

IDOLATRY INDIA SANITARIUM

NEILGHERRE CUSTOMS AND

POST-OFFICE DUTIES

MARITIME SURVEY

1851

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IDOLATRY (INDIA).

RETURN to an Order of the Honourable The House of Commons,
dated 8 April 1851;—for,

3 "of COMMUNICATIONS in relation to the Connexion of the Government
British India with IDOLATRY, or with MAHOMETANISM—(in continuation of
amentary Paper, No. 621, of Session 1849); including Copies of any
nunication between the Court of Directors of the East India Company
the Governor-General of India in Council, relating to the JUGGERNAUTH
DA—(in continuation of Parliamentary Paper, No. 191, of Session
)."

East India House,
30 April 1851. }

JAMES C. MELVILL.

(*Sir Robert Harry Inglis.*)

Ordered, by The House of Commons, to be Printed,
7 May 1851.

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East India House, }
30 April 1851. }

(signed) T. L. Peacock,
Examiner of India Correspondence.

COPIES of COMMUNICATIONS in relation to the Connexion of the Government of *British India* with IDOLATRY, OR WITH MAHOMETANISM—(in continuation of Parliamentary Paper, No. 621, of Session 1849); including Copies of any Communication between the Court of Directors of the East India Company and the Governor-general of India in Council, relating to the JUGGERNAUTH PAGODA—(in continuation of Parliamentary Paper, No. 191, of Session 1850).

— No. 1. —

EXTRACT from a Despatch from the Government of *India* to the Honourable the Court of Directors in the Home Department; dated 28 July 1849 (No. 23).

Petition of the Rajah of Khoorda, complaining of the reduction in the allowance for the maintenance of the Juggernaut Temple, and of his being prohibited from increasing the rents of the Suttayees Hazaree Mehal.

Home Cons., 14 Oct. 1848.
(Nos. 26 & 27.)

10. We declined to interfere in this case.

— No. 2. —

(No. 7 of 1850.)

Government of Bengal Revenue to the Honourable the Court of Directors of the East India Company.

Honourable Sirs,

I HAVE the honour to submit, for the consideration and orders of your Honourable Court, a memorial from certain Protestant missionaries in Bengal and Orissa, praying for the withdrawal of the annual grant to the Temple of Juggernaut.

Fort William, 6 May 1850.

— No. 3. —

EXTRACT from a Despatch from the Government of *India* to the Honourable the Court of Directors in the Home Department (Legislative); dated 6 December 1850 (No. 19).

Act, No. XXI. of 1850.

For extending the principle of Sec. 9, Reg. VII. 1832, of the Bengal Code throughout the territories subject to the Government of the East India Company. Leg. Cons. 11 April 1850, Nos. 57 to 87.

No. 32, of 1847, dated 6 Nov.
No. 5, of 1848, dated 22 Jan.
No. 28, of 1848, dated 10 Oct.

24. WITH the papers regarding the *Læx Loci*, reported in the despatch from this department (No. 22 of 1845, dated 7th August), the earlier correspondence on the subject of a law to provide "that religious belief shall not affect the rights or property of the person entertaining such belief," was referred to your Honourable Court. Since that time the question was repeatedly brought before the Government in memorials, which were transmitted to your Honourable Court, as per margin. It was again agitated in 1849, when the Government of Bombay communicated a representation made by the Bishop of Bombay, in which his Lordship advocated the extension to that Presidency of sects. 8 and 9, Regulation VII., 1832, of the Bengal Code.

25. Feeling that the subject of the bishop's application was one that demanded attention, owing to the want of any law whatever in the Madras and Bombay Presidencies to protect the civil rights of parties receding from their ancestral

faith, we proceeded to the enactment of Act XXI., 1850, which makes the provision of the Bengal Regulation above referred to common to all India.

26. We request your Honourable Court's attention to the memorials which we received from the native and Christian inhabitants of Calcutta and Madras, both against and in support of the Act while in draft, and to the minute recorded by our colleague, Mr. Bethune, dated the 26th March last, in which we concurred; also to the minute of the most Noble the Governor-general, dated the 9th April.

— No. 4. —

EXTRACT Legislative Letter to *India*, dated 19 March (No. 7) 1851.

19. ON the subject of this memorial, we refer you to our despatch, under date the 27th February 1850, to which we have not yet received a reply. Letter from, dated 6 May (No. 7) 1850. Memorial from certain Protestant Missionaries in Bengal and Orissa, praying for the withdrawal of the annual grant to the Temple of Juggernaut.

Madras Revenue Letter, 23 August (61) 1848. Madras Revenue Letter, 5 August (40) 1850.

27. We refer you to our former instructions with regard to religious institutions and ceremonies of the natives. Religious and charitable endowments and allowances.

— No. 5. —

[In Public Letter, dated 25 July (No. 23) 1849. Pro.]

(No. 26.)

EXTRACT from the Proceedings of the Honourable the President of the Council of *India* in Council in the Home Department, under date 14 October 1848.

To the Right honourable Earl of *Dalhousie*, Governor-general of India in Council, &c. &c. &c.

The humble Petition of *Maha Rajah Ram Chunder Deb*, Rajah of Killah Khoorda; the Hereditary Superintendent of the Temple of Juggernaut,

Most respectfully sheweth,

THAT the British Government, in their conquest of the province of Cuttack, resumed all lands, zemindaries, &c. attached to the Temple of Juggernaut, and allowed in return for its maintenance a yearly sum of Rs. 53,178. 11. 10.

2. That the management of the temple was, however, in execution of the provisions of Act X., 1840, restored to your Lordship's petitioner, to whom the above-mentioned sum was given yearly up to 1842.

3. Subsequently, on the 26th of November 1843, the estate called Suttayees Hazaree Mahaul, formerly attached to the temple, was given over to the charge of your Lordship's petitioner for Rs. 17,420. 2. 4., which arrangement reduced the amount of the donation to the balance of Rs. 35,758. 9. 6. This allowance was, however, afterwards, under the orders of Government, dated 6th September 1845, reduced to 23,321 rupees, and in the account adjusted on this occasion the above-mentioned estate was credited for 19,191 rupees.

4. That while your Lordship's petitioner is by the terms of his engagements bound to spend yearly a stated sum of 47,874 rupees, of which only 23,321 rupees are now allowed to him in cash, he under the orders of the collector, dated 26th July 1846 and 27th March 1847, is not permitted to realize from the estate credited in his favour in 1845 for 19,191 rupees more than Rs. 17,420. 2. 4. It is therefore self-evident that even if the whole of the last-mentioned sum could possibly be realized from the estate every year, your Lordship's petitioner is a loser to a considerable extent by the existing arrangements.

5. But as, owing to the unnecessary conditions imposed upon the management of your Lordship's petitioner, he is restricted from increasing or even decreasing the rents of the ryots from the former rate, the uncultivated parts of the estate can never be brought into cultivation, while other portions which, from the inability of their holders, owing to the operation of natural and accidental causes, such as exhaustions, inundation, deposit of sands, or neglect, are losing their value, and cannot therefore be leased conveniently but on a reduced jumma, are by degrees abandoned, and thus increase the amount of the waste lands.

6. Your Lordship's petitioner is not, he considers most unjustly, permitted to use the common rights of a landholder, of making his settlements by increasing the rents of such parts of the zemindaree as can bear the enhancement, and allowing deductions for such as inevitably require this indulgence, that he may simply be able, by an equitable distribution of the demands according to the capability and value on condition of each portion, to square up his accounts so as to realize on an average even the sum for which the estate was originally credited in his favour.

7. Your Lordship's petitioner cannot discover the propriety of the restriction with which his management is fettered: the ryots of the estate have no peculiar rights different from those of all other cultivators; the existing laws are sufficient to protect all their legal rights from forcible ousting, unwarranted encroachments, or unlawful impositions; and the authority refused to your Lordship's petitioner has always been enjoyed by the managers of other rent-free grants or any zemindaree, in Cuttack as well as other districts.

8. Your Lordship's petitioner complained of this hardship to the collector, and that officer was pleased to report the affair to the Commissioner, who however rejected the application of your Lordship's petitioner; appealed to the Sudder Board, but the Board by their orders, dated 23d June 1848, was pleased to uphold the decision of the Commissioner.

9. From this order your Lordship's petitioner, by a petition* filed on the 2d August last, appealed to the Government of Bengal, and was by an order, dated 22d of the month, written on his application, informed that his prayer was inadmissible.

10. As the grievances complained of by your Lordship's petitioner, he has taken this liberty to lay his appeal before your Lordship in Council.

11. As your Lordship's petitioner, in his application of appeal to the Government of Bengal, the original of which is herewith filed, has already stated in full the grounds on which he believes he is fairly entitled to a permission to exercise the rights for which he applies, he has not deemed it necessary to repeat them again here in this memorial.

12. It is therefore his humble prayer that your Lordship in Council will be graciously pleased to take his deplorable case into your favourable consideration, and pass such orders as justice may require.

For which favour, as in duty bound, your Lordship's petitioner shall ever pray.

29 September 1848.

(Signed) in Nagree.

—No. 6.—

To the Right honourable Earl of *Dalhousie*, Governor of Bengal, &c. &c. &c.

