shortly before this operation commenced, and it was decided that this part of the work should be undertaken by the contractors, and upon their own responsibility.

The arrangements made by them to carry this into effect, was the ordinary method previously used in laying the Atlantic and other cables, viz.: by taking five minute reversal tests, or deflections of the galvanometer, which tests were superintended by Mr. de Sauty.

Dr. Whitehouse, who was also on board on the part of the contractors, tested the cable periodically for resistance of insulation, by a method which

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which to a certain extent was an adaptation of that employed by Mr. Siemens; by this means I was enabled during the operation of paying out, to draw a comparison between the then state of the cable, and the Government tests previously taken.

No. 1 Section.—*Malta to Tripoli* (280·2 *knots Cable.*)

With reference to this section, the electrical condition of its cable was carefully and continuously watched, even on its passage from England to Malta, and no doubt has ever existed as to its excellent condition, with one exception. This exception has reference to the heating of the coil of shore-end cable on its passage out, and the consequent lowering of its insulation. The insulation, however, appeared to be satisfactorily restored as soon as the cable was placed under water.

During the operation of paying out the insulation improved 81 per cent., caused principally by the cooling of the cable passing from a warm and semi-dry state out of the hold of the ship into the sea, which on this section has an average depth of 133 fathoms; 7 per cent. of the above improvement can only be attributed to pressure.

This section, as has been previously stated, was finished on the 30th May, but no official test was taken of it until the 23rd August; it was then tested on every alternate day, until the 20th September, and afterwards on every alternate day for the 30 days after completion of the whole line. The result of these tests showed a slight improvement of insulation during the last-named period, which is satisfactory, considering the section had been completed five months.

No. 2 Section.—*Tripoli to Benghazi* (507 *knots Cable.*)

The first 289½ knots of this section, east of Tripoli, were laid on the 3rd June, immediately after the completion of No. 1 Section, and it will be seen by Dr. Esselbach's Report that it invariably tested well.

The completion of this section did not take place until the completion of the whole line on the 28th September, immediately after which the 30 days' official tests were commenced.

Dr. Esselbach, in his report, has pointed out in detail all the circumstances connected with the testing of the piece of cable which forms the last portion of this section, and the refusal of the contractors to cut it so as to enable tests to be taken of the separate portions, which was the only certain method of arriving at a satisfactory solution of the cause of the sudden fall of insulation, which occurred at Greenwich, when the cable was being placed on board ship, and was denoted by the series of tests taken on the part of the Government.

It is certain that the insertion of this piece of cable has slightly lowered the general insulation of the whole section, as compared with the insulation of the first-laid portion of it; but this general lowering is not conclusive evidence in itself of a fault existing in the section.

The evidence for this could only be obtained by the proposed method of testing the cable in short lengths.

Comparing the insulation of the first with the last day of the period of 30 days' official tests after submersion, a slight falling off in insulation was obseved at the latter date, as will be seen by reference to the annexed table.

It was also observed that the maximum and minimum range of variation during this period differed by about 34 per cent., being somewhat in excess of the range of variation on the other sections.

Notwithstanding, however, the final test showed that the insulation resistance of the cable was higher than the standard* fixed by us and the Government Electricians, Messrs. Siemens and Halske.

Since the contractors took upon themselves to lay a piece of cable against the protest of the Government engineers and electricians, I would recommend that as they have taken a working lease of the line, they should be held responsible for any interruption that may arise during the currency of their lease, on that portion of the section in which the suspicious piece of cable was inserted.

The portion alluded to is 100 knots in length, extending from the junction of the shore end with the main cable, or about 10 knots west of Benghazi, towards Tripoli.

As this cable was destined to be laid in a moderate depth of water (not exceeding 50 fathoms) from which it could at all times be recovered in case of any fault becoming serious, I did not think it desirable to delay the completion of the line at that late period of the year, and therefore proceeded on board, and witnessed its submersion under protest.

No. 3 Section.—*Benghazi to Alexandria* (598 *knots Cable.*)

The cable for this section was conveyed in the "Rangoon," in two separate trips. The first portion arrived at Alexandria about the 1st July, and consisted of 282 knots of cable, a large proportion of which consisted of cable taken out of the "Queen Victoria," at Plymouth, that had been exposed to unusual vicissitudes.

This cable was tested at Plymouth, and approved of by the Government electricians immediately before its departure for the Mediterranean; it was not, however, tested on its passage out, as was the case with the cable on board the "Malacca," on her first trip. It was, therefore, difficult to account for the undue lowness of its insulation, as appeared by the official tests taken at Alexandria, on its arrival there, notwithstanding the water in the cable cylinders was at a high temperature, about 77° Fahrenheit.

I saw no reason, however, why this cable should be subjected to the process of cutting, and, perhaps, coiling over in a warm climate, especially as the very best method of detecting any imperfection would be presented during the process of paying out; and as the contractors' electricians expressed themselves satisfied with the state of the cable, I offered no opposition to its being submerged, but drew their special attention to the necessity of taking very accurate and careful tests of the cable during the process of submersion. In addition to which, Mr. Laws and I watched its electrical condition, as well as the means at our disposal admitted.

According to the tests taken by the contractors, the electrical state of this first portion of the section improved during the process of submersion, nearly

* The standard adopted was 100 millions of Siemen's units per knot, at a temperature of 75° Fahrenheit.

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App. No. 10.

nearly 100 per cent., but owing to its low state at starting, I expected a greater improvement.

The average depth of water, however, in this case is but 33 fathoms as compared with 133 fathoms and 86 fathoms on No 1 and 2 Sections respectively; it was therefore not to be expected that the final insulation of this cable would be equal to that of the other two sections.

The end of this piece of cable was sealed up and dropped in 30 fathoms in the Gulf of Milhr, on the 11th July last; but it was not until the 29th August following, or after an interval of 48 days, I was enabled to take an official test of it.

The official tests of this piece of cable were taken on six separate days, the last being on the 5th September, and the result proved that the insulation of the cable was considerably below the point Dr. Whitehouse's final test, after laying, placed it at.

I was therefore pleased to find that on the 20th of the same month, when the sealed end was picked up and properly insulated, that the insulation resistance rose to 112 millions of units from 72 millions of units, at which it stood on the 5th September.

Between the 20th and 23rd September, the remaining portion of this section was laid by the addition of 311 knots of cable, carried out by the "Rangoon" on her second trip.

The electrical state of this second portion calls for no particular comment, further than what Dr. Esselbach has mentioned in his report.

With respect to the 30 days' official tests of the complete section, I have to observe that by comparing the first tests with the last, a gradual improvement appears to have taken place in its insulation, and upon the whole it appeared above the standard previously alluded to.

The extreme range or variation in the tests during the month, amounted to 32 per cent., or something less than that of No. 2 Section; that of No. 1 Section was 25 per cent.

It is difficult to account for these variations in tests, especially where the daily conditions remain the same, but such phenomena have been found to occur occasionally from the very commencement, and therefore they are not without precedent.

Conclusion.

Looking at this cable as a whole, it gives me pleasure to congratulate Her Majesty's Government on having laid what I trust, time will prove to be the best cable hitherto made. As to its capacity for transmitting messages, it may be said to have exceeded our expectations, especially when we take into consideration the unprecedently low battery power with which it is practically worked, as will be seen by the following statement:—

		Knots.	
No. 1 Section.	Malta to Tripoli	230	3 elements.
„ 2 „	Tripoli to Benghazi - -	507	4 „
„ 3 „	Benghazi to Alexandria - -	593	6 „
TOTAL - - -		1,330	12 „

It is more in this respect than in speed that the advantage of a large conductor is observable, and this very fact is of vital importance with reference to the longevity of the line.

The Red Sea and Indian Telegraph Cable was considered (and properly so) a great step in advance of previously made cables, but the battery power employed in working it for 500 mile circuits was from 60 to 70 elements, whereas in the Malta and Alexandria Cable, the same length is worked at a higher speed, with only four elements, and were it not for the existence of strong earth currents, a still lower battery power might be used.

The speed of No. 1 Section may be said to be limited only by the proficiency of the manipulator; upwards of 25 words a minute have been transmitted through it.

There is a visible retardation on the other two sections, but I consider 12 to 15 words per minute may be considered as the measure of their transmitting powers, and this speed I expect will be practically maintained.

When all three sections were joined up in one circuit (1,330 knots) about four words per minute were transmitted; but as this was the result of only one trial, I consider this rate of working to be lower than what could actually be obtained in the course of a few trials.

It has been found in practice that an average of 12 messages per hour, of 20 words each, including all delays attending their transmission and acknowledgment, can be easily transmitted from end to end; taking this average, and taking the length of a working day at 20 hours, the result of a year's working, exclusive of Sundays, would amount to an annual revenue of 112,680 *l.*, which, taking the cost of the line at 500,000 *l.*, would represent a gross profit of over 22 per cent., or, deducting working expenses, a net annual profit of about 20 per cent.

Contrary to my expectations, there were about 52 knots of spare cable over and above, after completing the whole line, viz.:—

Shore End, No. 1 - -	16 knots.
Ditto - No. 2 - -	23 „
Main cable - - -	13 „
TOTAL - - -	52 knots.

This large surplus is chiefly owing to the great success that attended the paying out of the cable, as not a yard was lost through accident to the machinery or otherwise, and as no electrical fault could be detected passing from the ship into the sea, during the submersion of the 1,330 knots of cable, no waste took place under this head. I consider this last fact worth recording, as judging from my own experience, I do not believe such a length of cable was ever before submerged without faults of insulation appearing after it had passed into the sea.

This was certainly due to the adoption of the water-tight cable tanks on board ship, and I am firmly of opinion that they are an essential portion of the fittings of any ship employed on such a service.

In proof of this I may mention that at Malta on one occasion a fault was discovered and cut out in the centre of one of the large coils on board the "Rangoon," second trip, which, if the cable had not been tested under water, would almost to a certainty have escaped notice until it had been some time at the bottom of the sea.

For the purpose of storing the above-mentioned spare cable, two large tanks have been constructed in a convenient site in the Quarantine Harbour at Malta;

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Malta; and so arranged that the cable will always be kept under water.

Before concluding this report, it is but due to the Government Staff that I should avail myself of this opportunity of drawing attention to the services performed by them, and to express the great satisfaction I experienced in superintending this most important work from its commencement to its final completion in conjunction with them.

In the first place, a system of electrical tests was devised and carried out, which was much more perfect and delicate than any system previously adopted, and it is due to Messrs. Siemens, Halske & Co. to give them the credit of introducing this improved method, which has been ably carried into practice by their own staff, and by means of instruments of their design and manufacture. No better proof can be quoted of the excellence of the system of electrical tests adopted on this occasion than to state that it is now coming universally into practice, and superseding the mode of testing adopted on former occasions.

In making this statement I must add that the same system had been partially adopted by Messrs. Siemens in the cases of the Aden and Kurrachee, Singapore and Batavia, and other lines.

On these occasions this system of testing was only carried out during the laying, and not during the manufacture and voyage out, and the absence of water-tight cable tanks prevented the full benefit of it being experienced.

Dr. Esselbach, who has filled the position of Chief Government Electrician to the late expedition in the Mediterranean has superintended and carried out the official tests in a most satisfactory manner, as will be seen by his very valuable report annexed hereto.

Dr. Esselbach has received great assistance in the performance of these important duties from Messrs. Sonnerman, Putch & Hirz, who were left at the different stations (Benghazi, Tripoli and Alexandria), for the purpose of taking the special observations at those places.

Mr. J. Milner personally superintended on behalf of the Government the manufacture of the outer covering of the core, and all the arrangements connected with the shipping of the cable.

I have the greatest pleasure in testifying to the efficient manner in which those duties were performed.

Mr. J. C. Laws, who has acted in the capacity of assistant to us (the Government Engineers) from the very commencement, has rendered very valuable services, not only in the electrical department (which is his specially), but also in carrying out all the engineering operations connected with the laying; and I am glad to have this opportunity of stating that I have derived much benefit from following his advice on several important occasions.

It now becomes my painful duty to allude to the death of my late partner, Mr. Lionel Gisborne, and to express my great regret not only for the personal loss I have sustained in his death, but for his loss professionally, though it occurred only after a portion of the cable was actually shipped, and after the whole plan of operations had been definitely settled as carried out in the actual execution of the work.

It is a duty I owe to his memory to state here, that any success that has been obtained in carrying out this important work is due more to his comprehensive arrangements than to any other person charged with special portions of it. It was to him especially that the adoption of the system of electric tests above alluded to is due, and these tests were devised to be continuous; in order to detect the presence of small faults which might creep in during the manufacture, and until the submersion of the cable, and which could not possibly be detected by any system of merely intermittent tests.

I had almost omitted to mention that in this way the dangerous generation of heat in the large cable coils both at the works at Greenwich, and on board ship, was detected; and means were therefore at once successfully adopted to check this source of danger.

The system adopted in this case of dividing the contract for the cable into two parts as explained in the first part of my report worked well.

We were thus enabled to test the core at the Gutta Percha Company's Works; and thoroughly satisfy ourselves as to its condition before allowing it to be sent to those of Messrs. Glass & Co.

After the core had left the vacuum and pressure tanks, it was carefully overlooked and examined inch by inch, when any slight defects, such as air-bubbles, which had been made apparent by these processes were immediately made good.

I regret I have been unable to condense this report into a smaller compass; but I desired to place on record every material fact that would tend to throw light upon so important a subject as the successful establishment of submarine telegraphy, and tend to the advancement of the science.

The cable just completed is the result of all past experience on this subject, and will undoubtedly be the guide for some time to come of lines that may be hereafter laid.

Now that this line is laid, I would not recommend that it should be subjected to the same amount of testing as has hitherto been practised.

Accompanying this report are charts upon which the position of the cable is accurately marked; and also a longitudinal section of the whole line, showing the depths of water throughout, and the nature of the bottom as well as the position of the different sized cables laid.

I also append a tabular statement giving in a concise form a few details which may be of use for future references.

Reviewing the whole state of the case as represented in this and Dr. Esselbach's Report, it gives me much pleasure to grant this my final certificate in accordance with Clause 10 of the specification, viz., that the cable at the end of the 30 days therein referred to was in good working order, and to my satisfaction with respect to insulation, I accordingly enclose herewith a statement of account I have received from Messrs. Glass, Elliot & Co. of the balances, &c. due to them on the completion of their contract, amounting to 30,835 *l.* 5 *s.* 4 *d.* To which sum I consider they are justly entitled.

I have, &c.
(signed) *H. C. Forde.*

The Secretary Board of Trade,
Whitehall, London.

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MALTA AND ALEXANDRIA TELEGRAPH.

TABULAR STATEMENT accompanying *H. C. Forde*'s "FINAL REPORT" to the Secretary of the Board of Trade, dated 1st November 1861, giving a Detailed Account of each Section.

No. of Section.	NAME OF SECTION.	Date when Completed.	Length.		Slack.		Depth and Pressure of Water.						Length of Cable in Water over 100 Fathoms.	Length of each Description of Cable laid in each Section.			
			Over Water.	Cable.	No. of Knots.	Per Cent.	Maximum.		Minimum.		Mean.			Shore end No. 1.	Shore end No. 2.	Main Cable.	TOTAL.
			Knots.	*Knots.*	*Knots.*	*Knots.*	*Fathoms.*	*lbs. per square inch.*	*Fathoms.*	*lbs. per square inch.*	*Fathoms.*	*lbs. per square inch.*	*Knots.*	*Knots.*	*Knots.*	*Knots.*	*Knots.*
1	Malta to Tripoli - - -	30 May 1861	223·50	230·20	6·70	3·00	420	1,121	50	133	133	355	72	8·00	·20	222·00	230·20
2	Tripoli to Benghazi - -	28 Sept. „	497·00	506·94	9·94	2·00	150	400	25	67	71	189	114	12·00	·54	494·40	506·94
3	Benghazi to Alexandria -	23 Sept. „	582·00	592·98	10·98	1·89	115	307	13	35	47	125	19	131·32	1·85	459·81	592·98
1, 2 & 3	Malta to Alexandria - -	28 Sept. 1861	1302·50	1330·12	27·62	2·12	—	—	—	—	71	—	205	151·32	2·59	1176·21	1330·12

No. of Section.	NAME OF SECTION.	ELECTRICAL TESTS. GUTTA PERCHA RESISTANCE PER KNOT.										Approximate Rate of Transmission.		Comparison of Insulation to Conductivity.		
		Paying out.					Thirty Days Tests.									
		Before.		After.		Per Centage of Improvement during Laying.	First Day.		Last Day.		Variations.		No. of Words per Minute, each Word Five Letters.	Battery Power Number of Elements.	Gutta Percha Resistance of whole Section, Average of 30 Days.	Copper Resistance of whole Section, Average of 30 Days.	Ratio of Gutta Percha Resistance to Copper Resistance.
											Improvement.	Falling off.					
		Millions of units.	*At end of*	*Millions of units.*	*At end of*	*Per centage.*	*Millions of units.*	*At end of*	*Millions of units*	*At end of*	*Per cent.*	*Per cent.*	*No.*	*No.*	*Units.*	*Units.*	
1	Malta to Tripoli - -	161	1 Min.	290	1 Min.	80·12	253	1 Min.	250	1 Min.	–	1·186	25	+ 3 „ − 2	1,060,000	880	1,205 : 1
2	Tripoli to Benghazi - -	87	1 Min.	318	1 Min.	265·52	201	1 Min.	182	1 Min.	–	9·050	15	+ 4 „ − 3	382,643	1,904	201 : 1
		148	2 Min.	225	2 Min.	52·03											
8	Benghazi to Alexandria -	57	1 Min.	107	1 Min.	87·72	139	1 Min.	158	1 Min.	13·669	–	12	+ 6 „ − 4	251,264	2,210	113 : 1
		75	2 Min.	120	2 Min.	60·00											

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App. No. 10.