The humble Petition of *Maha Raja Ram Chunder Deb*, Rajah of Killah Khordah, the Hereditary Superintendent of the Temple of Juggernaut,

Most humbly sheweth,

THAT the British Government having, immediately after the conquest of the province of Cuttack, in 1803, assumed the possession of the estate called Suttayees Hazaree Melial, and all other zemindaree lands, &c. attached to the Temple of Juggernaut, were pleased to allot in return, under the provisions of section 30, Regulation XII. of 1805, a yearly sum of Rs. 53,178. 11. 10.

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2. After the enactment of Act X. of 1848, the management of the temple having been restored to your Lordship's petitioner, the above-mentioned sum was regularly paid to him up to the year 1842.

3. On the 26th November 1843, the collector, under the orders of Government, transferred back to your Lordship's petitioner's charge the Suttayees Hazaree estate in exchange for Rs. 17,420. 2. 4., out of the yearly allowance, on which account only the balance of Rs. 35,758. 9. 6. was thenceforward given to your Lordship's petitioner up to the year 1845.

4. Subsequently, under the orders of Government, dated 6th September 1845, this allowance was reduced to Rs. 23,321., which, as your Lordship's petitioner has already represented, is paid for the expenses of the temple, merely in exchange for the lands formerly attached to the same, appropriated by Government, and which could not therefore be then restored, and as a compensation for abwalis and other proceeds and income of the temple abolished by Government.

5. Your Lordship's petitioner has several objections to urge against this last pecuniary settlement, and believes that he is justly entitled to receive something more from the Government on this account, his claims for which, however, he intends to lay before your Lordship separately and hereafter.

6. At present your Lordship's petitioner takes the liberty to lay before your Lordship his complaints regarding the unnecessary and injurious restrictions with which his management of the Suttayees Hazaree estate has been fettered, while he is imposed with the duty of expending for the temple a certain fixed amount.

7. Under the orders of the collector, dated 26th July 1846, and 27th March 1847, your Lordship's petitioner is prohibited from increasing or decreasing the rents of the ryots, with whom he is peremptorily directed to settle only at the former rate, without any regard to the deterioration or improvement of the property, or the condition of the cultivator.

8. In course of time the respective values of the different portions of a property, from various natural and accidental causes, fluctuate to a great extent, even sometimes affecting the total value of the whole.

9. If every portion of the property is to be let out only at that for which it was leased out at any previous period, a rapid deterioration of the value and reduction in the proceeds of the property are to be the inevitable and natural consequences of this procedure. For the parts whose value has been reduced from natural exhaustion, or loss of fertility arising from neglect or over-cultivation, from inundation, overflowing of rivers, &c., deposit of sands, and other such causes, will as a matter of course be abandoned when they are not to be held on a proportionate decreased jumma; and these must therefore lie waste and uncultivated. This process cannot fail to detract by degrees a considerable portion of lands from the extent under cultivation; and the effects of this upon the proceeds of the property need not be described. The parts, on the other hand, which from the operation of causes the reverse of those mentioned above are improved so as to justify an increased assessment upon them, are protected from this equitable demand.

10. It is only by such a proportionate increase on such parts of a property as can bear it with convenience that all natural and accidental losses incident to the proceeds of all estates are remedied, so as to square the accounts of the net proceeds of a property within a limited period of a few years.

11. The operations of the cause mentioned above have obliged your Lordship's petitioner to put up with a yearly loss of about 2,000 rupees, on an average, for the last few years of his management.

12. Your Lordship's petitioner having, in pursuance of the orders communicated to him, sent for all the ryots of the Suttayees Hazaree Melial, to give to and receive from him kubooleyuts and pottahs at the former rate, a few of them complied with his requisitions; while of the rest many completely disregarded his call, and others objected to renew their engagements at the former jumma now demanded from them.

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13. Your Lordship's petitioner begs leave to represent that had he the authority, like all other landholders, to make his own arrangements with the ryots, he could have easily and fairly succeeded by a general measurement and an equitable assessment of the lands in making a fair and equitable settlement, so as to save himself from the considerable extent.

14. Your Lordship's petitioner cannot further discover why he should be debarred from the right of availing himself of the rise of the value of any parcel of the estate, while the value of all things, inclusive of labour, mental and manual, which he is required to purchase and secure, has been, from the operation of similar causes, considerably increased.

15. Your Lordship's petitioner humbly declares that he is fairly entitled to have the management of the estate entrusted to him, in a manner that he may be able to make amends for all deficiencies which occur in the proceeds of the property below the stated sum in exchange for which he has received it, and which money, along with the pecuniary allowance, he is obliged to spend for the temple; a measure the more necessary, because of late the allowance itself has been considerably reduced.

16. The rights and interests of the mehal are not anywise different from those of the ryots of all other zemindaries in the district; and as they have sufficient remedies provided for them in law, any illegal exaction, unjust assessment, or forcible and unwarranted ousting, your Lordship's petitioner cannot discover what abuses was it apprehended he would commit, if allowed the ordinary authority and legal rights invariably granted to other landholders, and which are not denied even to the managers of other rent-free religious grants of lands in this as well as in other districts.

17. That in cases of zemindaries sold for arrears of public assessment, and purchased by Government, if the estates are as a matter of favour restored to the former proprietors, they are invariably given back under a condition that they are to abide by their own former arrangements, your Lordship's petitioner begs to represent that if these restrictions complained of by your Lordship's petitioner have been imposed on restoration analogically from the same motives which lead to the above condition in the cases mentioned above, your Lordship will be pleased to observe that he does not pay for the exercise of the rights of a public purchaser, but only of those which a former zemindar would have been legally permitted to enjoy.

18. That subsequently, when the allowance was under the orders of the Government, dated 6th September 1845, reduced to 23,321 rupees, the mahai was debited in favour of your Lordship's petitioner for 19,191 rupees, while the orders of the collector restrict him to realize only Rs. 17,420. 2. 4. It is therefore evident that even if the whole of the latter sum be realized, your Lordship's petitioner will still have to make a large deficiency of about 1,771 rupees to complete the gross sum which he is allowed under the last order of the Government in lands and allowance, and which he is therefore required to spend for the temple.

19. In May 1847, your Lordship's petitioner represented his deplorable grievances to the collector, and prayed that the property should either be settled by that officer, or your Lordship's petitioner allowed to do so himself.

20. The officer made a reference on that point to the Commissioner of the division, and the latter officer, on the 1st of June 1847, wrote in reply, that the Rajah cannot be authorized to make settlements at higher rates than at which collections were made during the possession of Government, and informed that the application of your Lordship's petitioner regarding the settlement of the property by the collector could not, under the orders of Government, be complied with.

21. From this order your Lordship's petitioner appealed to the Sudder Board of Revenue, on the 26th August 1847, and the Board by their orders, dated 23d of June 1848, ordered that the Court could not interfere in this case.

22. As the grievances complained above by your Lordship's petitioner are of a serious nature, and as all his efforts for redress of them have hitherto proved ineffectual, your Lordship's petitioner has taken this liberty to lay this humble appeal

appeal before your Lordship, and prays that your Lordship, on a proper consideration of his representations and all the bearings of his case, will be graciously pleased to pass such orders as justice and equity might warrant and demand.

For which your Lordship's petitioner, as in duty bound, shall ever pray.

2 August 1848.

(Signed) in Nagree.

The petitioner is informed that his prayer is inadmissible.

By order,

(signed) *W. Setonkarr,*

Under Secretary to the Government of Bengal.

Fort William, 22 August 1848.

— No. 7. —

(No. 806.)

From *G. A. Bushby*, Esq., Secretary to the Government of India, to the Commissioner of Cuttuck; dated 14 October 1848.

No. 27.

Sir,

I HAVE the honour to forward to you copy of a petition from the Rajah of Killah Khordah, dated the 29th ultimo, and to request that you will have the goodness to inform the memorialist that the Governor-general in Council declines to interfere in his case.

I have, &c.

(signed) *G. A. Bushby,*

Secretary to the Government of India.

Fort William, 14 October 1848.

— No. 8. —

[In Bengal Revenue Letter, 6th May (No. 7) 1850.]

From Messrs. *A. F. Lacroix* and *W. S. Mackay*, Missionaries, to *J. P. Grant*, Esq., Secretary to the Government of Bengal; dated 23 April 1850.

Sir,

WE have the honour to enclose a memorial to the Honourable Court of Directors of the East India Company, and to request that it may be forwarded to England by the Government of this country. We would also venture respectfully to express the hope that the Government of Bengal, as well as the Government of India, will see sufficient cause to support the prayer of the memorialists.

We have, &c.

(signed) *A. F. Lacroix*, Missionary of the London Missionary Society.

W. S. Mackay, Free Church of Scotland.

Calcutta, 23 April 1850.

— No. 9. —

[In Bengal Revenue Letter, 6 May (No. 7) 1850.]

To the Honourable the Court of Directors of the East India Company,
The respectful Memorial of Protestant Missionaries labouring in Bengal and Orissa,

Showeth,

THAT your memorialists, being missionaries belonging to various Protestant denominations, and having laboured (most of them) many years in India, have had special and frequent opportunities of knowing that the annual pecuniary grant from the Government Treasury to the Temple of Juggernath perpetuates, and in no ordinary degree encourages, the vilest characteristics of Hindu idolatry as notoriously connected with that shrine.