REPORT from Dr. *Esselbach*, accompanying *C. H. Forde*'s Report to the Board of Trade, dated Malta, the 1st November 1861.

Malta, Dunsford's Hotel,
Sir, 31 October 1861.

After having received yesterday per telegraph from the different stations final information about the tests up to the 28th instant, I beg to lay the following report before you, subject to confirmation and completion by letter of the telegrams alluded to, which, however, I consider correct, and the completion of which will mostly concern questions of less direct importance.

Respecting figures, I beg to refer in most instances, and once for all to the accompanying diagrams:

1. All three sections are in perfect working order.

2. The insulation and resistance is and was from the beginning of different amount in the three sections, as the accompanying diagrams show.

The Malta-Tripoli cable being the best, the Tripoli-Benghazi coming next to it and the Benghazi-Alexandria being lowest, all three cables are at present, and since submersion, of higher insulation than the standard fixed by Messrs. Siemens, Halske & Co.

3. All three cables tested after submersion equal with positive and negative currents, and did so not only after the first, but also after the third and 28th minutes of the tests with perfect regularity.

4. The polarization (electrification) was also for all three cables throughout, normal during the 30 days, and equal for positive and negative currents, which is of great importance in judging the cables.

On two occasions (neg. ins. Malta, 30 August; and pos. ins. Alexandria on 30th September), an extraordinary polarization was observed, but in both cases the tests from the other end of the same cable were perfectly normal as well as the tests of it on the days before and after from both ends.

I do not therefore attach much importance to these exceptions, as they were in all probability caused by something external, although I do not feel justified to omit them altogether.

5. The resistance of the copper wire was found normal. The measuring of it was to a high degree embarrassed by earth currents, which will be treated of extensively in the Appendix; but it was nevertheless possible to arrive by alternate tests of positive and negative currents at mean results of sufficient exactness to prove that.

The resistances of the copper wire in units are the following:

a. 1st section, 3,827 per knot.
2nd „ 3,758 „
3rd „ 3,700 „

b. The resistance of the copper wire varies not much, but we cannot overlook a steady increase of one per cent. in each of the sections corresponding to an increase of temperature of 4½ degrees F. just contrary to what would be expected in the decline of the season.

6. I have not been able to discover any relation between the curves of insulation and those of the variation of temperature of the cables as represented directly by their copper resistance, especially I did not find any traces in them, which would in themselves explain the marked change of the Tripoli-Benghazi, nor the improvement of the Alexandria Cable.

7. If the specific resistance of the copper wire could be taken as equal throughout, and at 3·7 (at 20s. cel.) 69° Fahrenheit, the relative resistance of the lines as above-mentioned would indicate the average temperature of the cables to be

1st section, 75 degrees Fahrenheit.
2nd „ 71·6 „
3rd „ 68 „

but this statement is improbable, as it represents the section in the deepest water at the highest temperature, and that in the shallowest water at the lowest; this, if true, would tend to make the difference in the specific insulation of the three lines still wider.

I am glad to find sufficient evidence in Messrs. Siemens former tests of the cables, to make it probable that the average specific resistance of the copper of the three lines is sufficiently different from each other to account for the above difference without in any way recurring to temperature.

The slighter difference of continuity can be due equally to,

1. the length being actually greater than given.
2. A higher specific resistance.
3. A higher temperature.

On account of uncertainties about the length of cables, Messrs. Siemens had often been unable to arrive at definite results.

If the length of a cable is actually less than what has been stated, the specific insulation would appear worse, as the temperature is supposed to be lower from the smaller copper resistance, which in reality is due to the shorter length. At the same time it appears better in the reduction to knots with the wrong length; but the first error will overbalance the other in this case, and *vice versâ*.

Too many opportunities are not offered to science whereby information respecting submerged cables can be obtained, that any of them can be spared, it is therefore necessary that the greatest care should be taken in future to ascertain the specific resistances, and with that end in view, the exact indication of the lengths should be enforced by the specification.

A certain increase of insulation resistance was to be expected from the pressure after submersion, viz., 2 per cent. for every additional 100 lbs. per square inch, according to the official tests of this cable at the Gutta Percha Works.

According to the following average depths in which the three cables are laid (with which you have kindly furnished me at rough averages) the average pressures on the cables are stated opposite to them as well as the per-centage of improve-

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App. No. 10.

ment in insulation to be expected after submersion.

	Depth in Fathoms.	Pressure in lbs. per Square Inch.	Improvement experienced as due to this Pressure.
1st Section -	133	347	7 o/o
2nd „ - -	85	255	5 o/o
3rd „ - -	33	99	2 o/o

All three tables improved by submersion in a much higher degree.

8. In all three lines a decided steady variation of the insulation was observed during the 30 days, as the curves show. They took place on different series of days in the three lines, viz., in the first section on and about the 18th October; in the second section on and about the 21st; and in the 3rd section during the whole of the above time.

As the tests from both ends of each line corroborate each other minutely, whilst on the same days, and tested with the same instruments, the neighbouring lines showed different variations, it is out of the question to look for local causes in the stations or to the weather (which was stormy and damp at Malta and Tripoli, but fine at Benghazi during the middle and end of October) as having influenced the instruments and connections. There was further no variation of temperature to account for it. I am further convinced that we have not to look to earth currents for an explanation of this, and I avail myself of this opportunity to state so at once in order to negative, if possible, an addition to the list of "mysterious" causes. There is no doubt but that these variations take place in the insulation of a line itself, and I don't see that it can be much otherwise, considering that we deal with the electric quality of a vegetable material; that is to say, with an organic substance from which numerically such constant physical qualities are never expected as from inorganic mineral substances, and which is reduced here to numerical tests with the most delicate of nature's forces. These changes may be due to just as periodical a cause as if they were due to temperature, and like the latter be perfectly harmless; in fact they are not without precedent in the former official tests. But they argue the necessity of settling in a future specification what limits are to be allowed for them without taking them for indications of a dangerous weakness—of a fault.

9. After stating these facts, which apply to the three cables in general, you will now permit me to give a short resumé of the tests of each of the sections.

No. 1 Section.—*Malta* to *Tripoli.*

The Malta-Tripoli section being the best, had the advantage of being brought out and submerged in the earlier part of the year. The cable showed in the voyage out great variations in resistance, but the electrification was regular; the variations in resistance are satisfactorily explained by the temperature and the remarks about the water in tanks. This cable in general tested lower than the aft hold cable of the same ship (first part of Benghazi-Tripoli section) but its temperature was also as a general rule sufficiently higher to account for this. On the final tests at Malta it polarized less than the aft hold cable. After it had been laid in May we had opportunity to test it from the 23rd of August till the 28th October, only interrupted by operations with another cable in the latter half of September. It showed about 15 per cent. improvement since tested last on board ship, and remained rather equal during the time, with the sole exceptions of the tests of 18th October, already alluded to in the preceding paragraph.

The tests of this section from Tripoli are throughout about 8 per cent. lower than those from Malta, which probably is due to an unreduced constant difference in the instruments at the two ends, but it certainly has nothing to do with the insulation.

No. 2 Section.—*Tripoli* to *Benghazi.*

10. The first portion of this cable came out at the same time with the Malta-Tripoli cable, on board "Malacca," in April. It was tested on the voyage out, and at Malta, principally by Mr. Pütsch. The same remarks apply to it as to the forehold cable mentioned in the foregoing paragraph. After it had been laid down (early in June) we obtained an opportunity to test it from the 23rd August till 20th September (when the operations for completing the unfinished sections began).

During this time it showed a high resistance, but also changes, as alluded to in paragraph 8, especially about the 9th September.

The second portion of this cable is entitled to greatest attention. It was put on board "Malacca" early in August, at Greenwich.

On the 13th August, after several miles had been joined to it, it fell suddenly one-third in insulation; that fact was only discovered after the second day, but from Messrs. Siemens report (21st August) it appears that the water did not reach the weak spot until after that period.

As the cable did not go up during the following week, it was cut in two pieces. These pieces tested, as is shown by the blue and red lines. The suspicious part tested fully one-third lower than the other. In this state the cable left England, and Messrs. Siemens and yourself protested against its leaving.

In Malta, the cable was again tested by me (as per my report, dated 17th September). The two pieces had both fallen in insulation, according to temperature. But the suspicious piece was still in the same proportion lower than the other. Besides this, it polarized more than double as much with positive as with negative currents.

As the contractors did not share our opinion, we requested only one cut to settle the question. It was refused, and the cable was laid in its then condition, joined to a four times greater length of sound cable; the doubtful symptoms disappeared in the new average. The tests of the other cable in that ship showed nothing uncommon.

The whole section, after being completed, showed a resistance above the standard.

No difference was observed at either end at any time between the positive and negative tests, and their polarization.

The polarization remained also in proportion to the variation of its resistance on and during the 21st October.

Not the slightest change is observable between the tests from the two ends, which speaks solely and chiefly in favour of Siemen's instruments, and does credit to the intelligent way in which they were handled by Messrs. Hirz and Sonneman, and by Mr. Pütsch,

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Mr. Pütsch, at Alexandria (to which section this whole remark also applies).

No. 3 Section.—*Benghazi* to *Alexandria.*

The same applies to the first easterly half of the Alexandria-Benghazi section, on which I reported to you on the 4th July last.

It tested unduly low before being laid down, although without signs of a direct fault, but so as to call into requisition the most delicate testing during submersion; and it was understood, I believe, that you only consented to its being paid out in consideration that it was to be laid in very shallow water, and that a cut would be easier obtained after paying out, and would involve less risk to the cable than what might have arisen from the delay attending the uncoiling of it under the circumstances in Alexandria.

When Mr. Pütsch tested that cable again after two months, on the 20th September, it was found sufficiently improved and above the standard; I speak here of Mr. Pütsch's test on the 20th September, when the buoyed end had been taken up and the end safely insulated.

On the 5th September the cable tested low, but it was contended, and seems to be probable, that the end had not been well sealed. (*See* Appendix.)

This second half of the cable tested normal. The tests, during the 30 days of this section, can only be looked at with satisfaction, as they show a steady improvement in the cables.

It must be deeply regretted that the opportunity was lost to insure us about the state of a few miles of the middle (or No. 2) section.

With this exception the three cables can, I believe, fairly be called sound, and in as perfect and satisfactory a state as any other laid down up to the present day.

I have the satisfaction to state that Mr. Laws agrees with me as to the above in detail, and in general.

It is with deep regret that I sign this report in my own, and not in the name of Messrs. Siemen's, Halske, & Co., but every one will know sufficiently of the above contests to render unto Cæsar the things which are Cæsar's.

Yours, &c.
Dr. Esselbach, Chief Electrician
of the Government Staff on this
Expedition.

To H. C. Forde, Esq.,
Government Engineer to Malta-Alexandria
Telegraph.

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Appendix, No. 11.

PAPERS handed in by Mr. *James Russell.*

THE COMPANY'S FLEET.—LINES OF THE INDIAN OCEAN.

Impératrice	screw	500 horse power.	La Bourdonnais	screw	280 horse power.
Donnai	screw	500 horse power.	Meïnam	screw	280 horse power.
Cambodge	screw	500 horse power.	Dupleix	screw	280 horse power.
Tigre	screw	500 horse power.	Emirne	screw	240 horse power.
Alphée	screw	400 horse power.	Mozambique	screw	240 horse power.
Erymanthe	screw	400 horse power.	Capitole	paddle	200 horse power.

Messageries Impériales.—Services of the Indian Ocean.

OUTWARD.	Arrivals.		Departures.		RETURNING.	Arrivals.		Departures.	
	Days.	Hours.	Days.	Hours.		Days.	Hours.	Days.	Hours.
1. THE HONG KONG LINE.—A departure on the 19th of each month.									
Marseilles	–	–	19	2 p.m.	Hong Kong	–	–	25	2 p.m.
Messina	21	–	21	–	Saigon	29	2 p.m.	30	2 p.m.
Alexandria	25	–	–	–	Singapore	3	9 a.m.	4	9 a.m.
Suez	–	–	27	4 p.m.	Point de Galle	10	11 p.m.	12	6 a.m.
Aden	3	9 a.m.	3	9 p.m.	Aden	21	2 p.m.	22	2 a.m.
Point de Galle	13	5 a.m.	14	5 a.m.	Suez	27	7 p.m.	–	–
Singapore	20	7 p.m.	21	7 p.m.	Alexandria	–	–	29	noon.
Saigon	24	2 p.m.	25	2 p.m.	Messina	3	–	3	–
Hong Kong	29	2 p.m.	–	–	Marseilles	5	10	–	–
2. CALCUTTA BRANCH LINE.—A departure on the 13th of each month.									
Point de Galle	–	–	13	–	Calcutta	–	–	3	8 a.m.
Pondicherry	15	–	15	–	Madras	6	–	7	–
Madras	16	–	16	–	Pondicherry	7	–	7	–
Calcutta	20	–	–	–	Point de Galle	10	–	–	–
3. THE BATAVIA BRANCH LINE.—A departure on the 21st of each month.									
Singapore	–	–	21	4 p.m.	Batavia	–	–	30	8 a.m.
Batavia	24	5. am.	–	–	Singapore	2	9 p.m.	–	–
THE SHANGHAI BRANCH LINE.—A departure on the 28th of each month.									
Hong Kong	–	–	30	2 p.m.	Shanghai	–	–	20	6 a.m.
Shanghai	4	6 a.m.	–	–	Hong Kong	23	10 p.m.	–	–
THE JAPAN BRANCH LINE.									
Shanghai	–	–	5	6 a.m.	Yokohama	–	–	13	6 p.m.
Yokohama	10	1 a.m.	–	–	Shanghai	18	1 p.m.	–	–
THE MAURITIUS LINE.—One departure monthly.									
Depart from Marseilles 9th of each month.					Depart from Mauritius 18th of each month.				
Marseilles	–	–	9	2 p.m.	Port Louis (Maur)	–	–	18	4 p.m.
Messina	11	2 a.m.	11	10 a.m.	St. Denis (Réunion)	19	5 a.m.	19	5 p.m.
Alexandria	15	2 a.m.	–	–	Mahé (Seychelles)	24	5 a.m.	24	5 p.m.
Suez	–	–	17	4 p.m.	Aden	1	4 a.m.	1	4 p.m.
Aden	23	9 a.m.	23	6 p.m.	Suez	7	9 a.m.	–	–
Mahé (Seychelles)	30	5 a.m.	30	4 p.m.	Alexandria	–	–	9	3 p.m.
St. Denis (Réunion)	5	4 a.m.	5	4 p.m.	Messina	13	7 a.m.	13	noon.
Port Louis (Maur)	6	5 a.m.	–	–	Marseilles	15	12 p.m.	–	–

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NOTES relating to the SERVICES of the INDIAN OCEAN.

1.—*Lines of Hong Kong, Shanghai, and Japan.*

THE dates and hours of departure from Marseilles, out, and from Yokohama, Shanghai, and Hong Kong, returning, are imperative.

Nevertheless, in case of unforeseen slowness of passage, and such as to compromise the fixity of the date of departure, the duration of stoppage at Yokohama, Shanghai, and Hong Kong returning, shall be determined by common agreement between the mail-master on board, the commander of the packet, and the Company's agent, so that such stay should not exceed the delay provided by the time-tables.

During the south-west monsoon, that is to say, during the months of April, May, June, July, August, and Septemher, the departures from Yokohama, from Shanghai, and from Hong Kong, on the return voyage, are exceeded by two days, unless the regulated duration of stoppage has not been exhausted.

Saving the exceptions mentioned in sec. 1, the duration of the stoppages in the ports of call indicated in the time-tables is the maximum which can be shortened by common agreement between the mail-master on board, the commander of the packet, and the Company's agent. This agreement affords chiefly the power of profiting by the gain which will result from the periodical return of months of thirty-one days, as well as by every gain of time obtained in navigation, saving the case of imperative date of departure. However, the normal stoppage of 24 hours provided by the port-of-call of Saigon must only be shortened by the authority of the Governor of the Colony.

In case of delay in arrival at Shanghai and Hong Kong in the return voyages of packets coming from Yokohama and Shanghai, the maximum stay shall be five days beyond the regulated date of departure.

In case of delay in the arrival at Point de Galle of the packet coming from Calcutta, the maximum of stay shall be three full days beyond the regulated date of departure.

The packet coming from Hong Kong to Shanghai must not leave Hong Kong till after the arrival of the packet coming from Suez. The packet going from Shanghai to Yokohama must not leave Shanghai till after the arrival of the packet coming from Hong Kong.

2.—*Lines from Point de Galle to Calcutta.*

The date of departure from Calcutta on the return voyage towards Point de Galle is alone imperative. The duration of the rests in the ports-of-call is the maximum, which the Company reserve the power of shortening. The packet of the Calcutta line must not, in any case, leave Point de Galle till after the arrival of the packet coming from Suez.

3.—*Line from Singapore to Batavia.*

The date of departure from Batavia on the return voyage towards Singapore is alone imperative. The packet of the Batavia line does not quit Singapore, in any case, till after the arrival of the packet coming from Suez.

During the south-west monsoon, the dates of departures from Batavia may be advanced two days; but there must always be, between the arrival at Batavia from Singapore and the departure from Batavia for Singapore, a delay sufficient for the accomplishment of commercial operations, provided always that such delay does not exceed 48 hours.

4.—*Lines from Marseilles to La Réunion and the Mauritius.*

The dates and hours of departure from Marseilles to the Mauritius and from the Mauritius, on the return voyage, are alone imperative.

The duration of the stoppages in the ports-of-call indicated in the time-table is the maximum which the Company reserves the power of shortening in the interest of the acceleration of postal navigation. It has chiefly the power of profiting by the gain of time, which would result from the periodical return of the months of 31 days, and of every gain of time obtained in navigation.

If the state of the roadstead at the port-of-call of La Réunion, either going or returning, should not permit vessels to intercommunicate with the shore during the stay there, the passengers, mails, and goods should be transhipped to the tender (or port-boat) of the colony.

The stoppage at Mahé, on the outward voyage, does not take place during the south-west monsoon, that is to say, during the months of June, July, and August.

In case of delay in the arrival at Suez of the packet from the Mauritius, the departure of the packet from Alexandria would be retarded. This packet would leave Alexandria on the 12th at latest, if at 3 P. M. on the 12th, the arrival of the packet from the Mauritius (at Suez) should not have been signalled by telegraph.

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Appendix, No. 12.

App. No. 12. CORRESPONDENCE received from the Foreign Office, and laid before the Committee by the Clerk of the Committee.

Sir, Foreign Office, 26 April 1866.

April 11. I AM directed by the Earl of Clarendon to transmit to you, for the information of the East India Telegraph Communication Committee, the accompanying copy of a despatch which has been addressed by the Ottoman Minister for Foreign Affairs to the Ottoman Ambassador at this Court, relative to the working of that portion of the Indo-European telegraph which passes through the Turkish dominions.

I am, &c.
(signed) *E. Hammond.*

The Chairman of the
East India Telegraph Communication Committee,
House of Commons.

Sublime Porte.—Ministère des Affaires Étrangères.

Monsieur le Ambassadeur, Le 11 Avril 1866.

J'AI reçu la dépêche que Votre Excellence a bien voulu m'adresser le 1er Mars, N° 2395/32, pour me transmettre, avec un article de fond du "Times," le compte-rendu d'une discussion à la suite de laquelle la Chambre des Communes a adopté une proposition ayant pour objet la nomination d'un Comité chargé de s'enquérir de la manière dont actuellement est desservie la ligne télégraphique entre l'Angleterre et les Indes, à travers la Turquie.

Le Gouvernement Impérial ne peut que se féliciter de la réalisation du projet conçu par la Chambre des Communes. Il le désire d'autant plus, qu'il est assuré d'avance que le Comité d'enquête dont il s'agit trouvera, à sa grande surprise, les choses établies sous un tout autre point que celui dans lequel elles sont envisagées en Angleterre.

Par la déclaration du "Times" même, on croit en Angleterre que les dépêches rédigées en langues étrangères sont reçues en Turquie par des agents ignorant complètement de ces langues, et n'étant familiers seulement qu'avec la langue Turque. Cette supposition est d'autant moins fondée, que je n'hésiterais pas à déclarer formellement que de toutes les administrations que traversent les correspondances des Indes, l'Administration Ottomane est une des celles sur le réseau de laquelle ces mêmes dépêches subissent le moins de détériorations. Il m'est très-facile d'appuyer ce qui précède par des preuves évidentes qui sont à la disposition de la Direction Générale des Lignes Télégraphiques de l'Empire.

Il est notoire, en outre, qu'en dehors du personnel international de l'administration affecté au service de la correspondance Indo-Européenne, et lequel n'est pas complètement étranger à la langue dans laquelle cette correspondance est conçue, des employés Anglais ont été installés dans les principales stations à translation de l'empire, où les dépêches Indo-Européennes peuvent être reçues et transmises.

Quant aux retards, variant de cinq à 31 jours, et qui font l'objet principal de toutes les discussions et réclamations dont il s'agit, je suis heureux de pouvoir affirmer que, depuis l'époque de l'inauguration de la correspondance Indo-Européenne à travers la Turquie, alors que la grande ligne de l'Asie ne faisait que commencer à fonctionner, et qu'elle se trouvait encore dans des conditions peu satisfaisantes, malgré les perturbations produites sur diverses sections de son parcours par des hivers rigoureux et d'autres causes majeures, aucune dépêche n'a subi un retard aussi long que celui que signale le "Times."

Ces irrégularités aussi regrettables concernent les correspondances Indo-Européennes qui empruntent les lignes Russes.

En Angleterre, les expéditeurs de ces télégrammes ignorent l'existence d'une autre voie que la voie Ottomane, et attribuent naturellement le tort à l'Administration Impériale. Je me plais en même temps à vous informer qu'il résulte des renseignements fournis tout récemment à la Direction Générale par Monsieur le Délégué des Télégraphes Indo-Européens à Constantinople, que du 1er au 12 Février dernier, sur 405 dépêches qui ont été transité par les lignes Ottomanes, le plus grand délai subi par elles ne dépasse pas en moyenne plus d'un jour, 19 minutes et 40 secondes; tandis que, par contre, sur 128 télégrammes dirigés par les lignes Russes pendant le même intervalle, le temps moyen employé pour leur transmission atteint le chiffre de 17 jours et huit minutes.

En dehors de cet avantage des lignes Ottomanes sur les lignes Russes, depuis à peu près trois mois et à de rares exceptions près, les dépêches provenant et à destination des Indes, sont

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sont transmises directement de Fas à Alexinatj, c'est-à-dire, sont données d'une frontière de la Turquie d'Asie à une frontière Ottomane de l'Europe, et *vice-versâ*, sans séjourner dans aucun poste intermédiaire de l'empire.

À la suite de tous ces avantages évidents et fondés que présentent les lignes du réseau Ottoman, dans le but de rendre à l'Administration Impériale tout le mérite qui lui appartient, et qu'on ne lui reconnaît pas, la direction des télégraphes de l'empire a cru opportun d'adresser aux principales administrations télégraphiques de l'empire, une note circulaire dans laquelle elle leur fournit toutes les informations de nature à faire acquérir à l'Administration Impériale toute la considération qui lui est due et à faire éviter au public de lui attribuer injustement des irrégularités qui ne proviennent pas de son fait, mais qui sont imputables aux lignes des autres administrations.

En vous priant, Monsieur l'Ambassadeur, de vous énoncer auprès de qui de droit dans le sens des observations qui précèdent, pour rectifier, à l'honneur de notre administration télégraphique, toute supposition erronnée à son égard, je saisis l'occasion de vous réitérer l'assurance de ma haute considération.

(signé) *Aali.*

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Appendix, No. 13.

PAPER handed in by Sir *M'Donald Stephenson*, 8 May 1866.

App. No. 13.

The following is the STATEMENT referred to in the Evidence.

1. THE object is to establish, under one control and management, telegraphic communication from England to Egypt, India, China, and the Australian Colonies, for the accommodation of the through messages, and of the large local traffic between these distant countries. An independent system of telegraph from Europe to the East will be constructed, by laying submarine cables of the most modern and permanent construction, by establishing new land lines, and by purchasing the rights of existing companies or Governments, or by entering into working arrangements with them.

2. The following is a sketch of the route to be followed. It is proposed that a line of telegraph should be constructed through Europe to the island of Sicily, whence a cable will be laid to the African coast, under a concession granted by the Italian Government, joining the existing Malta and Alexandria cable at Benghazi. In order to meet the large through traffic which will concentrate on this line, it will become necessary to lay a duplicate line as far as Alexandria.

Arrangements should be made with the Telegraph to India Company, to hand over their concessions, as well as their lines between Alexandria, Cairo, and Suez.

From Alexandria two distinct lines should branch off to India, one from Suez to Cosseir and Suakin in the Red Sea, or by land lines up the Valley of the Nile, by permission of H.H. the Viceroy of Egypt, to Suakin or Massowah, and thence by submarine cables *viâ* Aden and the southern coast of Arabia to Kurrachee and Bombay; and the other, or alternative route, by land lines through Syria, joining the existing Persian Gulf Line.

3. Arrangements will have to be made to secure independent wires between Bombay, Calcutta, and Rangoon, and to carry out the conditions of an agreement which were settled two years since with the East Indian, the Great Indian Peninsula, and other Indian railway companies, for placing separate commercial wires on their posts from Bombay to Calcutta, Madras, Allahabad, Benares, Delhi, &c. It is also believed that the other land lines in India may be hereafter worked under one administration on equitable terms, to the great advantage both of the local and through telegraphic intercourse of the country.

4. From Rangoon, the eastern terminus of the Indian land lines, a cable should be laid to Singapore, whence submarine lines will diverge in two directions, one branch proceeding, *viâ* Saigon, to Hong Kong and Shanghai, and the other passing through Java to our colonies in Australia.

5. With a view of embracing the entire system of telegraphy to the East, it is proposed to undertake, if approved by the Secretary of State for India in Council, and the Government of India, a lease of, and eventually to purchase on equitable terms, the Persian Gulf Line, under such arrangements with the Ottoman Government as will secure to the public the same accuracy and rapidity in the transmission of messages as *viâ* Egypt, thereby providing the public with a double or alternate route to all parts of the East.

6. The whole system comprises about 12,000 miles of submarine cable, and about 8,000 miles of land line.

7. Great advantages would accrue to the public from the establishment of a responsible company of sufficient magnitude to embrace under one management a direct system of communication between Europe, India, China, and Australia, and would ensure at all times and at a minimum cost, the punctual and accurate transmission of messages between these distant and important communities, and thereby give to the electric telegraph a value hitherto unattained.

8. The present condition of telegraphic communication with India is most unsatisfactory; messages usually occupy from two to ten days in their transmission, and arrive in a mutilated and frequently unintelligible form; from the many different countries and languages through which the messages pass, it is impossible to obtain either explanation or redress, while the cost is too high and the distance too great to admit of corrections being obtained by repetition.

9. Under a well organised system the average time of transmission of a message between England and Australia ought not to exceed 12 hours, and between London and Calcutta less than half that time.

10. The route which should be followed lies almost entirely in shallow water, where the cables can be at once repaired in case of defect, and no section need exceed 700 miles in length.

11. Great advances have been made, and valuable experience gained of late years in the construction of submarine telegraphs; and as is shown by the Malta and Alexandria and the Persian Gulf Lines, and the many existing cables between England and the Continent, there is no difficulty in ensuring their electrical perfection and mechanical durability, nor will there be any difficulty in repairing them when injured.

12. It is calculated that the whole system may be completed in four years.

Macdonald Stephenson.

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Appendix, No. 14.

PAPERS handed in by Mr. *Knight*, 8 May 1866.

App. No. 14.

RETURNS relating to CUNARD STEAMERS between *England* and *America*.

OUTWARD MAILS.

RETURN of all STEAMERS of the CUNARD LINE carrying MAILS between *Liverpool* and *New York*, exhibiting the Duration of each Passage, for the Year 1861.

Date of Departure.	Name of Packet.	Duration of Passage.	
1861:		*Days.*	*Hours.*
5 January	Asia	13	18½
19 „	Arabia	13	8¾
2 February	Africa	14	21
2 March	Arabia	14	8¼
16 „	Africa	14	19¼
30 „	Persia	9	20¼
13 April	Asia	11	21¼
27 „	Africa	12	3
11 May	Persia	10	8¾
25 „	Australasian	11	6¾
8 June	Africa	11	20¾
22 „	Persia	10	19½
6 July	Asia	11	16¼
20 „	Africa	12	1
3 August	Persia	10	20¼
17 „	Asia	11	23½
31 „	Africa	12	5½
14 September	Persia	10	16¼
28 „	Asia	12	21¾
12 October	Africa	13	4½
26 „	Persia	9	22
9 November	Asia	12	6¾
23 „	Africa	14	21¾
7 December	America	16	23
21 „	Asia	13	0
	Voyages. 25)	311	22¾
Average Length of Voyage		12	11½
Average Detention at Queenstown		0	6
Under Steam		12	5

Distance, 3,100 miles. Average Speed, 10·58 knots.

HOMEWARD MAILS.

RETURN of all STEAMERS of the CUNARD LINE carrying MAILS between *New York* and *Liverpool*, exhibiting the Duration of each Passage, for the Year 1861.

Date of Departure.	Name of Packet.	Duration of Passage.	
1861:		*Days.*	*Hours.*
2 January	Persia	10	14
16 „	Australasian	11	3¼
30 „	Asia	11	23¾
13 February	Arabia	11	4¼
27 „	Africa	11	15
13 March	*Adriatic	9	12¾
27 „	Arabia	12	10¼
10 April	Africa	11	13¼
25 „	Persia	9	22¾
8 May	Asia	12	9
22 „	Africa	11	13½
5 June	Persia	10	15¼
19 „	Australasian	9	22¾
3 July	Africa	11	15¼
17 „	Persia	9	23
31 „	Asia	11	15¾
14 August	Africa	11	2
28 „	Persia	10	17
11 September	Asia	11	10
25 „	Africa	11	11½
9 October	Persia	10	23
23 „	Asia	11	11¼
6 November	Africa	12	11½
20 „	Persia	11	22¼
4 December	Asia	11	16¾
20 „	Africa	12	17½
	Voyages. 26)	293	16½
Average Length of Voyage		11	7
Average Detention at Queenstown		0	1
Under Steam		11	6

Distance, 3,100 miles. Average Speed, 11·48 knots.

* Chartered for single voyage, by Cunard Company, to Queenstown only.

AVERAGE SPEED OF THE PERSIA.

HOMEWARDS.

Date of Departure.	Duration of Passage.	
1861:	*Days.*	*Hours.*
2 January	10	14
25 April	9	22¾
5 June	10	15¼
17 July	9	23
28 August	10	17
9 October	10	23
20 November	11	22¼
Voyages. 7)	74	17½
Average Length of Voyage	10	16¼
Detention at Queenstown	0	1
Under Steam	10	15¼

Speed 12·15 knots.

OUTWARDS.

Date of Departure.	Duration of Passage.	
1861;	*Days.*	*Hours.*
30 March	9	20¼
11 May	10	8¾
22 June	10	19½
3 August	10	20¼
14 September	10	16¾
26 October	9	22
Voyages. 6)	62	11½
Average Length of Voyage	10	6
Detention at Queenstown	0	6
Under Steam	10	0

Speed 12·91 knots.

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App. No. 14.

RETURNS relating to Cunard Steamers between *England* and *America—continued.*

OUTWARD MAILS.

RETURN of all STEAMERS of the CUNARD LINE, carrying MAILS between *Liverpool* and *Boston*, exhibiting the duration of each passage for the Year 1861.

Date of Departure.	Name of Packet.	Duration of Passage.	
1861:		*Days.*	*Hours.*
12 January	Niagara	13	17¾
26 „	Canada	15	1¼
9 February	America	14	22¼
23 „	Niagara	16	7¼
9 March	Canada	15	14¼
23 „	America	12	22
6 April	Niagara	14	11¾
20 „	Arabia	10	13¼
4 May	Europa	11	8½
18 „	America	13	7½
1 June	Arabia	10	18¾
15 „	Europa	11	6½
29 „	Canada	13	6½
13 July	Arabia	11	13½
27 „	Europa	12	17½
10 August	Canada	12	13
24 „	Arabia	11	16¾
7 September	Europa	12	10¼
21 „	Niagara	15	6
5 October	Arabia	12	9¼
19 „	Europa	12	21¼
2 November	Niagara	13	16¾
16 „	Canada	12	11¼
30 „	Europa	17	6
14 December	Niagara	13	23
28 „	Canada	12	8½
	Voyages. 26)	344	19½
Average Length of Voyage		13	7
Detention		0	12*
Under Steam		12	19

Average speed - - 9·77 knots.

* Detention at Halifax, 6 hours.
Ditto at Queenstown, 6 hours.

HOMEWARD MAILS.

RETURN of all STEAMERS of the CUNARD LINE carrying MAILS between *Boston* and *Liverpool*, exhibiting the duration of each passage for the Year 1861.

Date of Departure.	Name of Packet.	Duration of Passage.	
1861:		*Days.*	*Hours.*
9 January	Canada	12	5½
23 „	America	12	14½
6 February	Niagara	11	23
20 „	Canada	10	18
6 March	America	11	15
20 „	Niagara	14	2¼
3 April	Canada	12	15½
17 „	America	12	12
1 May	Niagara	11	22¼
15 „	Arabia	10	11¾
29 „	Europa	11	0½
12 June	America	11	23¼
26 „	Arabia	10	21¼
10 July	Europa	12	14
24 „	Canada	11	8½
7 August	Arabia	10	11
21 „	Europa	11	1
4 September	Canada	10	22¼
18 „	Arabia	11	0½
2 October	Europa	11	1¼
16 „	Niagara	12	5½
30 „	Arabia	10	23¼
13 November	Europa	11	2¾
27 „	Niagara	11	17¾
11 December	Canada	11	10½
25 „	Europa	13	4
	Voyages. 26)	304	15¼
Average Length of Voyage		11	17
Detention		0	3*
Under Steam		11	14

Average speed - - - 10·8 knots.

* Detention at Queenstown, 1 hour.
Ditto at Halifax, 2 hours.

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Appendix, No. 15.

PAPERS handed in by Mr. *Bourdillon*, 8 May 1866.

App. No. 15.

(Home Department.—Post Office.—No. 3 of 1866.)

To the Right Honourable Sir *Charles Wood*, Bart., G.C.B., Secretary of State for India.

Sir, Fort William, 22 February 1866.

WITH reference to your public Despatch, No. 92, dated the 30th of December, and in continuation of the Governor General's telegram, dated the 12th instant, we have the honour to submit, for your consideration, the accompanying letter received from the Director General of the Post Office in India, on the very important question of establishing a weekly mail between England and Bombay. No. 2753 B, dated 19 February 1866.

2. In this letter Mr. Riddell appears to us to state, with equal force and justice, the position of this question so far as India is concerned. If it is admitted, as it is by the Postmaster General in England (and the point is indeed too clear to leave any room for question about it), that the postal service with India should, in future, be exclusively to Bombay, it is difficult to understand upon what ground it can be seriously maintained that the Indian Post Office should continue to be charged with a portion of the cost of a postal subsidy given to steamers on the line between Suez and Galle for the conveyance of China and Australian mails, or why any subsidy should be given to steamers running between Galle and Calcutta.