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Your memorialists with deep pain and sorrow beg to direct the attention of your Honourable Court to the pernicious effect of the Government donation in impeding, and too frequently rendering unavailing their endeavours to rescue the people of these provinces from the curse of idolatry, and to bring them under the benign influence of the pure and holy religion of Christ. The great masses of unhappy men and women gathered from all parts of India round the shrine believe, not only that the British Government acknowledges the divinity of Juggernath, but that it is most anxious that the worship of that idol should be celebrated on a magnificent scale; and the priests and pandahs connected with the temple, who fatten on the misery and credulity of the pilgrims, do everything in their power to strengthen them in this conviction. They rebuke the missionaries publicly, and represent them to the people as factious opponents of the Government; and they triumphantly appeal to its annual pecuniary donation as an unanswerable proof that it approves of their superstition, and desires that idolatry should be maintained as the religion of the land. Your memorialists, therefore, cannot but express their deep-felt regret that the Government of this country, by its support of the Temple of Juggernath, should thus virtually throw the weight of its influence into the scale of idolatry, and thereby, without intending it, impede the progress of the gospel of peace and love.

Your memorialists would further respectfully remind your Honourable Court, that not a few of the vast numbers of pilgrims who flock to Juggernath Pooree are drawn thither in a great measure by the celebrity which the annual Government grant confers on that shrine; a distinction which it alone enjoys, and which is the boast and one of the strongest arguments of the pilgrim hunters, a body of men whose business it is to traverse the country in all directions for the purpose of enticing persons to undertake the pilgrimage. This is a fact, which considering the magnitude of the evils, physical as well as moral, directly flowing from this pilgrimage, can never be sufficiently deplored. Indeed, the misery, suffering, and vice witnessed on these occasions can scarcely be exaggerated. The pilgrims during their sojourn at Pooree are made to believe that it is an indispensable part of their religious duty to live upon the food prepared in the temple, from whence it can only be obtained at exorbitant rates, and of the coarsest and most unwholesome description. On the road, tens of thousands sleep night after night on the bare mud, and have no shelter from the rain, which frequently falls in torrents. Exposure, privation, and fatigue necessarily induce disease, and the mortality is fearful. The number of pilgrims annually resorting to the shrine is immense. At the Ruth festival alone, which attracts scarcely one-third of the whole, it varies from 80,000 to 200,000; and it is supposed, with too much reason, that nearly one-tenth annually perish, causing the outskirts of Pooree and the roads for many miles around to resemble a vast Golgotha. The brutal callousness of the priests, and of the people generally, who seem utterly regardless of the sufferings and dying agonies of the pilgrims, is not the least revolting part of this tragedy. Certain of your memorialists have witnessed these things till their hearts grew sick within them, and have seen with their own eyes scenes of demoralization, wretchedness, and woe which baffle description. Your memorialists acknowledge with thankfulness and delight your wise and merciful abolition of the right of suttee; but they would remark that while suttee numbered its hundreds, Juggernath, in a more protracted form, slays his thousands of human victims.

It is moreover deserving of notice, that the pilgrims suffering from disease carry it to their homes and to other localities; and accordingly along the whole line of march the cholera, nearly every year, follows in their train, ravaging the villages on each side of the road, radiating far into the country, and sweeping away thousands of its useful population.

Your memorialists beg also, with all deference, to call the notice of your Honourable Court to the apparent inconsistency of endowing at one and the same time schools and colleges for the intellectual and moral improvement of the people and a large idolatrous establishment which tends to perpetuate their intellectual and moral debasement. Intelligent natives are utterly at a loss to understand the meaning of a policy so ambiguous.

Your memorialists, as servants of the living God, would further respectfully, but most earnestly remind your Honourable Court, that idolatry is not only a curse to mankind and a bar to all true national and social improvement, but that any approval, sanction, or countenance lent to it, directly or indirectly, is represented

represented in the word of God as a grievous offence against the majesty of Heaven. Your memorialists therefore entertain the hope that, looking at the evident and inherent wrong of a Christian government's connexion with idolatry in any form, as well as at the fearful amount of vice, suffering, and loss of life which springs from pilgrimage to the shrine of Juggernath in particular, your Honourable Court will be induced to check these great evils as far as they are under your control, by discontinuing altogether a support so inconsistent with reason, humanity, and religion, and which contributes in no slight degree to the misery, temporal and eternal, of the people whom providence has entrusted to your charge, and whose welfare your Honourable Court is bound by every means in your power to promote.

And your memorialists are the more sanguine that their representations will meet with the favourable consideration of your Honourable Court, from the fact that it has been ascertained, after a careful investigation by the most competent authorities in your own service, that Government is not in any way pledged to continue either the support in question, or any support; and furthermore, that it is considered by the same authorities perfectly feasible to leave the shrine of Juggernath to be supported by its own votaries, as is the case with every other idol temple in these provinces.

(signed)

W. S. Mackay, Free Church of Scotland.
A. F. Lacroix, London Missionary Society.
D. Ewart, Free Church of Scotland.
J. Long, Church Missionary Society.
G. Pearce, Baptist Missionary Society.
James Ogilvie, Church of Scotland.
Timothy Sandys, Church Missionary Society.
A. Leslie, Baptist Missionary Society.
G. Mundy, London Missionary Society.
Thomas Boaz, London Missionary Society.
James Thomas, Baptist Missionary Society.
Joseph Mullens, London Missionary Society.
David Sinclair, Free Church of Scotland.
Edward Storrow, London Missionary Society.
John Anderson, Church of Scotland.
Samuel Hasell, Church Missionary Society.
J. Wenger, Baptist Missionary Society.
J. H. Parker, London Missionary Society.
C. B. Lewis, Baptist Missionary Society.

Calcutta, 19 March 1850.

The following signatures are affixed by me at the special request of the parties, as per their written authority, appended hereunto.

(signed) *A. F. Lacroix*.

(signed)

Charles Lacey, General Baptist Missionary Society.
Isaac Stubbins - - - - ditto.
Henry Wilkinson - - - - ditto.
John Buckley - - - - ditto.
William Brooks - - - - ditto.
William Bailey - - - - ditto.
William Miller - - - - ditto.
James Innes, Church Missionary Society.
C. Kruckeberg - - - - ditto.
J. G. Linke - - - - ditto.
C. W. Lipp - - - - ditto.
Frederick Schurr - - - - ditto.
J. J. Weitbrecht - - - - ditto.
B. Geidt - - - - ditto.
Samuel Bost - - - - ditto.
J. Phillips, American Free Baptist Missionary Society.
O. R. Bachelor - - - - ditto.
R. Cooley - - - - ditto.

We the undersigned, missionaries belonging to the General Baptist Missionary Society labouring in Orissa, do hereby authorise the Rev. A. F. Lacroix, of Calcutta, to sign for us a memorial (of which we have seen a draft), dated 19 March 1850, and which is intended to be presented to the Honourable Court of Directors of the East India Company, praying for the discontinuance of the annual Government grant to the Temple of Juggernath.

(signed) Charles Lacey. William Brooks.
Isaac Stubbins. William Bailey.
Henry Wilkinson. William Miller.
John Buckley.

We the undersigned, missionaries of the Church Missionary Society labouring in the districts of Hishnaghur and Burdwan, do hereby authorise the Rev. A. F. Lacroix, of Calcutta, to sign for us a memorial (of which we have seen a draft), dated the 19th March 1850, and which is intended to be presented to the Honourable Court of Directors of the East India Company, praying for the discontinuance of the annual Government grant to the Temple of Juggernath in Orissa.

(signed) James Innes. Frederick Schurr.
C. Kruckeberg. J. J. Weitbrecht.
J. G. Lincke. P. Geidt.
C. W. Lipp. Samuel Bost.

We the undersigned, missionaries belonging to the American Free Baptist Missionary Society labouring in Orissa, do hereby authorise the Rev. A. F. Lacroix, of Calcutta, to sign for us a memorial (of which we have seen a draft), dated 19 March 1850, and which is intended to be presented to the Honourable Court of Directors of the East India Company, praying for the discontinuance of the annual Government grant to the Temple of Juggernath.

(signed) J. Phillips.
O. R. Bachelo.
R. Cooley.
Jellasore, 1 April 1850.

— No. 10. —

[In Legislative Letter, dated 6 December (No. 19) 1850.]

EXTRACT from the Proceedings of the Most Noble the Governor General of India in Council in the Home Department (Legislative), under date 11 April 1850.

(No. 105 of 1849.)

No. 57. From J. G. Lumsden, Esq., Secretary to the Government of Bombay, to F. J. Halliday, Esq., Secretary to the Government of India; dated 14 May 1849.

Sir,

Ecclesiastical
Department.

WITH reference to Mr. Secretary Bushby's letter (No. 117), dated 22d January 1848, and the previous correspondence on the subject, I am directed by the Right honourable the Governor in Council to transmit to you, to be laid before the Honourable the President in Council, the accompanying copy of a communication from the Lord Bishop of Bombay, dated the 28th of March last, regarding the difficulties and hardships to which native converts to Christianity in India are exposed, under the actual state of the laws bearing on their civil rights.

Bombay Castle,
14 May 1849.