3. We are of opinion that there need be no hesitation in undertaking, for the present, on the part of the Government of India, to defray (in addition to a reasonable share of the cost of the service west of Suez, which is used for other than Indian mails), the whole cost of the mail service between Suez and Bombay; the entire sea postage charged on covers between the two countries being in that case of course credited to the Indian Post Office.

4. But we do not consider such an arrangement to be altogether unobjectionable. It would, apparently, be based on the expectation that the service must be carried on at a loss, and if so, we venture to suggest that it would hardly be desired by England that the whole of that loss should fall upon the Indian revenues.

5. It has been well pointed out in Mr. Merivale's letter to the London Post Office of the 5th of October, that the interests of England and India are jointly concerned in this matter. There are, no doubt, thousands in the former country to whom increased facilities for postal communication with India are just as important as they are to their countrymen living in India, and whether we look to the interests of this latter class only, or to the millions from whom Indian revenue is mainly drawn, and who have no direct interest in the matter at all, it would scarcely be generous for England to stipulate that the loss, which might arise from the establishment of a proper and efficient postal service between the two countries, should be borne wholly by the Indian taxpayer.

6. We earnestly trust that this question will receive further and full consideration from the Lords Commissioners of Her Majesty's Treasury, and that some arrangement will be assented to whereby India may obtain the great advantage of a weekly postal service with Bombay without being compelled, at the same time, to pay part of the expense of maintaining another line of communication which is no longer of any service to India.

7. To what an extent the postal service *viâ* Galle has ceased to be of use, even to Calcutta, we showed in our despatch to you on this subject, dated the 23d November.

We have, &c.
(signed) *John Lawrence.*
W. B. Mansfield.
H. S. Maine.
W. Grey.
G. N. Taylor.
W. N. Massey.
H. M. Durand.

Right Honourable Sir Charles Wood, Bart.
&c. &c. &c.

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App. No. 15.

Telegram—From Home Secretary, Calcutta, to Chief Secretary, Bombay; dated 12 February 1866.

PLEASE forward to the Secretary of State, by the out-going mail of the 14th, a copy of the following message, despatched this day by telegraph :—

Telegram—From the Governor General, Calcutta, to the Secretary of State for India, London, India Office; dated 12 February 1866.

A REPLY to your Post Office Despatch of 30th December will be sent by next mail. Meanwhile, I desire to submit that, if it is meant to make India pay the whole cost of two additional mails between Suez and Bombay, we should be allowed to make our own arrangements as economically as we can, either by accepting the Messieurs Stearns', or any other offer that may be eligible. The two additional mails are indispensable.

(Post Office.—No. 2753 B.)

From *H. B. Riddell*, Esq., Director General of the Post Office of India, to *E. C. Bayley*, Esq., Secretary to the Government of India; dated 19 February 1866.

Sir,

THE Despatch No. 92, dated the 30th December 1865, from the Right Honourable the Secretary of State for India, transmits, with other correspondence, the decision of the Lords Commissioners of Her Majesty's Treasury on the subject of the proposed weekly postal communication between Great Britain and India, and the recommendation of Her Majesty's Postmaster General that, concurrently with the establishment of a weekly mail, the rate of postage on letters to and from India should be doubled.

2. The Lords Commissioners decline to sanction the increased rates of postage, and also decline to sanction "the charge for postal communication with India, which would be entailed by making the service to Bombay weekly, unless the Government of India will undertake to defray the entire amount of that increase."

3. The first question for the consideration of the Government of India is, therefore, whether the required undertaking should be given. In my opinion the required undertaking may be given without hesitation, as there will be no increase of expense, provided that the service between Suez and India is exclusively confined to Bombay.

4. It is stated in Mr. F. Hill's letter, No. 7642, dated 14th July 1865, that Her Majesty's Postmaster General "fully agrees with Sir C. Wood and the Government of India in the opinion expressed of the advantage of substituting for the present postal service with India a weekly service, and in thinking that that service should be exclusively with Bombay." When a weekly service is established exclusively with Bombay, the steamers between Suez, Galle, and Calcutta would cease to carry Indian mails, and of course the Indian Postal Revenue would cease to pay any portion of any subsidy granted to steamers on those lines; but jointly with Ceylon, Mauritius, the Cape of Good Hope, China, Australia, and Great Britain, would have to defray the cost of the conveyance of the mails between England and Suez; and jointly with Great Britain would pay the cost of the service between Suez and Bombay.

5. If, as I believe to be the case, distinct payments are made to the Peninsular and Oriental Company for the Bombay and Suez, the Mauritius and Suez, the Suez and Calcutta, the Galle and China, the Galle and Australia, the Marseilles and Alexandria, and the Southampton and Alexandria services, there could be no difficulty in fixing the share to be paid by India for the Mediterranean service, and for that between Suez and Bombay, as well as for the transit through Egypt. There can be no ground for imposing on the postal revenues of India any portion of the subsidies paid on lines east of Suez, upon which Indian mails are not conveyed.

6. The subsidy for the line between Calcutta and Galle may be altogether withdrawn, as the line will be useless for postal purposes. The line between Galle and Suez must be continued for the conveyance of the China and Australian mails; and, if the Indian mails are no longer sent by that route, the cost of the Australian and China Mail service will be increased by the sum heretofore paid by India; and it would appear, from the tenor of Mr. Hill's letters, that this consideration has been the ground upon which all connected with India have been so long denied the advantage of a weekly mail to and from England, and even of four mails in the month. It is difficult to understand how the revenues of India can equitably be charged for the maintenance of a service which is useless to India, and which for some time past has acted as an obstacle to a very great public and private improvement. But if, on any ground of Imperial policy, it is considered right to charge upon the revenues of India a portion of the subsidies paid to British mail steamers employed between Australia, China, Ceylon, and Suez, I submit that the charge should be a distinct one, and not be allowed to interfere with the improvement of the postal communications between Great Britain and India. I think that there is reason to hope that if the rate of postage is not raised, and if a weekly mail is granted, the receipts from postage will, before long, cover the whole cost of the service.

7. The

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7. The present postal requirements of India, in connection with Great Britain and Europe, will be satisfied with a weekly mail to Bombay. The cost of the Mediterranean lines might be reduced without inconvenience to the public by a reduction in the number of mails sent *viâ* Southampton; and even if this were not done, the additional cost of conveying four mails in the course of a year from Marseilles or Brindisi cannot be serious. Assuming, therefore, for the present, that the cost of conveying the Indian mails to and from Suez and Great Britain remains unaltered, the increased charge on the Bombay and Suez line will be the subsidy paid for 28 additional trips from Bombay to Suez and back in the course of the year, that is for 56 mails.

8. In a previous communication I roughly estimated the probable cost of this service at 5 *s.* a mile. The tender submitted by the Bengal and Bombay Steam Navigation Company (Limited) asks for about 3 *s.* 6 *d.*; but as the proposed rate of speed is low, it may be safe to estimate the cost at a considerably higher rate.

9. The Bombay and Bengal Steam Navigation Company offer to convey the mails between Suez and Bombay for a sum of 500 *l.* for each mail, that is, for 1,000 *l.* for each voyage from Bombay to Suez and back. At this rate the annual cost of the service for 52 mails in each direction would be 52,000 *l.* At the rate now paid to the Peninsular and Oriental Company, the cost would be 69,544 *l.* 16 *s.* As the cost of the service between Suez and Great Britain is shared between Great Britain, Egypt, India, Ceylon, Mauritius, China, the Cape of Good Hope, and Australia, the sum chargeable to the Indian service must be much less than half the total expense. I have not the means of ascertaining the actual cost, but do not think that I should under-estimate it in roughly calculating that it would be covered by a sum of 30,000 *l.* a year.

10. The result of the above calculation is, that I estimate the cost of a weekly postal service between Bombay and Great Britain at about 100,000 *l.* a year.

11. As the accounts of postage collected on Indian correspondence in England are not available, I cannot state exactly the amount now realised under this head. The whole amount collected in India on account of sea and foreign postage is credited in gross to the English Post Office. The charge of 6 *d.* per half-ounce single letter consists of 1 *d.* for Indian inland postage, 1 *d.* for English inland postage, and 4 *d.* for sea postage. The sum collected in India and credited to England in the year 1864–5, amounted to 60,000 *l.*, part of which consisted of French and other foreign postage. Of the remainder, one-fifth was English inland postage, the remainder was available to meet the cost of the sea service between India and England.

12. During the same year, 1864–5, the steam postage due by the London Post Office to India was *Rs.* 1,74,252. 1. 10, representing the Indian inland charge on letters and newspapers. It would appear, therefore, that about 80,000 *l.* is now collected on the correspondence between India and England, which is available for the payment of the cost of the sea service between the two countries. There can, I think, be little doubt, when Bombay and the whole of India send and receive a weekly mail instead of two in a month, the increase of correspondence will, before long, make up the deficiency. The service will be self-supporting.

13. I should have been glad to have exact accounts on which to base the above estimate, but time will not admit of my attempting to procure them, and I have some confidence that I have not over-estimated the probable receipts.

14. As the proposal to increase the rates of postage has been negatived, I need not discuss that part of the question.

15. With regard to the proposal that the Imperial and Indian Government should each pay half the subsidy, and keep all the postage they collect, I would observe that the arrangement would involve a loss to the Indian revenue, as the number of articles received by post from countries in Europe greatly exceeds the number sent from hence.

16. I fear that I do not rightly comprehend the reason given for the assumption that a decrease in the number of mails sent *viâ* Gibraltar to Egypt would not result in any decrease on the subsidy. Speed is not of material consequence on that line; and if the requirements of commerce between Great Britain and Alexandria are such that steamers would be on the line whether subsidised or not, it seems to me only reasonable to suppose that a very moderate subsidy would be sufficient to induce one of the competing companies at Southampton or Liverpool to time the departure of one steamer a month, so as to suit the requirements of the Post Office; and I fail to comprehend why the same sum should be demanded for the conveyance of 12 mails a year as for 48.

17. The importance of a frequent mail communication between India and England is so great, that I should hope that the Government of India would feel justified in at once taking upon itself the responsibility of establishing a weekly service between Suez and Bombay, and of abandoning, for postal purposes, the Suez and Calcutta line. The correspondence between Great Britain and India may be expected, before long, to defray the whole cost of the service between India and England. Any question as to the sum, if any, to be paid by India for the maintenance of other lines in the Eastern seas is beyond my province; but I hope that the postal interests of the British and Indian public will not be sacrificed to any difference of opinion on this subject. I believe that if not at once, yet in the course of a

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App. No. 25.

year or two, the mail service between Bombay and England will be self-supporting; and, if so, its establishment should not be delayed because other lines are a burthen on the revenue.

I have, &c.
(signed) *H. B. Riddell.*
Director General of the Post Office of India.

(Bombay.—Public.—No. 10 of 1866.)

Sir, India Office, 31 March 1866.

Para. 1. I HAVE considered in Council your letter, dated 27th January (No. 7) 1866, forwarding correspondence on the subject of an offer made by Messrs. Stearns, Hobart & Co. on behalf of the Bombay and Bengal Steamship Company, to carry two additional mails every month between Bombay and Suez for a subsidy of 20,000 rupees a month, and strongly recommending that this tender be accepted for one year.

2. A Committee of the House of Commons has just been appointed to inquire into the whole subject of telegraphic and postal communication between India and England, and I trust that the deliberations of the Committee may result, at no distant period, in that revision and extension of the postal service which is so much desired by all parties connected with India.

3. But, in the meantime, I am not prepared to sanction the proposal you have now submitted to me.

I have, &c.
(signed) *De Grey and Ripon.*

His Excellency
The Honourable the Governor in Council,
Bombay.

Sir, India Office, 5 May 1866.

WITH reference to Mr. Hill's letter, dated 21st December last, communicating the decision of the Lords of Her Majesty's Treasury on the subject of establishing weekly postal communication between England and India *viâ* Bombay, I am directed by the Secretary of State for India in Council to acquaint you that a copy of the correspondence which took place with Her Majesty's Post Office in the course of last year, on the subject in question, was transmitted for the information of the Government of India; and I have now to forward, for the information of Her Majesty's Postmaster General, the accompanying copy of a letter from the Government of India, with its enclosures, relating to the present position of the question at issue.

Post Office, No. 3 of 1866.

It will be observed that the Government of India continue to urge the establishment of the proposed additional service *viâ* Bombay, and express the hope that the subject will receive such further consideration from the Lords of Her Majesty's Treasury as will result in the establishment of a weekly postal service with Bombay, and that India may, at the same time, be relieved from the necessity of paying part of the expense of maintaining the line of postal communication *viâ* Galle, which is no longer of any public service.

The views of the Secretary of State for India in Council have already been fully and repeatedly expressed on this important subject; but as this is the first opportunity which has occurred of stating his opinion on the subject, as presented in Mr. Hill's letter of the 21st December last, I am directed by Earl de Grey to remark that, considering the question of an increase of the rates of postage to have been set at rest by the decision of the Lords of Her Majesty's Treasury as therein communicated, his Lordship is not prepared to sanction, at the sole charge of India, the establishment of the additional steamers to and from Bombay which, under existing arrangements, would be required to maintain a weekly mail communication with India by that route.

Earl de Grey, in accordance with the wishes of the Government of India, requests that the subject may again be brought by Lord Stanley of Alderley to the early consideration of the Lords of the Treasury, and that their Lordships may be moved to consent to such a rearrangement of the postal service with India as may lead to a removal of existing anomalies and provide for the desired changes and extensions in the service on fair and equitable terms.

I am, &c.
(signed) *Herman Merivale.*

The Secretary, General Post Office.

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(India.—Public.) App. No. 15.

Sir, India Office, May 1866.

Para. 1. I HAVE considered in Council your letter, dated 22nd February (No. 3) 1866, forwarding, with reference to Sir C. Wood's Despatch, dated 30th December (No. 92) 1865, a letter from the Director General of the Post Office in India, on the present state of the question of establishing a weekly mail between England and India, *viâ* Bombay.

2. The subject is, as you are aware, much complicated by existing arrangements; but I shall not fail to urge on Her Majesty's Postmaster General and on the Lords of Her Majesty's Treasury the importance of putting an end to existing anomalies, and of providing means of extended postal communication between England and India on fair and equitable terms.

3. A Committee of the House of Commons has recently been appointed to consider the whole subject of postal and telegraphic communication between the two countries, and, pending the result of the deliberations of the Committee, I cannot sanction the adoption of any measure which would involve additional charges to be borne exclusively by the revenues of India.

His Excellency
The Right Hon. the Governor General of India in Council.

(No. 7 of 1866.—General Department.)

To Her Majesty's Principal Secretary of State for India in Council, London.

Right Honourable Sir, Bombay Castle, 27 January 1866.

WE have the honour to forward copies of correspondence, as per margin, on the subject of an offer made by Messrs. Stearns, Hobart & Co., in behalf of the Bombay and Bengal Steamship Company, to carry two additional mails every month between Bombay and Suez for 20,000 rupees a month.

1. Telegram to the Secretary of State, dated the 19th instant.
2. Messrs. Stearns, Hobart & Co.'s tender, dated the 12th *idem*.
3. Letter from the Government of India and its accompaniment, dated the 17th *idem*.
4 Note by the Director General of the Post Office, dated the 26th *idem*.

2. We beg strongly to recommend that this tender be at once accepted provisionally for one year. The amount asked is, in our opinion, very moderate.

3. The rate of speed (eight knots), though low, is sufficiently high to commence with. The steamers are already on the line, and Messrs. Stearns, Hobart & Co. write that "they have in contemplation the building of a class of boats, not only larger and faster, but in every way superior to any now in the East, and capable of delivering the mails within 20 days between England and India; and that plans for placing these vessels on the route are so far matured that, should the tender they have made be accepted, and a reasonable prospect held out of their receiving a fair subsidy through to England, they have little doubt of their being in a position to carry the project into immediate execution."

4. The departure of these steamers from Bombay might be so timed as to ensure their arrival at Suez in time to meet the Galle mails. Should there, however, be any difficulty in this respect, we have reason to believe that Messrs. Palmer & Co., the managers of the Italian Brindisi line, would gladly undertake to run their steamers in connection with the Bombay Company, and thus avoid all chance of a detention of the mails in Egypt.

5. We request the favour of an answer by telegraph.

We have, &c.
(signed) *H. B. E. Frere.*
B. H. Ellis.
C. J. Erskine.

TELEGRAM to the Secretary of State, dated 19th January 1866.

From Bombay - - - To London.
From Governor - - - To Sir Charles Wood.

The following tender for mails between Bombay and Suez, offered by Stearns, Hobart, on behalf of Bombay and Bengal Steamship Company, is forwarded at the request of the Government of India. Fortnightly voyages; speed, eight knots; subsidy, 20,000 rupees per mensem; dates of arrival and departure to be fixed at discretion of Government.

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App. No. 15.

Messrs. *Stearns, Hobart & Co.*'s Tender, dated 12th January 1866.

To *H. B. Riddell*, Esq., Director General of Post Offices in India, Calcutta.

Dear Sir,

We have the honour to bring to your notice that, in May 1865, an application was made by us for the conveyance of a bi-monthly mail between Bombay and Suez, for 60,000 *l.*

Since making this application we have succeeded in establishing an overland transit for freight between India and Great Britain, and are consequently in a position to greatly reduce the figure at which we can undertake the mail service in question.

We are prepared to run steamers from Bombay to Suez on the following days, namely, 2nd and 18th of each month during the fair season, and from the middle of May to September on the 14th and 29th; or on such as the Department may appoint, by which they would be enabled to overtake the Calcutta mail before it leaves Suez.

Returning boats to leave Suez on the 4th and 19th of each month, or immediately after the arrival of the Calcutta mail from England at Suez.

We will undertake to carry the mails at present at an average rate of, say, eight knots per hour, though we shall expect to attain a much higher speed.

In consideration of the performance of this service, we are to be remunerated at the rate of 10,000 rupees per trip, or 20,000 rupees per month.

We shall doubtless be sending extra steamers from this each month, and may possibly send boats weekly. By these extra boats we will carry, free, whatever mails may offer.

Should this tender be accepted, we shall expect no remuneration for mails carried by our steamers during the year 1865.

It may not be out of place to mention, although not as a part of our tender, that we have in contemplation the building of a class of boats, not only larger and faster, but in every way superior to any now in the East, and capable of delivering the mails within 20 days between England and India; and plans for placing these vessels on the route are so far matured that, should the tender we have made be accepted, and a reasonable prospect held out of our securing a fair subsidy through to England, we have little doubt of our being in a position to carry the project into immediate execution.

We have, &c.
(signed) *Stearns, Hobart & Co.*,
Treasurers and Managers,
Bombay and Bengal Steamship Company, Limited.

Bombay, 12 January 1866.

(No. 629.)

From *E. C. Bayley*, Esq., Secretary to the Government of India, to *C. Gonne*, Esq., Secretary to the Government of Bombay, dated Fort William, 17 January 1866.

Sir,

I am directed to forward, for the information of his Excellency the Governor in Council, the accompanying copy of a letter this day addressed to the Director General of the Post Office of India, on the subject of an offer made by the Bombay and Bengal Steamship Company to carry two additional mails every month between Bombay and Suez, for 20,000 rupees a month.

2. The Governor General in Council desires me to request that the Governor in Council will be good enough, in communicating with the home authorities on the subject, to add any further information which his Excellency in Council may think it useful to make known to the Secretary of State.

I have, &c.
(signed) *E. C. Bayley*,
Secretary to the Government of India.

(No. 628.)

From *E. C. Bayley*, Esq., Secretary to the Government of India, to *H. B. Riddell*, Esq., Director General of the Post Office of India, dated Fort William, 17 January 1866.

Sir,

I am directed to acknowledge the receipt of your two telegrams of the 14th and 16th inst., regarding an offer made by the Bombay and Bengal Steamship Company to carry two additional mails every month between Bombay and Suez, for 20,000 rupees a month.

2. The

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'2. The offer, as you have been informed by telegraph, has been communicated to the Secretary of State for India; and a copy of the message, for facility of reference, is entered in the margin.*

3. I am further directed to subjoin copy of a telegram this day sent to Poonah, to your address; and to request that, in sending, through the Government of Bombay, to the Secretary of State a specific statement of the conditions of the offer, you will be good enough to specify the average speed at which the steamers are to make the trip, the number of days for each trip, and the dates of departure of the vessels from Bombay, length of detention at Aden or other intermediate port, and arrival at Suez, and *vice versâ*.

4. It will obviously be necessary that these dates should be arranged so as to fit in with the arrival at, and departure from, Alexandria of the steamers which convey the mails sent by way of Galle.

I have, &c.
(signed) *E. C. Bayley*,
Secretary to the Government of India.

TELEGRAM from Home Secretary, Calcutta, to the Director General of Post Office, Poonah, dated 17 January 1866.

THE offer of the Bombay and Bengal Steamship Company has been telegraphed to England. Send home by telegraph, through the Bombay Government, the conditions of the offer, especially as to speed and the time of departure from and arrival at Suez. More by post. Remain at Poonah or Bombay till you receive the letter.

NOTE by *H. B. Riddell*, Esq., Director General of Post Offices in India, dated 26 January 1866.

IN transmitting Messrs. Stearns, Hobart & Co.'s tender, it would, I think, be well to notice the fact that the steamers with which it is proposed to perform the service are actually on the line, and can be utilized as soon as the English Post Office send a mail for Bombay; and the rest of India, by the Galle steamers on the 11th and 26th, to be carried from Suez to Bombay, by Messrs. Stearns & Hobart's steamers. Letters are now sent from Bombay to England by Messrs. Stearns, Hobart & Co.'s steamers, but it is not possible to extend the benefit of the extra outward mail to India generally, as the dates of departure are not fixed, and there is a chance of the mail steamer from Calcutta arriving before Messrs. Stearns, Hobart & Co.'s freight steamer from Bombay, and in that case the mails would be detained in Egypt.

2. Messrs. Stearns, Hobart & Co., I was informed, are willing to accept a provisional temporary contract. It would clearly not be desirable to accept a tender proposing a speed of only eight knots an hour, except as a temporary make-shift.

3. If Government were to conclude an agreement with Messrs. Stearns, Hobart & Co. for the conveyance of two extra mails in each month to and from Suez and Bombay, I believe that Messrs. Palmer & Co., the managers of the Italian Brindisi line, would gladly undertake to run their steamers from Alexandria to Brindisi, in connection with the Bombay steamers, and so avoid all chance of the mail being detained in Egypt in consequence of the earlier arrival of the China mail.

4. I do not think I have any more to add. I advocate the immediate acceptance of Messrs. Stearns & Hobart's tender.

1. Because it will at once give to India the advantage of two additional mails in each month, and remedy partially the inconvenience of the present arrangements.

2. Although the rate of speed is very slow, the time gained will be considerable, and the rate, probably, in practice not far below that of the present mail steamers.

3. The subsidy asked is, in my opinion, very moderate.

4. If any practical difficulty is anticipated, in regard to the homeward mails, from the possible speed of the Galle steamers causing them to reach Suez before Messrs. Stearns & Hobart's, the inconvenience might be remedied by an arrangement with the managers of the Italian line from Alexandria to Brindisi.

Bombay, 26 January 1866. *H. B. Riddell.*

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* "Telegram, from the Governor General in Council to the Secretary of State for India, India Office, London; dated Calcutta, 17th January 1866.
"We have received from the Bombay and Bengal Steamship Company a general offer to carry two additional mails every month between Bombay and Suez for 20,000 (twice 10,000) rupees a month. We recommend the acceptance of this offer, under proper conditions, to the favourable consideration of Her Majesty's Postmaster General."

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App. No. 15.

(Home Department—Post Office.—No. 15 of 1865.)

To the Right Honourable Sir *Charles Wood*, Bart., G.C.B., Secretary of State for India.

Sir, Fort William, 23 November 1865.

In continuation of our Despatch in this Department, No. 5, dated the 17th of April last, we have the honour to submit for your consideration a further communication* from the Director General of the Post Office on the subject of the arrangements for postal communication between England and India.

* No. 2447, dated 0 November 1865.

2. We earnestly hope that the existing arrangement, which causes great dissatisfaction to the mercantile and general community, will not be much longer retained, but that it will be superseded by the establishment either of a weekly mail, or of four mails a month to Bombay. The Nagpore extension of the Great Indian Peninsula Railway will be opened to Wurdah, within 60 miles of Nagpore, in January next, and will be completed to Nagpore, it is believed, in January 1867. Between Nagpore and Mirzapore the whole distance can be traversed by mail carts throughout the year. Even now, it will be seen from the dates for closing the mails which are given in Mr. Riddell's letter, the mails *viâ* Galle have become for letters quite useless. The mail which left Calcutta this morning by the Galle route is due in London on or about the 27th proximo, while the mail which closes this evening for the Bombay route, and by which this Despatch will be transmitted, should, it is believed, reach London on or about the 21st.

We have, &c.
(signed) *John Lawrence.*
H. S. Maine.
W. Grey.
H. M. Durand.

Post Office.—25 October 1865.

(No. 26.)

Proceedings of the Right Honourable the Governor General of India in Council, in the Public Works Department (No. 891 C); dated Simla, 2 September 1865.

Read again—

Public Works Department, Resolution No. 2263 G G, dated the 21st September 1863.
Ditto - - ditto - Resolution No. 9–13 C, dated the 6th January 1865.

Mail Lines between Bombay and Calcutta, and between Bombay and the North Western Provinces.

Read also—

Letter No. 86, dated the 7th March 1865, from the Under Secretary to the Government of the North Western Provinces, in the Public Works Department, Railway Branch.
Letter No. 158 G, dated the 13th March 1865, from the Agent to the Governor General for Central India.
Letter No. 782, dated the 8th April 1865, from the Secretary to the Government of Bombay, in the Public Works Department.
Letter No. 8839, dated the 27th April 1865, from the Secretary to the Chief Commissioner of the Central Provinces, in the Public Works Department.
Public Works Department Letter No. 505 C, dated the 20th May 1865, to the Chief Commissioner of the Central Provinces.
Telegram dated the 12th June 1865, from the Secretary to the Chief Commissioner of the Central Provinces, in the Public Works Department.
Telegram dated the 17th June 1865, from the Secretary to the Government of Bombay, in the Public Works Department.
Letter No. 1647, dated the 7th July 1865, from the Secretary to the Chief Commissioner of the Central Provinces, in the Public Works Department.
Letter No. 1859, dated the 10th August 1865, from the Secretary to the Government of Bombay, in the Railway Department.

Observations.—In Public Works Department Resolution No. 2263 G G., dated the 21st September 1863, the Post Office Administration was furnished with information in regard to the state and probable progress of the lines that were then in use, or which might shortly be used, for the conveyance of the mails between Bombay and the North Western Provinces, and between Bombay and Calcutta. In January 1865, it appeared to the Governor General in Council desirable to revise the conclusions arrived at, on the date available when the resolution above quoted was recorded; and the Governments of Bombay and the North Western Provinces, the Chief Commissioner of the Central Provinces, and the Agent to the Governor General for Central India, were requested to consider and report, at an early date, the facts as to the lines of railway and road in their respective territories, to enable this Department to furnish a corrected statement to the Post Office Administration. The letters above read, contain replies to this call.

2. Before

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2. Before proceeding to give an abstract of their contents, it may be stated that the mails for Calcutta and the North Western Provinces are now taken by rail from Bombay to Nargaum, a station on the Nagpore branch of the Great Indian Peninsula Railway, about 19 miles from Bhosawul, which is the junction of the branch with the main line; and the time occupied in their transmission to Benares is stated by the Bombay Government to be 100 hours, as shown on the margin.

	Miles.	Hours.
Bombay to Nargaum; rail	295	19
Nargaum to Agra; road	535	62
Agra to Benares; rail	371	19
Total	1,201	100

3. The present state and probable progress of the various lines of railway, gathered from the reports now before the Government, and other accessible information, is as follows:—

Great Indian Peninsula Railway, North East Extension.

4. The line is at present open to Bhosawul, but no part of the North East Extension is as yet completed. The Taptee viaduct will, it is reported, be opened in October next; and the following are given as the earliest probable dates of opening the further sections of this line.

To Khundwa	May 1866.
To Hurda	early in 1867.
To Sohagpore	ditto 1868.
To Jubbulpore	ditto 1869.

It appears to the Governor General in Council that no advantage will accrue to the mails from the opening of any sections of the North East Extension beyond Khundwa, until the whole line is available, as by the time that the section up to Hurda is open, the road between Nagpore and Jubbulpore will be in complete order throughout. It may, however, be possible to open the line throughout for trollies, on which the mails may be sent some time before the dates here given, which are those on which it is hoped that the line will be completed up to the various points named. Trollies drawn by horses can attain a speed of 12 miles an hour. It is possible, therefore, that by this means the results arrived at in the subsequent paragraphs of this Resolution may fall short of what will be actually attainable.

Great Indian Peninsula Railway.—Nagpore Branch.

5. This branch is now open as far as Sheagaum,* and the following are given as the probable dates of opening the further sections:—

To Budnaira	November 1865.
Kowteh (Wurdah river)	March 1866.
Nagpore	January 1867.

East Indian Railway.—Jubbulpore Extension.

6. No portion of this line will be available until the whole is completed; and the Government of the North Western Provinces reports that the earliest possible date by which the whole line may be finished is 1st April 1867, which is the date by which the contractors are bound to complete it.

7. It remains to be considered how far these various extensions of railways may, from time to time, be taken advantage of for the purpose of expediting the transmission of the mails to Calcutta and Agra, respectively; the chief points for determination being—

1st. Will it, on 1st November 1865, be advisable to take the Calcutta mails *viâ* Nagpore and Jubbulpore, instead of *viâ* Nargaum, Indore and Agra?

2nd. Will this still be the best route when the line is open to Khundwa, viz., on 1st May 1866?

3rd. Should the Agra mails be transferred to the line *viâ* Khundwa and Indore, instead of Nargaum and Indore, on the opening to Khundwa?

4th. Will it be advisable, on the opening of the Jubbulpore extension of the East Indian Railway in April 1867, to transfer all Agra mails to this route?

8. If the first two questions be answered in the affirmative, the question of the Calcutta mails will be settled; for any subsequent extensions of the railway between the Wurdah River and Mirzapore will increase the advantages of this route until the North East Extension of the Great Indian Peninsula Railway is open, when of course all mails will go by it; but the answer to these depend in great measure, in fact, almost entirely, on the probable state, on 1st November 1865, of the road from Nagpore to Jubbulpore and on to Mirzapore, and on that of the road from Budnaira to Nagpore.

9. The last-named piece of road is about 117 miles in length, and it is probable that the 30 miles nearest to Nagpore will be metalled by the end of the working season in 1865–66. The rest is a mere cart track, but good in dry weather.

10. As

* Distant from Bombay - - - - - - - 340 Miles.
Ditto - Bhosawul - - - - - - - 64
Ditto - Nargaum - - - - - - - 45

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10. As regards the road between Nagpore and Jubbulpore, a very full report has recently been received on the portion between Kamptee (ten miles from Nagpore) and Jubbulpore; and from this it appears that, with the exception of the Korai Ghât, there will, on the 1st November next, be no obstacle to mail cart traffic which may not be temporarily overcome, and which will not be entirely removed, by June 1866. The old ghât road can also, it is said, be rendered passable for mail carts, should it be considered desirable to do so.

11. The road from Jubbulpore to Mirzapore is metalled from end to end, and mail carts run on it. The bridging is still incomplete; and, in the near prospect of the completion of the railway, it is not considered worth while to do more at present than to finish those bridges which are in hand.

12. On the whole, it appears to the Governor General in Council that eight miles an hour may safely be calculated on as the minimum speed which will be attainable by mail carts between the Wurdah River and Mirzapore when the Nagpore extension of the Great India Peninsula Railway is open to that river. The whole time occupied in travelling from Bombay to Mirzapore by the two routes, *viâ* Nagpore and Jubbulpore, and *viâ* Nargaum and Indore, will then be as follows, assuming a rate of 18 miles an hour on the line from Bombay in both cases:—

	Miles.	*Hours.*
Viâ *Nagpore and Jubbulpore on 1st November* 1865:		
Bombay to Budnaira; rail	410	23
Budnaira to Nagpore; road, at six miles an hour	107	18
Nagpore to Mirzapore; road, at eight miles an hour	407	51
TOTAL	924	92
Viâ *Nagpore and Jubbulpore on 1st March* 1866:		
Bombay to Wurdah River; rail	457	25½
Wurdah to Nagpore; road	60	7½
Nagpore to Jubbulpore; road	162	20
Jubbulpore to Mirzapore; road	245	31
TOTAL	924	84
Viâ *Nargaum and Indore*:		
Bombay to Nargaum; rail	295	16½*
Nargaum to Agra; road	535	62 †
Agra to Mirzapore; rail	332	17 ‡
TOTAL	1,201	95½

showing a balance of about 3½ hours on 1st November 1865, and 11½ hours on 1st March 1866, in favour of the Nagpore route.

13. Again, on the opening of the North East Extension of the Great India Peninsula Railway to Khundwa, the time to Agra will be as follows:—

	Miles.	*Hours.*
Bombay to Khundwa; rail	352	20
Khundwa to Agra; road	450	53§
TOTAL	802	73

which shows a saving of about eight hours on the present line *viâ* Nargaum, besides a diminution in length of mail cart work of 85 miles. The answer to the third question is therefore clear, viz., that the Agra mails should go by Khundwa as soon as possible.

14. In

* Calculated at 18 miles an hour. The present time is stated by the Bombay Government to be 19 hours.
† Present time, as given by Bombay Government.
‡ Advertised time.
§ Calculated at present rate from Nargaum to Agra.

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14. In comparing the route *viâ* Khundwa and Agra to that *viâ* Nagpore, for the Calcutta mails, the following result is arrived at *viâ* Khundwa:—

	Miles.	*Hours.*
Bombay to Agra, as above - - - - - - - - -	802	73
Agra to Mirzapore - - - - - - - - - -	332	17
TOTAL - - -	1,134	90

which is about six hours longer than the other route. The second question raised is, therefore, easily disposed of, viz., that the Calcutta mails should go by the Nagpore route when the Nagpore branch of the Great India Peninsula Railway is not open beyond the Wurdah, although the North East Extension be open to Khundwa.

15. The next point to be determined is whether, after the Jubbulpore extension of the East Indian Railway is open, it will be worth while to send the mails for Agra by that route.

16. The following would be the calculation:—

Viâ *Nagpore:*	*Miles.*	*Hours.*
Bombay to Nagpore; rail - - - - - - - - -	517	28½
Nagpore to Jubbulpore; road - - - - - - - -	162	20
Jubbulpore to Allahabad; rail - - - - - - -	225	12½
Allahabad to Agra; rail - - - - - - - -	275½	13½
TOTAL - - -	1,179½	74½

against 73 hours *viâ* Khundwa.

17. The difference in time on the above calculations would be against the Nagpore route; but there would be greater certainty and regularity owing to the length of road being reduced to 157 miles, which would then all be in good order, and a speed of 10 miles an hour probably obtainable; moreover, the establishment will be on the one road, and have been withdrawn from the other. For every station below Agra, the Governor General in Council is of opinion, the Nagpore route would then undoubtedly be the best.