I have, &c.
(signed) J. G. Lumsden,
Secretary to Government.

— No. 11. —

Ecclesiastical Department.

From the Right Rev. the Bishop of Bombay to the Right honourable Viscount Falkland, Governor in Council, &c. &c. &c.; dated 28 March 1849.

No. 58.
Enclosure.

My Lord,

1. I HAVE the honour to bring to the notice of your Lordship in Council, that on the 11th of January 1845 I submitted to the Honourable the Governor in Council a statement of the painful circumstances in which native converts to Christianity were placed, from having no protection in their civil rights and immunities, under the existing state of the laws bearing upon those rights, in the territories of this presidency.

2. In that letter it was represented that converts were treated as "outcasts," and as such suffered penalties as offenders for embracing Christianity, by being made subject to the different losses and privations enforced by the laws and regulations of the religion which they had renounced. Several cases were stated in which converts had been deprived not only of property, but some of wives and children, on their conversion. It was also stated that the parties had instituted proceedings in the native courts for the recovery of their rights, but without success, in consequence of the state of the laws applied to their cases. Converts and their friends have of late years desisted from instituting proceedings, from the knowledge that the law in this presidency, in its present state, could protect them only from personal violence; and such continues to be the state of the laws and regulations.

3. It was pointed out in the above letter, that in the presidency of Bengal converts are protected in their civil rights by Regulations, amending those laws which, until 1832, had been found in that presidency, and continue to be felt in this presidency, to be so oppressive. The following are the Regulations of the Bengal presidency which afford the desired protection; viz., Bengal Regulation VII., 1832, sections 8 and 9.

4. Section 8. "Such part of clause 2, section 3, Regulation VIII. of 1795, enacted for the province of Benares, which declares that in cases in which the plaintiffs shall be of different religious persuasion from the defendants the decision is to be regulated by the law of the religion of the latter; excepting when Europeans or other persons, not being either Mahomedans or Hindoos, shall be defendants, in which case the law of the plaintiff is to be made the rule of decision in all complaints or actions of a civil nature, is hereby rescinded, and the rule contained in section 15, Regulation IV. of 1793, and the corresponding enactment contained in clause 1, section 16, Regulation III. of 1803, shall be the rule of guidance in all suits regarding succession, inheritance, marriage, and caste, and all religious usages and institutions that may arise between persons professing the Hindoo and Mahomedan persuasions respectively."

5. Section 9. "It is hereby declared, however, that the above rules are intended and shall be held to apply to such persons only as shall be *bona fide* professors of those religions at the time of the application of the law to the case, and were designed for the protection of the rights of such persons, not for the deprivation of the rights of others; whenever, therefore, in any civil suit the parties to such suit may be of different persuasions, when one party shall be of Hindoo and the other of the Mahomedan persuasion, or when one or more of the parties to the suit shall not be either of the Mahomedan or Hindoo persuasion, the laws of those religions shall not be permitted to operate to deprive such party or parties of any property to which, but for the operation of such laws, they would have been entitled; in all such cases the decision shall be governed by the principles of justice, equity, and good conscience; it being clearly understood, however, that this provision shall not be considered as justifying the introduction of the English law or any foreign law, or the application to such cases of any rules not sanctioned by those principles."

6. The plain meaning of this section is, that any Mahomedan or Hindoo, after inheriting property, whatever religion he may adopt, shall not be exposed to the operation

operation of the doctrines and laws of the religion he has left, to deprive such party of his property, &c. This law has been found effectual for the protection of the civil rights of converts to Christianity in Bengal; and I am informed that no construction by the Sudder Courts of Dewannee Adawlut has been called for or issued upon the above law, for no reports of such cases are to be found among the printed reports of cases determined by those courts.

7. In the foregoing Regulation Christian converts have, from the date of its enactment, been protected in their rights, and have been secured in the possession of all property possessed by them when converted.

8. In my letter of January 11th, 1845, it was earnestly requested that the Honourable the Governor in Council would be pleased to obtain from the Legislative Council an extension of the above Regulations, which have now been in operation 16 years in the Bengal presidency, to the territories of the Bombay presidency.

9. To the above letter a reply was sent, No. 561, dated February 24th, 1845, in the Judicial Department, stating that an Act which would meet all the objects contemplated in my letter, and was intended to be general to all India, was under the consideration of the Legislative Council, and had been ordered to be reconsidered at the first meeting of the Council, after the 18th of April in that year. This draft Act was referred to the consideration of the Bombay Government, and was published in the Bombay Government Gazette of February 20th and 27th, 1845. This Act recognising the principle that in every country there ought to be a law which is applicable to every person in it, and that the necessity of a law for persons whose condition cannot be defined beforehand, or who cannot be brought within any of the defined classes, provided protection for converts to Christianity in the following sections, X. XI. and XII.

"X. And it is hereby enacted, that nothing hereinbefore contained shall apply to any Hindoo or Mahomedan, or to any property of any Hindoo or Mahomedan, unless such Hindoo or Mahomedan shall have renounced either of those religions, and shall not have adopted the other."

"XI. Provided always, that no Hindoo or Mahomedan shall, in consequence of anything in this Act contained, by renouncing the Hindoo or Mahomedan religion, lose any rights or property, or deprive any other person of any rights or property."

"XII. And it is hereby enacted, that so much of the Hindoo and Mahomedan law as inflicts forfeiture of rights or property upon any party renouncing, or who has been excluded from the communion of either of those religions, shall cease to be enforced as law in the courts of the East India Company."

10. The publication of the Draft Act afforded some encouragement to the converts and to their friends. It is however now more than four years since the publication of the draft Act, which showed the favourable disposition of the Government to them, but as yet no legislative protection has been extended to the native converts in Western India; they alone of all classes, and amongst the most faithful and attached to the Government, are the only persons to whom the British law does not extend its protection, although exposed in their defenceless state to severe persecution, directed under cover of the existing laws.

11. Within the territories of Bengal converts have enjoyed the same protection as all other classes of British subjects since the year 1832. I beg now most respectfully, but most urgently, to solicit your Lordship in Council to take the case of the Christian converts under your Lordship's Government into your favourable consideration, and to adopt such measures as may appear to your Lordship advisable for obtaining for them, now an increasing body, that protection which they may justly expect from an enlightened and a Christian Government.

Bombay, 28 March 1849. I have, &c.
(signed) Thomas Bombay.

(True copy)

(signed) J. G. Lumsden,
Secretary to Government.

— No. 12. —

MINUTES by the Members of Council, with a Draft Act; dated 24 May 1849.

No. 5

CHRISTIAN converts are fully entitled to the same protection of property and of civil rights claimed for them by the Bombay authorities as is afforded to their brethren in this presidency. It is unfortunate that such a measure of relief has been so long delayed, and apparently without any sufficient cause.

Probably the Court's attention may be again drawn to the Act, said to be awaiting their decision.

Pending the result of their deliberations on that Act, submitted in 1845, the native Christian converts on the Bombay side of India seem to be exposed to loss, inconvenience, and injustice.

(signed) J. H. Littler.

24 May 1849.

Cannot we extend the provisions of our Act?

(signed) F. Currie.

I would do so.

(signed) J. Lewis.

I have prepared an Act for this purpose, though with some lingering doubt of the justice of the measure. According to Hindoo notions, the right which a son has to succeed to his father's property is commensurate with his obligation to perform his funeral obsequies, from which the outcaste is necessarily excluded.

Put the case of property bequeathed in England to a man on certain conditions, which conditions he by his own voluntary act renders himself incapable of performing, what should we say to a law which nevertheless secures the property to him?

I have endeavoured so to prepare the Act as to give it the slightest possible appearance of interfering with the religious notions of the natives, and yet by the preamble have called sufficient attention to its purpose, for those who will take the trouble to examine it, as I think ought to be done in all laws, which should not be passed by stealth.

(signed) J. E. D. Bethune.

31 May 1849.

AN ACT to enlarge the Operation of 1832 and 9 of Regulation VII. of Code.

WHEREAS by an Act of Parliament passed in the fourth year of the reign of his late Majesty King William IV. for effecting an arrangement with the East India Company, better government of His Majesty's Indian subjects, the Governor-General of India in Council is enjoined by laws or regulations to provide for the protection of the natives of India from insult or outrage in their persons, religions, and opinions: and whereas sections of Regulation VII. of 1832, of the Bengal Code have been found to this end, and it is expedient that their operation be enlarged as follows:

1. Sections 8 and 9 of Regulation VII. 1832, of the Code, shall be in force after the passing of this Act, throughout the territories under the government of the East India Company, and any other laws or parts of Regulations or Acts, inconsistent therewith, are repealed.

This will, I think, fully answer the purpose.

1 June 1849.

16 PAPERS ON CONNEXION OF THE GOVERNMENT OF

— No. 13. —

(No. 36.)

No. 60.

From *W. Grey*, Esq., Under Secretary to the Government of India, to Under Secretary to the Government of Bengal, and (No. 433) Assistant Secretary North Western Provinces; dated 9 June 1849.

Sir,

Home Department, Legislative.

I AM directed by the President in Council to request that the Sudder Court may be called upon to state, as far as they can do so without the delay of a reference to the subordinate courts, whether they are aware of any civil cases in which the succession or ownership of property has been decreed under the provisions of sections 8 & 9, Regulation VII. of 1832, in opposition to the Hindoo or Mahomedan law, as the case might be; and if so, to point out for the information of the Supreme Government the printed reports in which such decisions may be found.