18. No account has been taken in the above calculations of any possible improvements in the Khundwa, Indore and Agra Road,—1st, because it does not appear probable that any improvement will be made, within the periods referred to, which will materially affect the average rate of travelling; and 2nd, because the results arrived at, would not, except in the last instance, be disturbed by any slight increase in that rate.

19. The results, therefore, arrived at are as follows, with reference only to the probable state of the various lines of railway and road on the several dates named, and the probable rate at which the mails could be carried:—

On 1st November 1865, and after 1st March 1866, or on opening of the Nagpore Branch of the Great India Peninsula Railway to Budnaira—

The Agra mails should continue to go by their present route.
Time to Agra, 79 to 81 hours.
The Calcutta mails should go by rail to the Wurdah River, and thence by road to Mirzapore.
Time to Mirzapore, 93, reducing on 1st March to 84 hours.

1st May 1866, or on opening of the North East Extension of the Great India Peninsula Railway to Khundwa—

The Agra mails should be sent *viâ* Khundwa and Indore, instead of *viâ* Nargaum and Indore.
Time to Agra, 73 hours.
The Calcutta mails should continue to go *viâ* Nagpore.

1st January 1867, or on opening of the Nagpore Branch of the Great India Peninsula Railway to Nagpore—

The Calcutta mails will go as far as Nagpore by rail, saving 60 miles of road and getting an equal amount of rail, thus saving four hours.
Time to Mirzapore, 74 hours.

On 1st April 1867, or on opening of the Jubbulpore Extension of the East Indian Railway from Allahabad to Jubbulpore—

The Calcutta mails will continue to go by the same route; but, instead of 245 miles by road from Jubbulpore to Mirzapore, they will have 225 miles of rail to Allahabad, and 53 more to Mirzapore, which will cause a saving in time of 15½ hours.
Time to Mirzapore, 64½ hours.

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If the Agra mails were also then sent by this route, a loss of time of about two hours would occur for mails to Agra and places above it, ordinarily; but the mails would be more regular, and some 500 miles of mail cart road might be abandoned, arrangements for the additional weight being made on 160 miles.

Arrangements on a small scale would, however, in this case have to be made for towns on or near the old line of road.

ORDER.—Ordered, that a copy of the foregoing resolution be forwarded to the Home Department for information, in continuation of Public Works Department, Resolution No. 13C, dated the 6th January 1865.

(signed) *C. H. Dickens*, Lieut. Col., R.A.,
Secretary to the Government of India,
Public Works Department.

No. 2152, dated Simla, the 20th September 1865.

COPY forwarded to the Director General of the Post Office of India, with a request that he will submit a report on the subject.

By Order,
(signed) *A. M. Monteath*,
Under Secretary to the Government of India.

(No. 27).

PROCEEDINGS of the Right Honourable the Governor General of India in Council, Public Works Department (No. 1055 c.); dated Simla, 16 October 1865.

Mail lines between Bombay and Calcutta, and between Bombay and the North Western Provinces.

READ again Public Works Department Resolution to Home Department, No. 891 C, dated 2nd September 1865.

Public Works Department Letter No. 892 C., dated 2nd September, to the Government of Bombay.

Read letter from the Government of Bombay, No. 2228, dated 2nd October 1865.

ORDER.—Ordered, that a copy of the above letter from the Government of Bombay be forwarded to the Home Department, with reference to paragraph 4 of the Resolution of 2nd September last, in order that the postal authorities might, if considered advisable, enter into arrangements with the contractors for the North Eastern Extension of the Great India Peninsula Railway for the more extended use of the line on the Nagpore Branch, which, it is now said, may be open to the Wurdah River in January next, instead of March, as before stated.

(signed) *C. H. Dickens*, Lieut.-Col., R. A.
Secretary to the Government of India,
Public Works Department.

(No. 28).

From Colonel *W. Kendall*, R.E., Acting Secretary to the Government of Bombay, Railway Department, to Lieutenant Colonel *C. H. Dickens*, R.A., Secretary to the Government of India, Public Works Department (No. 2288); dated 2 October 1865.

I AM directed by his Excellency the Governor in Council to acknowledge the receipt of your letter, No. 892 C., dated 2nd instant, relative to the use of trollies for the conveyance of the mails on the North Eastern Extension of the Great India Peninsula Railway before it is opened for traffic; and in reply beg to forward copies of communications from the agent of the railway, and the consulting engineer to Government, suggesting that the postal authorities make their own arrangements with the contractors for the line.

From Captain *S. Osborn*, R.N., Agent to the Great India Peninsula Railway, Bombay, to Lieutenant Colonel *A. De Lisle*, R.E., Consulting Engineer for Railways, Bombay (No. 4790); dated 21 September 1865.

IN reply to your letter of the 16th instant, No. 2946, I have the honour to state, that the chief resident engineer is of opinion that the proposed arrangement to make the unopened North Eastern Extension available for the conveyance of mails by trollies, will cause great inconvenience to the contractors, and might end in many difficulties.

I would suggest that the postal authorities make their own arrangements with the contractors where they wish to have trollies. The company can incur no responsibility on unopened contracts.

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MEMORANDUM by the Consulting Engineer for Railways, Bombay (No. 3076); dated 25 September 1865.

THE undersigned has the honour to state that the agent, Great India Peninsula Railway, is unwilling to enter into any agreements with the contractors for conveying the mails by trollies, but suggests that the Postmaster General should make his own arrangements with them.

2. There is, however, no prospect of the mails being carried by the North Eastern Line to Jubbulpore, as what permanent way is laid is in detached portions, and the girder-bridges cannot be completed until the permanent way reaches them; the girders are too heavy for carting.

3. The only way is to go by the Nagpore Branch, which may open to Budnaira in November and the Wurdah River in January. The mails might go beyond this by contractor's train. Within 30 miles of Nagpore there is a good mail road passable in the rains, and a bridged and metalled road to Jubbulpore, so that next rains there would be no difficulty in getting the mails through by this route.

(signed) *A. De Lisle*,
Lieut.-Col., R.E.

No. 3287, dated Simla, 25 October 1865.

COPY forwarded to the Director General of the Post Office of India, in continuation of No. 2152, dated the 20th ultimo.

By Order,
(signed) *A. P. Howell*,
Under Secretary to the Government of India.

(No. 2447.)

From *H. B. Riddell*, Esquire, Director General of the Post Office of India, to *E. C. Bayley*, Esquire, Secretary to the Government of India, Home Department; dated Calcutta, 20 November 1865.

Sir,

WITH reference to the correspondence quoted in margin, I think it right to draw the attention of Government to the fact that, if official reports are to be trusted, the Nagpore extension of the Great Indian Peninsula Railway will very shortly be open to the Wurdah. The time required for the transmission of a mail from Calcutta to Bombay will then be further reduced, and the extravagant absurdity of the existing mail service between India and Suez will be even more glaringly apparent than it now is.

From Director General of the Post Office of India, to the Secretary to the Government of India, Home Department, No. 3247, dated 20th February 1865.
To ditto, from ditto, No. 3287, dated 25th October 1865.

2. The following Memorandum shows the dates on which mails *viâ* Bombay and *viâ* Galle will be despatched during the next six months:—

Date of Mail closed at Calcutta.	Route.	Due in London *viâ* Marseilles.	Date of Mail closed at Calcutta.	Route.	Due in London *viâ* Marseilles.
8 Dec. - 1865	*Viâ* Galle -	12 January.	8 March - 1866	*Viâ* Galle -	12 April.
7 „ - „	„ Bombay	5 „	8 „ - „	„ Bombay	5 „
22 „ - „	„ Galle -	26 „	22 „ - „	„ Galle -	26 „
24 „ - „	„ Bombay	20 „	23 „ - „	„ Bombay	20 „
8 January 1866	„ Galle -	12 February.	8 April - 1866	„ Galle -	13 May.
7 „ - „	„ Bombay	5 „	8 „ - „	„ Bombay	6 „
22 „ - „	„ Galle -	26 „	22 „ - „	„ Galle -	27 „
22 „ - „	„ Bombay	20 „	23 „ - „	„ Bombay	21 „
8 February 1866	„ Galle -	15 March.	8 May - 1866	„ Galle -	12 June.
8 „ - „	„ Bombay	8 „	8 „ - „	„ Bombay	5 „
22 „ - „	„ Galle -	29 „	22 „ - „	„ Galle -	26 „
23 „ - „	„ Bombay	23 „	23 „ - „	„ Bombay	19 „

It will be seen that from February the letters despatched by direct steamer *viâ* Galle will reach England a week after those despatched on the same day *viâ* Bombay.

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3. Whatever sum is expended out of the revenues of India for the maintenance of a line of steamers between Suez and Calcutta *via* Galle is, for all postal purposes, absolutely wasted, and I respectfully submit that the interests of India ought not to be sacrificed to the requirement of China and Australia. If the sum paid for the postal communication with China and Australia is not sufficient, it may be necessary to increase the subsidy; but I cannot conceive any reason why the increase should be at the cost of India, or why a sum, which would be probably more than sufficient to provide a weekly mail communication between all parts of India and Suez should be spent on a line which is practically useless to India.

I have, &c.
(signed) *H. B. Riddell,*
Director General of the Post Office of India.

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Appendix, No. 16.

PAPER handed in by Mr. *Bourdillon*. App. No. 16.

LETTER from Mr. *J. D. Dickinson* to Sir *T. N. Redington*, K.C.B.

East India House,
Sir, 7 Sept. 1854.

REFERRING to the 4th paragraph of Sir James Melvill's letter of the 3d ult., I am now commanded to state, that the Court of Directors of the East India Company have had under consideration the letter from the Secretary to Her Majesty's Treasury, under date the 11th July 1854, forwarded by desire of the Board of Commissioners for the Affairs of India, with your letter of the 17th of that month, as to the proportions of the cost of the contract packet service, and of the other expenses of the postal communication with India, and with places to the eastward, to be borne by the revenues of the United Kingdom and of India respectively.

2. It appears from Mr. Wilson's letter, that the new arrangements which have been made for the entire postal service from England to Alexandria, and through Egypt to Aden, to all the Presidencies of India, to Ceylon and China, as well as to Australia, and *vice versâ*, involve a total cost of 232,300 *l.* per annum, which consists of the following items, viz.:

1st. The contract with the Peninsular and Oriental Steam Navigation Company for the conveyance of the mails between England and the East, including the service to Australia, but exclusive of Bombay, 199,600 *l.* per annum;

2d. The contract with the same Company for conveying the mails between Aden and Bombay, 24,700 *l.* per annum; and,

3d. The cost of transit of the mails through Egypt, which is 8,000 *l.* per annum, paid to his Highness the Pasha.

And the Lords of Her Majesty's Treasury propose that in future all the costs included in the above-named sum of 232,300 *l.* should be defrayed by the British Government; that the Post Office should receive all the postage, charging to the East India Company, and receiving into the revenue the postage upon the Indian correspondence; and that any loss incurred on these services should be borne in equal moieties by the Home Government and the East India Company, the latter paying to the former the half of the net loss.

3. Such the Court understand to be the arrangement proposed by their Lordships in substitution for that now in existence; and as the Court have already undertaken to contribute towards the newly made and more extended postal contracts, it only remains to determine what shall be the proportion of their contribution.

4. The Court are unable to admit the validity of the reasoning upon which the Lords of the Treasury appear to base their opinion, that the interests of this country and of India are equal as respects some portions of these contracts. With regard to China, it appears to the Court that the proportionate amount of commercial and political interests possessed by Great Britain and India in relation to that country, was determined upon sound principles when the arrangement was made in the year 1884, for defraying the expenses of the consular establishment maintained by Her Majesty's Government in China, and under which arrangement it was agreed that India should bear one-third of the annual charge of such consular establishment.

5. Whilst the Court are far from underrating the importance to India of the trade with China, they cannot refrain from adverting to the facts that the Indian trade with China is now carried on principally by British shipping, and that, by the commercial and fiscal policy of England, the manufactures of India, which had been superseded in India itself by those of the United Kingdom, have been in like manner driven out of China. The Court think that, upon reconsideration and a reference to these points, the Lords of Her Majesty's Treasury will admit that the value of steam communication with China is far greater to the people of Great Britain than it is to the people of India. The Court must also observe that the postal communication between this country and Alexandria, which has hitherto been conducted at the sole expense of the Crown, must be kept up for purposes irrespective of the

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Government of India, and that, so far as respects Australia, the interest of India in the postal service is of comparatively small importance; they would therefore request that the subject may undergo the review of their Lordships, with the hope, in which they trust that the Board will concur, that the present question may be settled upon the principle that one-third only of the loss sustained by the conduct of the postal communication should be borne by the revenues of India.

6. Whilst discussing this question, the Court would desire to bring prominently to notice the state of the postal service between the principal Presidencies and ports of India and China, and which, from its circuitous route, necessarily involves delay in the interchange of correspondence, and affords ground of complaint on the part of those who are interested in such communication. The Court are of opinion that at least Calcutta should have the benefit of direct fortnightly communication with Canton by steamships of sufficient power instead of being compelled, as it is the case at present with both Calcutta and Madras, to forward its correspondence to Point de Galle, where it is taken up by vessels *en route* to China, and they would suggest that the vessels performing such service should touch at Rangoon and Moulmein on their way to and from China.

I am, &c.
(signed) *J. D. Dickinson*,
Deputy Secretary.

Sir T. N. Redington, K.C.B.

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Appendix, No. 17.

PAPERS handed in by Mr. *Dorning*, 15 May 1866.

RAILWAY COMPANIES' ELECTRIC TELEGRAPHS IN INDIA. TABULAR STATEMENT taken from Papers Nos. 3 and 3*a*, handed into the Select Committee on East India Communications, 1866.

RAILWAYS.	Expenditure on Construction in India to 31 Dec. 1864, including unaudited Balances.	Expenditure in England to 31 Dec. 1864, viz., on Stores, for Freights, &c.	TOTAL Expenditure.	Cash Receipts on account of Private Messages (Service Messages not charged).		Expenditure of the Telegraph Department in India on account of Working and Maintenance.		Number of Miles of Telegraph Lines and Stations open.			
								No. of Miles.		No. of Offices.	
				1863.	1864.	1863.	1864.	1863.	1864.	1863.	1864.
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.				
East India - -	157,791 1 6	70,255 17 –	228,046 18 6	3,996 5 10	4,347 11 –	21,517 11 7	24,712 6 8	1,078	1,105	99	111
Bombay, Baroda, and Central India -	6,230 10 3	10,591 3 6	16,821 13 9	No Return.	About 2,930 – –	726 14 11	3,622 3 10	185¼	306	–	37
Calcutta and South Eastern - -	1,046 18 9	2,547 1 5	3,594 – 2	23 3 8	43 17 4	187 17 9	225 – 10	28	28	9	9
Eastern Bengal -	2,069 7 8	6,430 1 4	8,499 9 –	236 8 –	367 18 9	934 11 11	1,091 19 7	110	110	21	21
*Great Southern of India - -	2,643 6 –	2,330 2 4	4,973 8 4	247 – 9	251 15 –	97 3 7	94 9 3	79	79	13	14
Madras - - -	14,207 3 6	34,016 13 8	48,223 17 2	859 7 5	981 1 5	1,235 8 11	2,156 8 –	532	570	55	57
Scinde - - -	10,843 4 10	6,202 7 10	17,045 12 8	54 18 2	337 10 4	914 6 7	1,687 13 –	114	114		
Punjaub - -	5,696 19 4	12,274 19 10	17,971 19 2	30 – 5	469 1 7	658 11 –	807 13 10	32	47		
Great Indian Peninsula - - -	18,404 17 –	48,342 16 11	66,747 13 11	2,903 13 10	3,760 10 10	5,431 3 1	7,491 3 5	781¼	782	57	64
	218,933 8 10	192,991 3 10	411,924 12 8	8,350 18 1	13,489 6 3	31,703 9 4	41,888 18 5	2,940	3,141		

* The construction Expenditure of this Company, which is only given in total in their return, has been apportioned between India and England in the ratio (as regards the two countries) of the total Expenditure of all the other Companies.

STATEMENT OF THE CAPITAL EXPENDITURE, and of the WORKING of INDIAN TELEGRAPHS (Government and Railway), taken from a Paper handed herewith to the Select Committee on East Indian Communications, 1866, and Papers referred to therein.

CAPITAL EXPENDITURE:

	£.	s.	d.
Government Telegraphs, to official year 1863–4 - - - - - - - - - - - -	1,146,861	14	8
Railway Telegraphs, to 31 December 1864 - - - - - - - - - - - -	411,924	12	8
TOTAL - -	£.1,558,786	6	11

WORKING:	Government Telegraphs, Official Year 1863-4.			Railway Telegraphs, Year ending 31 Dec. 1864.			TOTAL.		
	£.	s.	d.	£.	s.	d.	£.	s.	d.
EXPENDITURE (working and maintenance) - -	136,556	1	8	41,888	18	5	178,445	–	1
RECEIPTS (for telegraph messages, &c.) - - -	91,363	–	10	13,489	6	3	104,852	7	1
Balance of loss, irrespective of interest on capital - - - - £.	45,193	–	10	28,399	12	2	73,592	13	–

Note.—The Receipts in respect of the Railway Telegraphs are for private messages only, Service messages not being charged for.

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SUMMARY of STATEMENTS of RECEIPTS and EXPENDITURE on account of GOVERNMENT ELECTRIC TELEGRAPHS in *India* from the year 1850–51 to 1863–64, both inclusive; taken from Parliamentary Papers No. 287 of 1863 and No. 20 of 1866.