I have, &c.

(signed) *W. Grey*,

Under Secretary to the Government of India.

Fort William, 9 June 1849.

— No. 14. —

(No. 1011.)

No. 61.

From *J. W. Dalrymple*, Esq., Under Secretary to the Government of Bengal, to *W. Grey*, Esq., Under Secretary to the Government of India, Home Department; dated Fort William, 3 July 1849.

Sir,

Judicial.

* No. 1048, dated 29 ultimo.

With reference to your letter, No. 361, of the 9th ultimo, I am directed by the Deputy Governor of Bengal to forward, for the information of the President in Council, the accompanying copy of a letter* from the register of the Sudder Court.

I have, &c.

(signed) *J. W. Dalrymple*,

Under Secretary to the Government of Bengal.

Fort William, 3 July 1849.

(No. 1048.)

No. 62.

From *B. J. Colvin*, Esq., Register to *J. P. Grant*, Esq., Secretary to the Sudder Dewanny Adawlut, to the Government of Bengal; Fort William, 29 June 1849.

Sudder Dewanny Adawlut, to the Government of Bengal; Fort William.

Sir,

I have,

I AM directed to acknowledge receipt of the Under Secretary's letter, No. 364, of the 21st instant; and, in compliance with the requisition therein contained, to state that the Court's records do not show any case to have been decided under sections 8 & 9, Regulation VII., 1832, in opposition to the Hindoo or the Mahomedan law.

The receipt is herewith returned.

I have, &c.

(signed) *B. J. Colvin*,
Register.

True copy

(signed) *J. W. Dalrymple*,
Under Secretary to the Government of Bengal.

— No. 16. —

(No. 2597 of 1849.)

From *R. Thornton*, Esq., Assistant Secretary to the Government, North Western Provinces, to *F. J. Halliday*, Esq., Secretary to the Government of India, Home Department, Fort William; dated Head Quarters, 9 August 1849.

No. 63.

Sir,

I AM directed by the Honourable the Lieutenant-governor to acknowledge the receipt of Mr. Under Secretary Grey's letter, No. 433, dated 9th June last, and in reply to forward the accompanying copy of a letter, No. 966, from the register Sudder Dewanny Adawlut, North Western Provinces, dated the 17th ultimo, pointing out the case in which the succession to property has been decided according to sections 8 & 9, Regulation VII. of 1832.

Judicial Department.

I have, &c.

(signed) *R. Thornton*,Assistant Secretary to the Government,
North Western Provinces.

Head Quarters, 9 August 1849.

— No. 17. —

(No. 966 of 1848.)

From *G. F. Edmonstone*, Esq., Register to the Court of Sudder Dewanny Adawlut, North Western Provinces, to *John Thornton*, Esq., Secretary to the Government, North Western Provinces; dated Agra, 17 July 1849.

No. 64.
Enclosure.

Sir,

I AM directed to acknowledge the receipt of your letter, No. 2,282, dated 4th instant, with its enclosure from the Under Secretary to Government of India, inquiring whether the Court are aware of any cases in which the succession to property has been decided according to sections 8 and 9, Regulation VII. of 1832, and in reply to state that the Court can call to mind only one suit* of the nature described. The report of the Court's decision will be found at page 137 of their "Printed decisions for May 1849," and that of the zillah judge's decision, at pages 101-104 of the Azimgurh "Decisions" for May 1848.†

Sudder Dewanny Adawlut, North Western Provinces.

Present:—*G. P. Thompson*, Esq., Judge; *A. W. Begbie* and *H. Lushington*, Esqrs., Officiating Judges.* *Shah Mugbool Alum*, (Plaintiff) Appellant, v. *Ajoodhea Singh* and others, (Defendants) Respondents; 28 May 1849.

† Nos. 67 and 68, 18 May 1848.

Shah Mugbool Alum (Plaintiff) Appellant, v. *Ajoodhea Singh* and others, (Defendants) Respondents.

2. As stated in their judgment, the Court believe that on no former occasion has any question connected with the application of sections 8 and 9, Regulation VIII. of 1832, been brought before them.

I have, &c.

(signed) *G. F. Edmonstone*,

Register.

Agra, 17 July 1849.

(True copy.)

(signed) *R. Thornton*,

Assistant Secretary to the Government, N. W. P.

— No. 18. —

AN ACT for extending the Principle of Section 9, Regulation VII. of 1832, of the Bengal Code, throughout the Territories subject to the Government of the East India Company.

No. 65.

WHEREAS it was enacted by section 9, Regulation VII. of 1832, of the Bengal Code, that "whenever in any civil suit the parties to such suit may be of different persuasions, when one party shall be of the Hindoo and the other of the Mahomedan persuasion, or where one or more of the parties to the suit shall not be either of the Mahomedan or Hindoo persuasions, the laws of those religions shall not be permitted to operate to deprive such party or parties of any property to which,

which, but for the operation of such laws, they would have been entitled:" and whereas it is expedient to extend the principle of that enactment throughout the territories subject to the government of the East India Company, it is enacted as follows:

1. So much of any law or usage now in force within the territories subject to the government of the East India Company as inflicts on any person forfeiture of rights or property, by reason of his or her renouncing or having been excluded from the communion of any religion, shall cease to be enforced as law in the courts of the East India Company, and in the courts established by Royal Charter within the said territories.

MINUTES by the Members of Government; dated 20 September 1849.

I think this is preferable to the Draft Act formerly prepared by me.

(signed) *J. E. D. Bethune.*

19 September 1849.

It seems admirably well suited to the occasion.

(signed) *J. H. Littler.*

20 September 1849.

I concur in thinking this Act preferable to the former draft, and shall be glad to see it passed.

(signed) *F. Currie.*
J. Lewis.

— No. 19. —

No. 66. (No. 655.)
From *W. Grey*, Esq., Under Secretary to the Government of India, to Under Secretary with the Governor-General; dated Fort William, 22 September 1849.

Sir,

I AM directed to forward, for submission to the most noble the Governor-general, copies of the papers noted in the margin*, together with the draft of an Act "for extending the principle of section 9, Regulation VII. of 1832, of the Bengal Code, throughout the territories subject to the government of the East India Company," and to request the assent of his Lordship to its being published for general information.

I have, &c.

(signed) *W. Grey,*

Fort William,
22 September 1849.

Under Secretary to the Government of India.

— No. 20. —

No. 67. (No. 284.)
From *P. Melvill*, Esq., Under Secretary to Government of India, with the Governor-General, to *W. Grey*, Esq., Under Secretary to the Government of India, Home Department, Fort William; dated Simla, 12 October 1849.

Sir,

I AM directed to communicate to you the assent of the most Noble the Governor-general to the publication of the draft Act "for extending the principle of section 9, Regulation VII. of 1832, of the Bengal Code, throughout the territories

* From Secretary to Government of Bombay, No. 105, dated 14 May 1849; and Enclosure. Minutes by the Members of Council, with a Draft Act. To Secretaries to Governments of Bengal and North Western Provinces, dated 9 June 1849. From Under Secretary Government Bengal, No. 1011, dated 3 July 1849; and Enclosure. From Assistant Secretary to Government North Western Provinces, dated 9 August 1849; and Enclosure. Minutes of the Members of Government on the present Draft Act.

territories subject to the government of the East India Company," enclosed in your letter, No. 655, dated 22d ultimo.

I have, &c.

(signed) *P. Melvill,*

Simla,
12 October 1849.

Under Secretary to Government of India,
with the Governor-General.

— No. 21 —

Fort William.—Home Department (Legislative), 26 October 1849.

No. 68.

THE following draft of a proposed Act was read in Council for the first time on the 26th of October 1849.

ACT, No. of 1849.

AN ACT for extending the Principle of Section 9, Regulation VII., 1832, of the Bengal Code, throughout the Territories subject to the Government of the East India Company.

Whereas it was enacted, by section 9, Regulation VII., 1832, of the Bengal Code, that "whenever in any civil suit the parties to such suit may be of different persuasions, when one party shall be of the Hindoo and the other of the Mahomedan persuasion, or where one or more of the parties to the suit shall not be either of the Mahomedan or Hindoo persuasions, the laws of those religions shall not be permitted to operate to deprive such party or parties of any property to which, but for the operation of such laws, they would have been entitled:" and whereas it is expedient to extend the principle of that enactment throughout the territories subject to the government of the East India Company, it is enacted as follows:—

1. So much of any law or usage now in force within the territories subject to the government of the East India Company as inflicts on any person forfeiture of rights or property, by reason of his or her renouncing, or having been excluded from, the communion of any religion, shall cease to be enforced as law in the courts of the East India Company and in the courts established by Royal Charter within the said territories.

Ordered, That the draft now read be published for general information.

Ordered, That the said draft be re-considered at the first meeting of the Legislative Council of India after the 26th day of January 1850.

(signed) *Fred. Jas. Halliday,*
Secretary to the Government of India.

— No. 22. —

(No. 610.)
From *W. Grey*, Esq., Under Secretary to the Government of India, to Under Secretary to the Government of Bengal (No. 727), Secretaries to the Government of Fort St. George and Bombay (No. 728), and Officiating Assistant Secretary to the Government of the North Western Provinces (No. 729); dated 26 October 1849.