Expenditure incurred in Construction.			Statement showing the Cash Receipts on account of Private Messages, Fines, and amount of Credits on account of Service Messages.				Expenditure of Government Telegraph Department, India, on Account of Working and Maintenance.
In India after Credit for Receipts of Unserviceable Stores.	In England, viz., on Purchase of Stores, Freights, &c.	TOTAL.	Cash Receipts on Account of Private Messages.	Charges on Service Messages.	Receipts by Fines.	TOTAL.	
£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
561,840 1 6	585,021 12 9	1,146,861 14 3	378,714 11 8	125,864 9 5	3,576 11 6	508,155 12 7	933,463 12 8

In this statement the entire expenditure in England on account of electric telegraphs in India (as it is given in the Government Return) has been included under the head of Construction Expenditure; but it is probable that a portion of this expenditure may have been in respect of working and maintenance.

SUMMARY of STATEMENTS of RECEIPTS and EXPENDITURE on account of RAILWAY COMPANIES' ELECTRIC TELEGRAPHS in *India*; taken from Papers Nos. 3 and 3*a* delivered into Select Committee on East India Communications, 1866.

Expenditure incurred in Construction to 31st December 1864.			Receipts on account of Telegraph Messages during the year 1864.			Expenditure of the Telegraph Departments in India, on account of Working and Maintenance, during the year 1864.
In India.	In England.	TOTAL.	Private Messages.	Service Messages.	TOTAL.	
£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
218,933 8 10	192,991 3 10	411,924 12 8	13,489 6 3	Not charged -	13,489 6 3	41,888 18 5

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Appendix, No. 18.

LETTER addressed to the Chairman.

From the Honourable *A. F. Brown*, Chairman, Chamber of Commerce, to *R. W. Crawford*, Esq., M. P., London. App. No. 18.

Chamber of Commerce, Madras,
5 April 1866.

Sir,

I AM desired by the Chamber of Commerce to express the satisfaction with which the intelligence of the appointment of a Committee of the House of Commons to inquire into the working of the Indo-European line of telegraph, has been received; and to acknowledge the obligation under which you have laid the commercial community of this country, by your exertions in this important matter.

It occurs to the Chamber to address you again with reference to arrangements which have been suggested for improving the efficiency of the service, and obviating the irregularities and delays which have hitherto been productive of much inconvenience to the public.

Under the present system nothing is known with certainty as to the route by which messages are forwarded through the Continent, and it constantly happens that messages are outstripped by those of later dates, owing to the employment of different lines. It is therefore most desirable that one, or rather two lines, under the control of the British Government, should be reserved exclusively for Indian telegrams in passing through Europe; and arrangements with this object will be hailed with much satisfaction throughout India. The Chamber also desire to ask your aid in obtaining the assent of Government to the necessary measures for completing, without delay, an alternative land line between Fao and Kurrachee, to serve, in case of accident to the cable, which is at present the only means of communication between these places.

Great inconvenience has been already occasioned by the cable having given way during the south-west monsoon, and its exposed situation renders a recurrence of the accident so probable, that the Chamber would urgently call attention to the necessity of a land line as proposed, so as to prevent the serious consequences which an interruption of the service, by the giving way of the cable, is certain to produce. It is understood that there are no difficulties in the construction of this line, which cannot be easily overcome, and the Chamber trusts that in a short time the risks of interruption will be altogether put aside.

The Chamber trust that the importance of the measure proposed will be considered as sufficiently justifying their again troubling you.

I have, &c.
(signed) *A. F. Brown*, Chairman.

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Appendix, No. 19.

PAPER handed in by Mr. *Howell*, 18 May 1866.

Pro formâ TIME TABLE. AUSTRALIAN MAIL SERVICE. Once in every Lunar Month.

Leave London.	Leave Marseilles.	Arrive at Alexandria.	Leave Suez.	Arrive at Galle.	Leave Galle.		Arrive at Melbourne.	Arrive at Sydney.	Interval for Replies.		Leave Sydney.		Leave Melbourne.	Arrive at Galle.	Leave Galle.	Arrive at Suez.	Leave Alexandria.	Arrive at Marseilles.	Arrive in London.	Interval for Replies in London.	Course of Post.	
									At Sydney.	At Melbourne.											London to Sydney and Back.	Sydney to London and Back.
Friday.	Sunday.	Sunday.	Monday.	Wednesday.	Steamer.	Wednesday.	Thursday.	Sunday.	Days.	Days.	Steamer.	Monday.	Friday.	Wednesday.	Tuesday.	Sunday.	Monday.	Monday.	Wednesday.	Days.	Days.	Days.
5 Jan.	7 Jan. -	14 Jan. -	15 Jan.	31 Jan. -	A.	31 Jan. -	22 Feb. -	25 Feb.	15	22	–	12 Mar.	16 Mar. -	4 Apr. -	5 Apr.	22 Apr.	23 Apr. -	30 Apr. -	2 May -	23	117	125
2 Feb.	4 Feb. -	11 Feb. -	12 Feb.	28 Feb. -	B.	28 Feb. -	22 Mar. -	25 Mar.	15	22	A.	9 Apr.	13 Apr. -	2 May -	3 May	20 May	21 May -	28 May -	30 May -	23	117	125
2 Mar.	4 Mar. -	11 Mar. -	12 Mar.	28 Mar. -	C.	28 Mar. -	19 Apr. -	22 Apr.	15	22	B.	7 May	11 May -	30 May -	31 May	17 June	18 June -	25 June -	27 June -	23	117	125
30 Mar.	1 April -	8 April -	9 Apr.	25 April -	D.	25 Apr. -	17 May -	20 May	15	22	C.	4 June	8 June -	27 June -	28 June	15 July	16 July -	23 July -	25 July -	23	117	125
27 April	29 April -	6 May -	7 May	23 May -	A.	23 May -	14 June -	17 June	15	22	D.	2 July	6 July -	25 July -	26 July	12 Aug.	13 Aug. -	20 Aug. -	22 Aug. -	23	117	125
25 May	27 May -	3 June -	4 June	20 June -	B.	20 June -	12 July -	15 July	15	22	A.	30 July	3 Aug. -	22 Aug. -	23 Aug.	9 Sept.	10 Sept. -	17 Sept. -	19 Sept. -	23	117	125
22 June	24 June -	1 July -	2 July	18 July -	C.	18 July -	9 Aug. -	12 Aug.	15	22	B.	27 Aug.	31 Aug. -	19 Sept. -	20 Sept.	7 Oct.	8 Oct. -	15 Oct. -	17 Oct. -	23	117	125
20 July	22 July -	29 July -	30 July	15 Aug. -	D.	15 Aug. -	6 Sept. -	9 Sept.	15	22	C.	24 Sept.	28 Sept.	17 Oct. -	18 Oct.	4 Nov.	5 Nov. -	12 Nov. -	14 Nov. -	23	117	125
17 Aug.	19 Aug. -	26 Aug. -	27 Aug.	12 Sept. -	A.	12 Sept. -	4 Oct. -	7 Oct.	15	22	D.	22 Oct.	26 Oct. -	14 Nov. -	15 Nov.	2 Dec.	3 Dec. -	10 Dec. -	12 Dec. -	23	117	125
14 Sept.	16 Sept.	23 Sept.	24 Sept.	10 Oct. -	B.	10 Oct. -	1 Nov. -	4 Nov.	15	22	A.	19 Nov.	23 Nov. -	12 Dec. -	13 Dec.	30 Dec.	31 Dec. -	7 Jan. -	9 Jan. -	23	117	125
12 Oct.	14 Oct. -	21 Oct. -	22 Oct.	7 Nov. -	C.	7 Nov. -	29 Nov. -	2 Dec.	15	22	B.	17 Dec.	21 Dec. -	9 Jan. -	10 Jan.	27 Jan.	28 Jan. -	4 Feb. -	6 Feb. -	23	117	125
9 Nov.	11 Nov. -	18 Nov. -	19 Nov.	5 Dec. -	D.	5 Dec. -	27 Dec. -	30 Dec.	15	22	C.	14 Jan.	18 Jan. -	6 Feb. -	7 Feb.	24 Feb.	25 Feb. -	4 Mar. -	6 Mar. -	23	117	125
7 Dec.	9 Dec. -	16 Dec. -	17 Dec.	2 Jan. -	A.	2 Jan. -	24 Jan. -	27 Jan.	15	22	D.	11 Feb.	15 Feb. -	6 Mar. -	7 Mar.	24 Mar.	25 Mar. -	1 Apr. -	3 Apr. -	23	117	125

	Under Present Arrangement.	Under Proposed Arrangement (above).
Number of steamers required - - - - - -	3	4
Course of Post—London to Sydney and back - - -	110 days.	117 days.
" " Sydney to London and back - - -	115 "	125 "
Interval for replies in London - - - - - -	13 "	23 "
" " " at Sydney - - - - -	8 "	15 "
" " " at Melbourne - - - - -	14 "	22 "
Stay of steamers at Sydney - - - - - -	39 "	43 "
" " at Galle - - - - - -	5 "	21 "

The interval for replies at Sydney (at present eight days) must either be extended to 15 days, as shown above, or reduced to one day. The present interval could not be maintained, as there would be no corresponding steamer at Galle, to bring the mails on to Sues; that portion of the service being only a fortnightly one.

Under the proposed arrangement the steamers must stay 21 days at Galle, whether three or four vessels be employed.

If the line were attempted to be worked with three ships, they would only have a stay of 13 clear days at Sydney, which would be insufficient, as all their repairs have to be done there, and they require to be dry-docked every voyage.

3 May 1866.

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Appendix, No. 20.

PAPERS handed in by Mr. *Thornton*, 15 May 1866. Appendix, No. 20.

REPORT by Major *Champain* on the recent Working of the Turkish Portion of the TELEGRAPH.

(No. 279.)

Sir, Constantinople, 12 April 1866.

Preliminary remarks.

IN my letter, No. 271, of the 26th February, I reported my arrival in Constantinople. Since that time I have been occupied in obtaining information as regards the working of the Turkish portion of the Indo-European Telegraph, and I have now the honour to submit the following remarks for the consideration of the Right Honourable the Secretary of State in Council.

II. On the 16th December last, Mr. Hammond addressed the India Office, and, while enclosing a letter from Lord Lyons relating to the unsatisfactory state of affairs in Turkey, he stated that Lord Clarendon was of opinion that some Englishman of experience in these matters should proceed to Constantinople, in order to assist Her Majesty's Minister in pointing out the causes of failure.

As I was the only officer available at the time for this purpose, I was accordingly directed to report myself to Lord Lyons, and I believe that copies of my letters, No. 227, of the 6th December, and No. 242, of the 29th December, addressed to your predecessor, were enclosed to his Lordship.

III. Business connected with the Indian Telegraph Department, and with the fresh supply of cable for the Persian Gulf, detained me some weeks in England, so that I did not reach Constantinople before the 23rd February, and then, as briefly reported by me to you, I found the line working so well that I considered it by no means a favourable opportunity to hint at such proposals as those contained in my previous reports.

IV. Since my arrival I have had several interviews with Agathon Effendi, the Director General of Turkish telegraphs, and on information derived from him, from Mr. Courtenay, and from other sources, I have based the following statement.

It will be necessary for me to commence my report by a short sketch of the Turkish lines of telegraph which form a part of the long Indo-European chain, and, to avoid confusion, I will not here refer to the less important lines extending from the various towns of Europe to Constantinople, but solely to those from London itself.

Description of different routes from London to Constantinople.

V. The first and most important is that from London *viâ* the Hague, Berlin, Vienna, Belgrade, and Nissa. During the month of January 1866, 54 per cent. of the messages from India to London, and 64 per cent. of those from London to India, took that route. Lately it has been working remarkably well, and another wire, solely for our use, is now being attached. From Nissa to Constantinople is about 450 miles.

VI. Second in importance is the route from London *viâ* Paris, Turin, Otranto, Valona, and Salonica; but until quite lately the working has been unsatisfactory. In fact, during January only two per cent. of the homeward and 29 per cent. of the outward messages were sent by Valona. During the last few weeks it has nevertheless vastly improved; and I have been urging on the Turkish Director General, Agathon Effendi, the necessity of improving the portion between Salonica and Constantinople, which has given much cause of complaint. Valona itself is remarkably unhealthy, and the country between it and Constantinople is subject to floods, which occasionally interrupt communication. The advantages, however, of avoiding frequent retransmission, such as occur on a line passing through many States, cannot be overlooked. From Valona to Constantinople is about 700 miles.

VII. Thirdly comes the line through the Hague, Berlin, Vienna, Bucharest, Roustchouk, and Varna. During January no less than 44 per cent. of the homeward, but only three per cent. of the outward, went this way.

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App. No. 20.

VIII. Fourthly comes the line *viâ* Trieste and Castellastua to Salonica; and, fifthly, that *viâ* Toultcha, near the mouth of the Danube; but these last are rarely used, except for local communication.

Real Indo-European line.

IX. At Constantinople, or rather Pera, where all these feeders converge, commences the real Indo-European line. The line crosses the Bosphorus, by a submarine cable, some six miles to the north of the city. Reaching the Asiatic side, it passes to Scutari and Ismid, and thence in a tolerably direct line through Angora, Sivas, Diarbekir, Mosul, and Bagdad, to Faô, where it meets the Persian Gulf cable. The entire distance traversed between Constantinople and Faô being 1,750 miles.

X. Between Bagdad and Faô the state of the country is, in a political point of view, so unsettled, that a duplicate line has been constructed through Persia, connecting Bagdad with Teheran and Bushire; but on this subject I need not enlarge in the present letter.

XI. The line from Constantinople to Bagdad was finished some years ago, but south of Bagdad the difficulties encountered by the Turkish officials were so great that the completion of the line connecting Bagdad with the sea was postponed, until absolutely called for by the successful submersion of the Gulf cable.

Date of opening Indo-European line.

XII. In April 1864, the operations in the Persian Gulf were concluded under Colonel Stewart, while the land lines from Bagdad were being pushed on as rapidly as possible by Mr. Greener and others, under Colonel Kemball's personal direction. Not until the 2nd of February 1865, however, was the line finished, nor (owing to interruptions in the desert) did working fairly commence before the 22nd.

XIII. With regard to the statistics which follow, I show only the results of the working of the telegraph between Constantinople and Kurrachee, and not of that of the European and Indian lines. The latter can scarcely be considered part of the Indo-European line proper, although they are so intimately connected therewith that I shall be compelled to allude to them in some measure before I conclude.

Reference to statistics at the end.

XIV. Appendix A., at the end of this report, shows the number of messages which passed to and from India and England during the several months of the first year's working, and Appendix B. shows the times occupied in transmission.

XV. With reference to the latter, it is impossible to avoid being struck by the unsatisfactory returns for October, November, and December; but very remarkable improvement was shown immediately afterwards, and I think it may be desirable for me to explain these sudden changes.

Reason of sudden changes in the rate of working.

XVI. In Article VI. of the Indo-Ottoman Telegraph Convention, it was stipulated that two separate offices should be kept up at Pera, one for the European and the other exclusively for the Asiatic or Indo-European line.

XVII. These offices had each their superintendent, Mr. O'Connor for the former, and Mr. Pericles for the latter, and in practice the arrangement was not found to work well. Delays occurred in passing despatches from one to the other, and numerous misunderstandings of various kinds occurred. When, therefore, Mr. Pericles was removed by promotion, on the 15th of October, it was decided to try the effect of temporarily amalgamating the two offices. This has eventually proved very satisfactory; but the sudden loss of Mr. Pericles threw matters for a time into disorder. Unfortunately at the same period the Bosphorus cable failed, and messages had to be sent by hand from Pera to Scutari on the Asiatic side, involving a delay of from 12 to 16 hours. To add to the complications, only one wire on the Asiatic local line remained in working order, and the Turkish Government (in violation of the terms of the treaty) constantly employed our special wire for its own purposes. An insurrection at the Circassian settlement, near Erzeroum, increased the causes for interference with our wire, and in addition to all this, at no period since the opening of the line have so many "accidental" interruptions taken place as at the time to which I allude, particularly on the section between Diarbekir and Mosul.

Improvements during February 1866.

XVIII. The improvement displayed by the results of the working during January and February is very marked, and although the returns for the two months have not yet been forwarded to me, I beg to draw your attention to the following statement received from Mr. Brasher at Kurrachee, giving the times occupied in transmitting messages between the 1st and the 12th of February from the United Kingdom to India. Of 405 messages sent, the slowest occupied six days, the quickest passed from end to end in 2½ hours, and the mean time was 1 day 19 hours and 40 minutes.

Causes of improvement.

XIX. The causes of the increased rapidity are, I believe, as follows,—First, the amalgamation of the two Pera offices under one responsible head. Secondly, Lord Lyons' urgent and repeated remonstrances with the Ottoman Government, which led to the substitution of European inspectors in the place of two inefficient Turkish officers, to stringent orders being issued to all the offices to give every facility for rapid transmission, to various threats of dismissal held out to careless subordinates, to the punishment of several clerks for negligence and insubordination, and to the execution of some of the most requisite repairs.

XX. Good

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App. No. 20.

XX. Good as appear the returns for February 1866 compared with those of the previous months, yet there seems to me ample room for increased efficiency; 2¼ hours is a far higher rate than we can reasonably anticipate, and the average of 1 day, 19 hours, and 40 minutes, is decidedly good, but the recipient of the one despatch which occupied six days has, I think, fair ground of complaint, and, if we could but arrive at a more uniform rate for all "through" messages, even without raising the average, we ought to be more satisfied. A grand step towards attaining this uniformity would be the constant signalling from Constantinople to Faô, without repetition at the intermediate stations. We have repeatedly communicated direct from Constantinople to Kurrachee, and many messages passed lately from Faô to Adrianople, yet the following table shows that full advantage is rarely taken of the capabilities of the wire. Out of the messages despatched for India from Constantinople during January 1866, only

Remarks on February returns.

Repetition of messages.

2	per cent.	went direct to	Faô.
3	„	„	Bagdad.
½	„	„	Mosul.
53	„	„	Diarbekir.
36	„	„	Sivas.
5½	„	„	Angora.