No. 69.

Sir,

I AM directed to forward, for submission to the ———, the accompanying draft Act "for extending the principle of section 9, Regulation VII. of 1832, of the Bengal Code, throughout the territories subject to the government of the East India Company," read in Council for the first time on this date, and published for general information, and to request that ——— will favour the Supreme Government with any observations or suggestions on its provisions which may appear to be necessary.

I have, &c.

(signed) *W. Grey,*

Fort William,
26 October 1849.

Secretary to the Government of India.

— No. 23. —

(No. 4110 of 1849.)

No. 70.

From *R. Thornton*, Esq., Secretary to the Government of the North Western Provinces, to *F. J. Halliday*, Esq., Secretary to the Government of India; Home Department, Fort William; dated Head Quarters, 18 December 1849.

Sir,

Judicial Department.

I AM directed to forward the accompanying copy of a letter from the register Sudder Dewanny Adawlut, North Western Provinces, dated 27th ultimo (No. 1564), and to state that the Honourable the Lieutenant-governor concurs in the opinion expressed by the Court on the draft Act "for extending the principle of section 9, Regulation VII. of 1832, of the Bengal Code, throughout the territories subject to the government of the East India Company," received with Mr. Under Secretary Grey's letter (No. 729), dated the 26th October last.

I have, &c.

(signed) *R. Thornton*,
Secretary to Government, N. W. P.

Head Quarters,
18 December 1849.

— No. 24. —

(No. 1 in No. 4110 of 1849. No. 1564 of 1849.)

No. 71.
Enclosure.

From *G. F. Edmonstone*, Esq., Register Sudder Dewanny Adawlut, North Western Provinces, Agra, to *John Thornton*, Esq., Secretary to the Government, North Western Provinces; dated Agra, 27 November 1849.

Sir,

Sudder Dewanny Adawlut, North Western Provinces.

I AM directed to acknowledge the receipt of the assistant secretary's letter, No. 3729, dated 14th instant, with a draft Act, "for extending the principle of section 9, Regulation VII. of 1832, of the Bengal Code," upon which the Court's opinion is required.

Present:—*A. W. Begbie*, *H. Lushington*, and *F. H. Robinson*, Esqrs.,
Officiating Judges.

2. The Court presuming that the proposed Act is intended for the protection of native converts from loss of property in other parts of the "territories subject to the government of the East India Company" than the North Western Provinces, by the extension to them of a law already current in the latter, see no necessity of troubling the Government with any observations upon the draft; its provisions are, in their opinion, sufficient to secure the object supposed to be in view.

I have, &c.

(signed) *G. F. Edmonstone*,
Register.

Agra, 27 November 1849.

(True copy.)

(signed) *R. Thornton*,
Secretary to Government, N. W. P.

— No. 25. —

(No. 124 of 1849.)

No. 72.

No. 5293.

From *J. G. Lumsden*, Esq., Secretary to the Government of Bombay, to *F. J. Halliday*, Esq., Secretary to the Government of India, dated Bombay Castle, 18 December 1849.

Sir,

Judicial Department.

I AM directed to acknowledge the receipt of Mr. Under Secretary Grey's letter, dated the 26th October last, No. 729, extending the principle of section 9 of the Bengal Code, throughout the territories subject to the government of the East India Company.

2. In

2. In reply, I am desired to transmit, for submission to the Honourable the President in Council, the accompanying copy of a letter from the register of the Sudder Adawlut, dated the 29th ultimo, No. 3273, from which his Honor will perceive that the judges of that court consider the proposed Act a most judicious one, an opinion in which the Right honourable the Governor in Council concurs.

I have, &c.

(signed) *J. G. Lumsden*,
Secretary to Government.

Bombay Castle,
18 December 1849.

— No. 26. —

(No. 3273 of 1849.)

From *M. Larken*, Esq., Register, to *J. G. Lumsden*, Esq., Secretary to Government; dated Bombay, 29 November 1849.

No. 73.
Enclosure.

Sir,

In acknowledging Mr. Deputy Secretary Erskine's letter, No. 4772, dated 22d instant, I am directed by the judges of the Sudder Adawlut to state, for the information of the Right honourable the Governor in Council, that the draft Act for extending the principle of section 9, Regulation VII. of 1832, of the Bengal Code, throughout the territories subject to the government of the East India Company, appears to be a most judicious one.

Judicial Department.

Present:—*A. Bell*, *J. Warden*, *P. W. Le Geyt*, and *G. Grant*, Esqrs.

I have, &c.

(signed) *M. Larken*,
Register.

Bombay Sudder Adawlut,
29 November 1849.

(True copy.)

(signed) *J. G. Lumsden*,
Secretary to Government.

— No. 27. —

(No. 2155.)

From *J. W. Dalrymple*, Esq., Under Secretary to the Government of Bengal, to *W. Grey*, Esq., Under Secretary to the Government of India, Home Department; dated Fort William, 31 December 1849.

No. 74.

Sir,

With reference to your letter, No. 610, of the 26th October last, forwarding a draft Act "for extending the principle of section 9, Regulation VII., 1832, of the Bengal Code, throughout the territories subject to the government of the East India Company," I am directed by the Deputy Governor of Bengal to forward, for the information of the Government of India, the accompanying copy of a letter from the register of the Sudder Court, No. 1846, of the 21st instant.

Judicial.

I have, &c.

(signed) *J. W. Dalrymple*,
Under Secretary to the Government of Bengal.

Fort William,
31 December 1849.

— No. 28. —

(No. 1846.)

No. 75. From *B. J. Colvin*, Esq., Register of the Sudder Dewanny Adawlut, to *J. P. Grant*, Esq., Secretary to the Government of Bengal; dated Fort William, 21 December 1849.
Enclosure.

Sir,

Sudder Dewanny Adawlut.

Present:—Sir R. Barlow, Bart., W. B. Jackson, and J. R. Colvin, Esqrs, Judges; and J. Dunbar, Esq. Officiating Judge.

I AM directed by the Court to acknowledge the receipt of the Under Secretary's letter, No. 1827, dated 7th ultimo, forwarding, for their observations, the draft of an Act for extending the principle of section 9, Regulation VII., 1832, of the Bengal Code, throughout the territories subject to the Government of the East India Company.

2. The Court think that it may deserve consideration whether the words, "or may be held in any manner to impair or affect any claim of inheritance," may not with advantage be introduced in section 1, after the words, "forfeiture of rights, or property." Their reason is, that recently it was incidentally argued before them, without however being judicially affirmed or overruled, that a claimant as heir to a Hindoo could have no title to inherit, unless qualified for the performance of certain exequial ceremonies, since inheritance is a right accruing only in consequence of benefit conferred by the heir through the means of such ceremonies on the soul of a deceased. Consistently with this argument, it might be urged that a provision against forfeiture of rights could have no effect where the rights themselves could not be created.

3. The Court by no means desire to be understood as intimating assent to this interpretation of the Hindoo law. Inheritance, it may, on the other hand, be contended, is strictly to be regarded as a substantive right among the Hindoos, and not one dependent upon the performance of any particular religious rites, though such performance may be declared as a duty attaching to an heir. As illustrative of this subject, reference may be made to Macnaghten's Hindoo Law, vol. i. p. 36, and to the note at foot of page 22, vol. i. of the Sudder Dewanny Reports. The note (doubtless by Mr. H. Colebrooke) is however certainly not conclusive; for although denying that the mere act of celebrating the funeral rites gives a title to the succession, it does not declare that the succession can devolve upon any one not performing them. There is, undoubtedly, upon dicta of the Hindoo law books,* much room for argument on the point, and it is not one upon which the Court is aware that there has been any distinct judicial decision. Perhaps, upon all these circumstances, it may be thought well to prevent doubt or agitation in respect to it, by some such modification as has been referred to of the terms of the new law.

Mr. Dick, at present absent on leave, has recorded his opinion of the draft Act in a note, copy of which is herewith sent.

I have, &c.

(signed) *B. J. Colvin*,
Register.

Mr. Dick's Note.

THIS Act differs essentially in principle from Regulation VII., 1832, section 9. That did not in any way interfere with the religion of the Hindoos; this does. The law of inheritance of Hindoos is founded on their religion.

15 November 1849.

(signed) *A. Dick*.

(True copy.)

(signed)

B. J. Colvin, Register.

(True copies.)

(signed)

Under Secy

J. W. Dalrymple,
to the Government of Bengal.

* See Dayabkaga, cap. V, sec. 6. "Since therefore he is named Putra by the Self-exi

is father from the hell called 'Put'

— No. 29. —

(No. 76.)

From *T. Pycroft*, Esq., Acting Secretary to Government, Fort St. George, to *F. J. Halliday*, Esq., Secretary to the Government of India; dated Fort St. George, 30 January 1850.

No. 76.

Sir,

Para. 1. I AM directed by the Right honourable the Governor in Council to acknowledge the receipt of Mr. Grey's letter, dated 26th October 1849, No. 727, accompanied by a draft Act "for extending the principle of section 9, Regulation VII. of 1832, of the Bengal Code, throughout the territories subject to the government of the East India Company."

Judicial Department.

2. A reference having been made to the judges of the Sudder Adawlut and to the Advocate-general on the subject of the proposed enactment, I am desired to transmit copies of the answers received from those authorities.

3. I am directed at the same time to state, that the Right honourable the Governor in Council considers it highly desirable to extend the principle of the enactment referred to, which has been so long in force in Bengal, throughout the territories subject to the government of the East India Company, and does not apprehend that there will be any greater difficulty in administering the proposed law in the territories under this government than has been experienced in Bengal, at least within the jurisdiction of the Company's courts.

I have, &c.

Fort St. George,
30 Jan. 1850.

(signed) *T. Pycroft*,
Acting Secretary to Government.

— No. 30. —

From *George Norton*, Esq., Advocate-General, to Acting Secretary to Government in the Judicial Department; dated Fort St. George, 26 January 1850.

No. 77.
Enclosure.

Sir,

I HAVE the honour to acknowledge the receipt of an extract from minutes of consultation, No. 776, dated 27th November last, referring for any observations or suggestions which may occur to me a proposed Act for extending the principle of section 9, Regulation VII. of 1832, of the Bengal Code, throughout British India.

The only remark I would venture to submit is, that the Act appears to me too general in its terms for a guide in ascertaining how rights are affected thereby, and that provisions appear to me to be requisite according to particular circumstances. I would illustrate this by reference to such rights which an unconverted Hindoo might have in pagodas and pagoda property, and the management thereof, or in property appropriated in various ways to religious or family worship. If upon his change of religion he is not to forfeit any such rights, it is difficult to say how he is to maintain or enjoy them. Many other considerations appear to me to arise out of the rights, according to Hindoo law of ancestral and other property held in coparcenary, or the bearings of claims for a division thereof, which rights and claims will become very uncertain under the very general terms of the proposed Act.

I return the draft Act herewith.

(signed)

George Norton,
Advocate-General.

Fort St. George, 26 January 1850.

(A true copy.)

(signed)

T. Pycroft,
Acting Secretary to Government.

—No. 31.—

No. 78.
Enclosure.

(No. 156.)

From *G. T. Beauchamp*, Esq., Register to the Court of Sudder Adawlut, to
W. H. Bayley, Esq., Acting Secretary to Government in the Judicial Department; dated Madras, 18 December 1849.

Sir,

WITH reference to the order of Government of the 27th of November 1849, No. 776, forwarding for the opinion of the Court the draft of an Act "for extending the principle of section 9, Regulation VII. of 1832 of the Bengal Code, throughout the territories subject to the government of the East India Company," I am directed by the judges of the Sudder Adawlut to state that they have no observations to make upon the provisions of the proposed Act.

(signed) *G. T. Beauchamp*,
Register.

Sudder Adawlut Register's Office,
18 December 1849.

(A true copy.)

(signed) *T. Pycroft*,
Acting Secretary to Government.

—No. 32.—

No. 79.

From *Raja Radhakant Bahadur* and others, to *W. Grey*, Esq., Officiating Secretary to the Government of India; dated 25 January 1850.

Sir,

WE have the honour, on behalf of the Hindoo inhabitants of Bengal, Behar, and Orissa, to wait upon you with the accompanying memorial against the proposed Act for altering the Hindoo law of inheritance, which we respectfully beg you will submit for the favourable consideration of his Honor the President in Council in the Legislative Department, and in doing so we entertain a confident hope that our prayer, as therein set forth, will receive that consideration which the importance of the subject deserves.

We beg also to forward four printed copies of the memorial, which you will be pleased to lay before his Honor in Council for ready reference.

We have, &c.
(signed) *Radhakant Raja Bahadur.* *Rammanauth Tagore.*
Raja Kalikrishna Bahadur. *Horeemohun, Sen.*
Aushootos Day. *Kusiprasad Paul.*

Calcutta, 25 January 1850.

—No. 33.—

THE MEMORIAL of the Hindoo Inhabitants of *Bengal, Behar, and Orissa*, to the Governor-general of India in Council, against the proposed Act for Altering the Hindoo Law of Inheritance.

To the Most Noble *James Marquis Dalhousie*, Governor-General of India in Council.

The Memorial of the undersigned Hindoo Inhabitants of *Bengal, Behar, and Orissa*,

Respectfully sheweth,

THAT your memorialists have perused in the Government Notifications published from the "Gazette" of the 31st of October 1849, the draft of a proposed Act which was read in Council for the first time on the 26th of the said month of October, entitled "An Act for extending the principle of section 9, Regulation

tion VII., 1832, of the Bengal Code, throughout the territories subject to the Government of the East India Company," and finding that such proposed Act materially infringes upon a portion of the Hindoo law, which they have hitherto enjoyed uninterruptedly since the government was administered by those to whom it has been entrusted by the Crown and Parliament of Great Britain as a part of the British territories, your memorialists, as loyal subjects of that Crown, beg leave respectfully to represent the pain and distress with which they have read the proposed Act, as the first inroad upon the integrity of those laws of which they have hitherto, since the country has been under the protection and Government of Great Britain, felt secure.

In common with mankind in general, they naturally entertain that attachment to their laws and usages which the inhabitants of every country feel to those rules, rights, laws, and privileges in which they have been brought up; but the law of property with Hindoos is so blended with their religion—with their belief and hopes of happiness hereafter—and the present enjoyment of their domestic peace and social comfort, that it has filled with alarm the minds of your memorialists, and they are persuaded those of every sincere believer in those tenets, which, however they may be looked down upon by other sects, are most sincerely cherished by all faithful and sincere Hindoos as sacred truths. Your memorialists would be wanting in integrity to themselves, their posterity, and the ancient faith of their fathers, which has withstood so many years of conquest and aggression, whether their conquerors have been Mahomedan or Christian, if they did not avail themselves of that right, which the milder and more just sway of Great Britain enables them to exercise without offence or fear, of entering their most solemn protest, which they hereby do, against that Act which the local legislature, composed alone of British Christians, propose to force upon the great mass of British subjects in India with whom the legislative authorities differ in creed.

Your memorialists have used the term "first inroad upon the integrity of their laws" advisedly. They are aware that the Act speciously pretends to be a mere extension to the whole of British India of a regulation of the Government of Bengal passed in 1832, and apparently therefore only of an existing law of some years' standing. That such a clause as is mentioned in the proposed Act was contained in the Regulation of 1832 is beyond dispute, but your memorialists conscientiously affirm, that until reference was made to it in the correspondence that arose out of another proposed Act (commonly called the *Lex Loci* Act) in 1845, your memorialists were almost universally ignorant that such a clause was contained in the Regulation in question, and those few who were aware of its existence never imagined that it would receive the interpretation which is now given to it; it is entitled "a Regulation for modifying certain of the provisions of Regulation V., 1831, and for providing supplementary rules to that enactment." Turning to the last-mentioned Regulation, your memorialists find it a "Regulation for extending the powers of Moonsiffs and Sudder Ameen in the trial of Civil Suits," and other similar objects. As far as the title is concerned, there is nothing whatever to point the attention of any party to its being connected with, nor does the Regulation in the body of it introduce any alteration in the known law of the country, whether Hindoo, Mahomedan, or British; when to this is superadded the consideration of there being at that time no authorized public announcement of any Regulation whatever, it can hardly be a matter of surprise if the great bulk of the population were in utter ignorance that so secret an attack had been made upon what they considered the law under which they lived. And how, your memorialists would ask, has this law (now to be extended to British India) ever been brought practically to the notice of those whom it is supposed to affect? Your memorialists, since the publication of the notification of the present proposed Act, have made inquiries to ascertain whether section 9, Regulation VII. of 1832, has ever had in one instance a practical application, so far as the inheritance of the Hindoo law might be affected in the case of any Hindoo being converted to any other religion. Your memorialists would respectfully observe, that the direct meaning of that clause is most obscure, at least to their comprehension; and they trust they may be allowed to express a doubt whether such an interpretation as was given to it by those who framed the proposed *Lex Loci* Act in 1845, would ever have struck any Hindoo whose attention had not been directly turned to it in some judicial proceeding.

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Your memorialists have been unable to discover one single instance, in the course of the 17 years during which it is supposed to have been the law of the land, in which it has been acted upon by any superior court in such case; and hence the people were ignorant that such law existed, and could not have, and had not, any power or reason to complain of the Regulation. This may be brought forward as a proof of how little its being made the law of India would contribute to the injury of the Hindoo population or religion. But your memorialists presume that it is unnecessary to meet such argument (if it should be advanced) further than by the observation that the passing of a Legislative Act, which offends the (so to call them) prejudices of the great bulk of the population, would hardly be a wise proceeding in Government, merely because it was likely to be inoperative and a dead letter. The measure now proposed was intended to have been introduced in 1845 in the East India Company's courts in India, by an Act commonly designated as the *Lex Loci* Act, read in Council on the 29th of January in that year, of which clauses 9, 10, 11, 12, and 13 had that object. The 12th clause was explicit on the subject, and shortly and clearly provided "that so much of the Hindoo and Mahomedan law as inflicts forfeiture of rights or property upon any party renouncing, or who has been excluded from the communion of either of those religions, shall cease to be enforced as law in the courts of the East India Company." This did not affect Her Majesty's courts in India, or the law to be administered by them under 21 Geo. 3, c. 70, ss. 17, 18, although it proposed to repeal, as to the courts of the East India Company, the law which Her Majesty's courts were bound to enforce.