During February, however, 5 per cent. went direct to and from Faô, 32 and 28 to and from Bagdad, a manifest advance; and March and April (so far) give still better results.

I think that (at least in fair weather) the repetition of messages between Constantinople and Faô should be the exception, and not the rule, and if the hearty co-operation of the various heads of offices were secured, and the bad material now on the line gradually replaced by the best that can be obtained, one great cause of delay and inaccuracy would be removed. I should add that, during April 1866, the line was worked frequently direct from Valona to Bagdad, over 2,000 miles.

Line Guards and Inspectors.

XXII. Considering the nature of the country, I think the system of line guards in Turkey is good, but the number of inspectors is too small. In Europe, there is one of the latter at Gallipoli, one at Salonica, one at Bourgas, one at Monastir, one at Nissa, and one at Roustchouk.

In Asia, there are five,—

1	between	Constantinople and Angora.
1	„	Angora and Diarbekir.
1	„	Diarbekir and Mosul.
1	„	Mosul and Bagdad.
1	„	Bagdad and Faô.

The last five are all Europeans, excepting the one between Diarbekir and Mosul, who is a Turk, and it may be observed that his section is the worst managed on the line.

XXIII. On the 23rd of November, his Highness Ali Pacha promised Lord Lyons that the strength of this portion of the staff in Asia should be increased by the addition of two sub-inspectors to each inspector, but it seems that this arrangement has not hitherto been carried out. The duty of each inspector is to survey his portion of the line twice every year, and in the event of interruption to make special tours. The whole line is inspected daily according to fixed rules by the chaoushes (line guards) and the head chaoushes* who report to the inspector of their respective sections.

Clerks.

XXIV. Most of the clerks employed for the international service are French, Italians, and Greeks, and their knowledge of the English is slight. At present there are only five English clerks on the line, whose duty it is to correct errors which may arise in the through messages. One of these is at Salonica, one at Sivas, two at Diarbekir, and one at Bagdad. Mr. Millingen, the present head of the Pera office, acts as corrector for that station. In my opinion, it would be advisable to increase the number of Englishmen, although if frequent repetition of messages could be avoided, they might be concentrated at fewer points. For thorough efficiency there should be, I think, two at Nissa, two at Salonica, three or four at Pera, two at Diarbekir, and two at Bagdad. Our own cable clerks sufficing for the work of correction at Faô.

Office arrangements.

Material.

XXV. A great quantity of the material of the Turkish land lines is of a cheap and bad description. The wire, which was furnished to the Turkish Government by English manufacturers of some renown, appears to be generally exceedingly rough, brittle, and liable to split longitudinally. The insulators are partly of iron (Siemens' pattern) and partly of porcelain (a French pattern), but Agathon Effendi, the Director General, has decided on substituting iron for porcelain in every case. The posts are in some places unfit for the work, but better are gradually being supplied, and it is to be hoped that by degrees the line may become trustworthy as regards the material of which it consists.

XXVI. The

* There are 21 Head Chaoushes and 202 Chaoushes between Pera and Faô.

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App. No. 20.

Future prospects of Turkish Line.

XXVI. The increased rapidity and certainty of the Turkish telegraphic line has lasted now uninterruptedly for more than three months, a fact which surprises me greatly, but I confess that I am not sanguine as to the security of the system, nor as to its future results. Great external pressure has been brought to bear, and corresponding exertions have been almost forced from the Turkish authorities. The present Director General, Agathon Effendi, is undoubtedly a man of great ability, and is anxious to carry out our views, but I do not think that the Turkish Government is sufficiently alive to the importance of the undertaking, at least in English eyes, and injudicious economy prevents anything like perfection being arrived at. A very large proportion of the clerks employed are not paid at all, but are induced to remain in the service by promises of permanent employment at some future time. The relative number of paid is so small compared to that of unpaid signallers, that it is scarcely possible for these promises to be carried out, unless some great increase in the staff be authorised, and numbers of these expectants are finally compelled to desert the offices where their services are really valuable. I have already brought this fact in plain terms before Agathon Effendi's notice, and it is clear that reasonable outlay should not be grudged on an enterprise so remunerative as the Indo-European telegraph. For many other reasons, which I need not enumerate, I still cling to the hope that the Turkish line may sooner or later be made over to liberal English management, and I see no reason to alter the general tenor of the views expressed in my former letter on the subject. I believe, however, that such a proposal as I ventured to submit before leaving England could not be put forward with any chance of acceptance unless the Turkish lines were working far worse than at present, and it would be decidedly bad policy to hint at a change which, under any circumstances, would meet with the greatest opposition, unless our main argument, founded on Turkish incapability, were irrefutable.

Injudicious economy of the Turkish Authorities.

Imperfection in management out of of Turkey.

XXVII. Hitherto every one seems to have decided that the weak point in the system lies in Turkey, and I, at least, have never attempted to deny the fact; but, at the same time, I think it my duty to draw your attention to imperfection in the management of affairs elsewhere. The Constantinople line is not the only one between England and the Persian Gulf, and the Indo-European line continually gets blamed for faults for which it is nowise responsible. I might refer to my letter, No. 214, of the 31st of August 1865, for one instance, the facts of which are briefly as possible. In June 1865, the London Telegraph Companies, misled, I understand, by some newspaper paragraph, took upon themselves to divert more than 400 messages from the regular line, and to send them *viâ* Russia. Now the average time by the regular line, as will be seen on reference to Appendix B., was two days eight hours, and three days 20 hours, for May and June respectively, between Constantinople and Kurrachee. None that went *viâ* Russia took less than 30 days, and most of them reached Teheran in an unintelligible form, the line not having been opened to the public by the Russian authorities. The Indo-European line got the blame of this mismanagement, which was entirely due to the London offices, which had no right to make an experiment on so extensive a scale with private messages. I did my best to prevent a recurrence of such mishaps, but I regret to say that numbers of messages have been passing quite recently *viâ* Russia, no doubt to the disgust of the senders and recipients. I cannot believe that the London offices still persist in using that line after the warnings they have received; but I imagine that messages not being labelled *viâ* Constantinople are diverted on the Continent. The fact is, the Russian is far cheaper than the Turkish route, but as yet completely untrustworthy; not, I believe, from faults in Russia, but from breaks down in Persia. The sender, probably, believes that his message will go by the ordinary line, and pays the full amount; but where the balance of the Turkish over the Russian charge goes I have never been able to discover. When last I heard from Teheran, numerous messages were still passing *viâ* Russia to India, although the line in Persia had broken down, and the telegrams had to be forwarded by courier. Yet the Turkish line was at that time in complete order. Between the 1st and 12th of February 128 messages passed by the Russo-Persian line. The longest time was 20 days, 15 hours; the shortest, 16 days; and the mean time, 17 days, 8 hours, and 3 minutes between London and Kurrachee. It is the duty of the London offices, where they receive payment for a despatch *viâ* Constantinople, to take proper measures, and to see that it goes that way; but the officers of the Indo-European Telegraph, who have no connection with the Continental Administrations, are absolutely powerless, although they and the Turks receive the blame for all delays.

Mistakes made in sending *viâ* Russia and Persia.

Russian Route cheaper.

Time *viâ* Russia and Persia during February 1866.

Attempt to send messages to the Persian Gulf by the Malta and Alexandria cable.

XXVIII. A few weeks ago an attempt was made to forward telegrams to India, *viâ* Malta, Alexandria, Gaza, Beyrout, Diarbekir, and the Persian Gulf; but this was very soon put a stop to, by Agathou Effendi plainly stating that he was unprepared for such traffic between Gaza and Diarbekir.

Best means to prevent diversion of Messages.

Present system of Accounts.

XXIX. The surest remedy for all difficulties of this nature is to revert to the system of accounts originally proposed by Colonel Stewart, which differs from that now in use, as follows: at present the London Office receives the whole price of a message from London to India, deducts its share, hands on the rest to Holland or France, and so on to each successive administration, as far as Constantinople. At Constantinople the Turks take what is due to them for transit as far as Faô, and make over the balance to our commissioner, Mr. Courtenay, for the cable dues.

XXX. Colonel

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XXX. Colonel Stewart's system would be that the London Office, after retaining its share, would forward to Holland or France only enough to take the message to Constantinople. The balance for Asiatic Turkey and the cable, in fact for the Indo-European line, would be paid to an Indo-European telegraph officer in London, who would be in direct account with Mr. Courtenay, and settle with him. In fact, each message would make a fresh start, as far as payment goes, from Constantinople. By this means messages could not be diverted on the Continent from the Turkish line, for the simple reason that if they took any other route they would not be paid for.

System of Accounts originally proposed by Colonel Stewart.

XXXI. I will venture to touch on one other point where I think the Indo-European line has received more blame than it fairly deserves, and in doing so I will simply quote from a letter of Mr. Courtenay, to whose indefatigable exertions at Constantinople the public is much indebted. He remarks:—"With regard to the errors which are ascribed to the Anglo-Indian messages, I have reason to know that a large proportion of these errors creep in on the European lines, and that, comparatively speaking, a small per-centage only can be properly charged upon their despatch through the Turkish dominions. Moreover, the public itself is not unfrequently open to blame in this matter, as some senders string a number of unconnected words together, which it is hazardous to attempt to correct, for fear of altering some pre-arranged conventional code. For instance, the following telegram passed through here on its way to India a few days ago: 'Hability tedbury Thompson flag belsize accumacy Ongley reunioni, agreemen padbod bales indignants claypole insure geometer tabernacle afterwards.' What telegraph official, no matter how attentive and sagacious, would venture to attempt a revision of such a message as this, by way of clerical correction or otherwise? If the telegrams were always despatched in distinct and intelligible words, the clerks specially appointed for the purpose of correcting such despatches arriving in a mutilated form, would be enabled to do their duty in a more efficient and satisfactory manner. Even as it is, a large number of errors are corrected here almost daily in the messages coming from Europe for India, more especially in those arriving through the Italian lines."

Secret messages.

Mr. Courtenay's remarks on secret messages.

XXXII. With regard to these mysterious messages, I would remark, in addition to what Mr. Courtenay writes, that, considering the principle on which the Morse code of signals has been framed, it is simply impossible to guard against mistakes occurring on a long line, unless at each repetition some clue to the meaning of the words be given by the context. Surely secrecy might be ensured by some pre-concerted arrangement, without recourse being had to such an amazing rigmarole as the above specimen.

Difficulty of avoiding error in sending cypher messages.

XXXIII. The Persian Gulf cable appears to have been fulfilling its duties admirably, but it scarcely falls to me, nor indeed am I able from personal knowledge, to speak about it, or about the land line from Kurrachee to Bombay. This letter has already exceeded ordinary limits, and I will conclude by briefly noting the points which should, in my opinion, be borne in mind.

Persian Gulf Cable.

XXXIV. 1st. If possible the Turkish line should be eventually taken over and placed under English management, but until this can be done the Ottoman authorities should be unceasingly urged to spare no reasonable expenses in maintaining the communications, to improve the quality of the material by degrees, to pay a larger number of signallers, to increase the staff of English clerks and of line inspectors, and to do away as much as possible with repetition between Constantinople and Faô.

Proposals for improving the line.

Suggestions.

2ndly. I am of opinion that the Russian line, which is now (not however, from its own intrinsic faults) a source of vexation and disappointment, might be made a valuable link in a duplicate chain of communication with India. On this point I have already written at length.

3rdly. The system of accounts originally proposed by the late Colonel Stewart should be reverted to.

4thly. Until some formal agreement be entered into with Russia (for the purpose of carrying out suggestion No. 2), and until our second wire through Persia be in working order, the English public should be clearly informed that no despatch for India can be safely forwarded, except *viâ* Constantinople.

5thly. The secretaries of the principal London telegraph companies should be urged to insist on their messages not being diverted on the Continent. Mr. Courtenay will invariably notify by telegram any stoppage which may occur on the Turkish lines; but so long as those lines work better than their Russo-Persian or other rivals, the sender of a message only should be able to direct its transmission otherwise than by the regular channel. And,

6thly. Puzzling cypher messages should not be received at the offices without warning the sender that accuracy cannot possibly be ensured.

XXXV. I have gone into the whole subject at length, because I have reason to believe that the position of affairs is scarcely understood, and because I think that, at the present time, although some of my conclusions may be erroneous, and consequently useless, on the other hand, some of them may possibly prove of service, while the facts which I have stated can be relied on, I trust, as correct, and cannot all as yet be known in England.

Remarks.

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App. No. 20.

Regarding Russo-Persian Route.

Severity of the past winter in Persia.

Bad management of Persian Line Guards.

Russo-Persian Line.

XXXVI. Before I conclude I must add a few words in explanation of remarks above, which may at first sight appear condemnatory of the line from Petersburgh through Teheran to Bushire. I am informed, on undoubted authority, that, for months past, the line, as far as regards Russia itself, has been working admirably, and that the failure of messages sent by England to India by that route is attributable to breaks down in Persia only. Reports from Teheran describe the past winter as having been one of exceptional severity, so much so that it was absolutely impossible to repair breaks on some of the sections, where wire, posts and all, were for weeks buried under the snow. The bad management of the line guards, and the fact of our only being allowed to use the wire for 12 hours a day, will prevent this line from successfully rivalling that *viâ* Turkey, at least until our second wire (now being shipped for Persia) has been put up and opened to the public. When this is done, and an agreement as to rates, &c. drawn up with the Russian authorities, the Turkish and Russo-Persian lines might fairly compete with one another, and a service message despatched periodically to London would keep the companies informed as to the state of the opposition routes.

I have, &c.

(signed) *John U. Champain*, Major, R.E.,
Indo-European Telegraph Department.

The Under Secretary of State for India.

Appendix (A.)

Statement showing Number of Messages to and from *India*, from February to December 1865.

Months.	From India.	To India.	Remarks.
February - -	52	10	
March - - -	579	773	
April - - -	795	1,356	
May - - -	809	1,255	
June - - -	1,080	959	
July - - -	728	1,035	Cable broken, from 5th to 19th.
August - - -	966	871	
September - -	1,053	1,365	
October - - -	1,189	1,882	
November - -	1,168	1,200	
December - -	1,139	1,226	

Supposing the average number of messages, both ways, to be 2,100 per mensem, we must add 33 per cent. to allow for double telegrams. This gives 2,800 × 2½ *l.* = 7,000 *l.* to the cable, exclusive of receipts from messages *viâ* Russia. I believe that the working expenses are about 2,000 *l.* per mensem.

John U. Champain.

Appendix (B.)

Summary showing Time occupied in the Trasmission of Messages between *Kurrachee* and *Constantinople*, and *vice versâ*.

Months.	From Kurrachee.						To Kurrachee.					
	Longest.		Shortest.		Mean.		Longest.		Shortest.		Mean.	
1865:	D.	H.	D.	H.	D.	H.	D.	H.	D.	H.	D.	H.
February - - -	15	4	0	5	8	20	7	0	0	6	2	11
March - - -	6	1	0	5	2	5	6	0	0	5	1	13
April - - -	6	7	0	1	3	0	10	16	0	6	3	11
May - - -	6	0	0	1	2	5	8	5	0	1	2	8
June - - -	7	22	0	0½	2	11	9	4	0	1	3	20
July - - -	5	5	Direct		1	21	6	13	0	8	3	2
August - - -	5	12	,,		2	0	6	12	Direct		1	9
September - - -	6	18	,,		1	21	6	5	,,		1	22
October - - -	12	19	0	11	3	0	7	8	0	2	3	10
November - - -	10	8	Direct		6	6	10	20	Direct		3	0
December - - -	13	4	,,		6	20	13	10	0	1	5	6
1866:												
January - - -												
February - - -												

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App. No. 20.

I regret exceedingly that I cannot yet give you the returns for January, February, or March 1866, but I know from inquiries made here, and latterly from the daily reports, that the improvement is very great. I hope to send the returns very shortly.

John U. Champain.

Kurrachee, 24 February 1866.

Transmission Inwards from 1st to 12th February 1866.

	D.	H.	M.
Viâ Turkey:			
The longest time occupied by a message from the United Kingdom to India was	6	0	0
The shortest time	0	2	30
Mean	1	19	40
(Average of 405 messages.)			
Viâ Russia:			
The longest time was	20	15	0
Shortest	16	0	0
Mean	17	8	3
(Average of 128 messages.)			

A considerable (if not the chief) part of the delay on messages *viâ* Russia was due to interruption on the Persian lines.

(signed) *A. Brasher,* Traffic Manager.

(A.)

EASTWARD.

RETURN showing the Number of Telegrams from the *United Kingdom* to *India,* and the Amounts Due to the Persian Gulf Line for the same, during the Year 1865.

1865.	*Viâ* Fao.		*Viâ* Bushire.		TOTAL.	
	Number of Telegrams.	Amount.	Number of Telegrams.	Amount.	Number of Telegrams.	Amount.
		£. s. d.		£. s. d.		£. s. d.
February	—	—	—	—	—	—
March	691	2,132 – –	–	– –	691	2,132 – –
April	874	2,788 – –	376	968 – –	1,250	3,756 – –
May	551	1,740 – –	556	1,385 – –	1,107	3,125 – –
June	700	2,100 – –	400	900 – –	1,100	3,000 – –
July	500	1,500 – –	400	900 – –	900	2,400 – –
August	679	2,177 10 –	96	223 – –	775	2,410 10 –
September	867	2,788 10 –	335	834 – –	1,202	3,622 10 –
October	1,226	3,905 10 –	385	927 – –	1,611	4,832 10 –
November	927	3,051 – –	102	272 – –	1,029	3,323 – –
December	1,040	3,438 15 –	365	968 – –	1,405	4,406 15 –
	8,055	25,621 5 –	3,015	8,068 – –	11,070	32,998 5 –

Note.—Interruption at Gwadur, cause of the decrease in receipts for July and August.

Thomas Lyne.

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