The Hindoo inhabitants of India, as well in the Madras as the Bengal presidency, presented memorials against the provisions contained in the above clauses of the proposed Act, "as a violation of their religious rites, prejudices, and usages," and opposed to the solemn assurances contained in the Act of the British Parliament 21 Geo. 3, c. 70, ss. 17 and 18, and to the various Regulations and Proclamations of the local Government prior to and from the period of the Regulation of 1793.

The memorialists on that occasion were replied to by a letter from Mr. Secretary Bushby, on the part of the Government. In that letter it was denied that there was any pledge on the part of Government to the effect stated above, and the memorialists were told that they laboured under considerable misapprehension as to the principles which guided the Government in legislating for the native inhabitants of India. They were told that the principle which guided the Government of India was, that all the religions professed by any of its subjects should be equally tolerated and protected, not by reason of any engagement it had come under, the existence of which was, as above mentioned, denied; and it was assumed that if a Hindoo became a Christian or a Mahomedan, it was just and right that he should be protected against any loss of property on account of the profession or exercise of the religion adopted. Mr. Bushby in such official reply observed, that the memorialists must be aware that the Mahomedan law did not permit a Mahomedan converted from the Hindoo religion to be deprived of any property, or subjected to any disadvantage, in consequence of his conversion; and that when the Hindoos became by conquest the subjects of a Mahomedan prince, they were deprived of their own law of inheritance if they entered the courts of justice, and compelled to submit to the Mahomedan law; from which injustice they had been delivered by the British Government, and are now protected in the enjoyment of their own laws of inheritance, which the Government would not suffer them to force upon persons who have chosen to quit the Hindoo community. Mr. Bushby further observed, that the British Government having delivered the Hindoos from this Mahomedan oppression (of which he gave an illustration from a remonstrance of the Naib Dewan of Bengal, addressed to the Council of Revenue, 1772), in the same spirit of justice and impartiality enacted the 9th section of the Regulation VII. of 1832, to prevent that law of inheritance from being converted into an instrument of oppression against those who have ceased to be Hindoos. He remarked, that that law had been the law of Bengal since the year 1832, and had never been complained of as being oppressive; and in the same spirit the Government were about to extend that principle to the whole of the British Indian empire. His letter also contains a reference to the Charter Act, 3 & 4 Will. 4, c. 85, and an argument upon the power of the Legislative Government to alter the law (which is unnecessary for the present object of your memorialists further to notice); and after

replying

replying to an observation which the then memorialists had made, that they could not but fear that the attempted innovation was only the prelude to others, by observing that the principles of legislation stated in that letter ought to satisfy the parties addressed that the apprehensions expressed were groundless, and that the Government were determined to preserve to the two great classes of its native subjects the rules under which they had lived, and to which they were attached, when those rules were not injurious to other classes; and stating that the clauses objected to would be placed in a separate Act, finally concluded with the remark, that although the Government were always desirous that the classes to be affected by its legislative measures should freely express their opinions upon the drafts which it published, it was a source of deep regret to the Governor-general in Council, that at a period when public opinion among a great part of the Hindoos had become in a high degree tolerant and enlightened, a memorial founded upon doctrines of so opposite a nature should have been presented. Such was the substance of Mr. Secretary Bushby's official reply to the memorialists of 1845, after which the *Lex Loci* Act was no more heard of, and fell to the ground, with the obnoxious clauses objected to by the Hindoos, until the appearance of the Government notification of the Act now proposed to be passed, against which your memorialists present this their respectful but fervent protest. They have set forth the substance of the letter of Mr. Bushby, not merely because they believe it to embody the views and impressions of Government in proposing to introduce this alteration in the Hindoo law, but more especially because, however much the memorialists of that day might labour under misapprehension of the principles which guide the Government of India in legislating for the native inhabitants of India, it appears to your memorialists that it could not be in a greater degree than Mr. Bushby in his letter misapprehends the nature and grounds upon which the Hindoo population object to this, as they objected to the former, proposed alteration in their ancient laws, and this attack upon their religious usages and social habits. Your memorialists beg leave respectfully to deny that they are, or that the Hindoo religion is, intolerant. It is consequent on the nature of their religion that Hindoos should be tolerant. They seek not to interfere with any religion whatever. They do not seek proselytes; they do not accept them. No man can belong to their religion who was not born in it. Christians and Mahomedans are both proselyting religions: a Hindoo may become a Christian or a Mahomedan; neither Christian nor Mahomedan, nor the followers of any other religion whatever, can ever become a Hindoo. The Hindoo seeks but to keep his own, according to the tenets of his religion. He persecutes no one for differing in opinion with him, where he has the power to persecute. Where is the utility, what the object of persecution, where you seek not to convert? He neither despises nor dislikes any man because he is of a different creed, but his law indisputably says, and has from the earliest period of its history (a period of very remote antiquity), to every Hindoo, "If you quit your father's religion you must quit your father's property; for you are thereby absolutely disqualified from performing those duties which attach to its inheritance. You are civilly dead, and the property which you inherited from your father must go to your father's nearest heir capable of fulfilling those duties for which the Hindoo law gave it to you, to ensure his and his ancestor's eternal bliss in that future world to which we all journey."

Your memorialists entreat your Lordship's patient consideration of the principles upon which their laws of inheritance rest; and they venture to say, that whatever opinion the Legislative Council may form on the general question, they will see a marked distinction between the intolerance of the Mahomedan and Hindoo. According to the Mahomedan law, not only a person of a different religion cannot inherit from a Mahomedan, but an apostate (in the ancient strictness of it), unless he returned to the faith in four days, might be put to death, and all his property was confiscated. This merely because he changed his faith, not because he was incapacitated thereby to perform the duties which attached to the property.

Amongst Hindoos, one of that faith who abandons his religion loses the property he derived from his ancestor, because he can no longer perform the duty which alone entitled him to receive it. If a Hindoo had self-acquired property from trade, or otherwise, and were to turn Mahomedan or Christian, he would incur no forfeiture of his self-acquired property. His family and Hindoo friends

would be unable longer to associate or eat with him without becoming outcasts, but in no other way would he be persecuted. Your memorialists believe that the Hindoo religion in its tolerance would shine in comparison with that system which prevailed and was pursued by the dominant power in England and Ireland from an early period of the reign of William the Third until a very late period, as between Protestant and Papist, whether with reference to inheritance of lands or in other respects. But be that as it may, neither the Mahomedan nor Christian is mixed up with his religion as to his property in the same manner that a Hindoo is. Whether a Mahomedan turns Christian, or a Christian turns Mahomedan, the property either enjoys can still be employed equally well according to the notion of the religion left or the religion adopted. Not so with the Hindoo. In the first description of inheritance, amongst Sapindas, or near kinsmen, the right of succession depends exclusively upon the right to present the funeral oblations. It is by virtue of such last act, which can only be performed by a Hindoo, that sons and near kinsmen take the property, because according to the belief of Hindoos, it is by such acts that the father's spiritual bliss, and that of his ancestors to the remotest degree, is secured, and by the tenets of the Hindoo religion an apostate from that faith cannot perform the obsequies. It would be a desecration of the rite, an abomination which would, according to their belief, work for evil, not for good. The same principle pervades the whole law of Hindoo inheritance, whether the succession be near or distant. Again, as it is the belief of Hindoos that their future bliss is in no way so well secured as by male issue, who inheriting or taking their property, may perform with it those Hindoo rites which their religion enjoins, that adoption of a son is a common practice amongst Hindoos, enjoined by their Shastres. If not strictly enjoined as necessary in all cases, it is highly sanctioned by the sages of their law as a substitute for sons of the body, "for the sake of preventing a failure of obsequies." "A son should be anxiously adopted by one who has no male issue, for the sake of the funeral cake, water, and solemn rites." This is from a text of one of our revered propounders of our law. Amongst these rites, besides the funeral obsequies, it is said "a son will perform obsequies at Gaya, will make sacrifices and consecrate pools. He will daily offer the Sraddha after my decease." It is thus Hindoos believe that "through a son, a son's son, and the son of a grandson, the father or ancestor obtains bliss in other worlds, immortality and heaven." Should the adopted turn Christian or Mahomedan, should he cease to be a Hindoo, he would be incapable of performing those rites which formed the sole motive for such act of the adopting father, by which his property was diverted from his next heirs, and if his property upon the apostacy of the adopted son is not to revert, according to the existing Hindoo law, to his next heirs, who by the Hindoo law must perform his obsequies, though in their opinion with diminished efficacy, his whole object is defeated, and the apostate will receive the property by this new Act without the possibility of performing the condition, or fulfilling the object, with which it was given to him, as it is said in the Daya Bhaga. "His (son's) connexion with the property is therefore the reward of his beneficial acts. If then he neglect them, how should he have his hire?" Thus the adoption, in the opinion of Hindoos, would in that case entail a curse instead of conferring a blessing. In other respects the proposed law will be equally repugnant to the Hindoo religion. There are few Hindoos of property who do not possess, and few who make a will, who do not devote a portion of the property which they leave to the establishment of Hindoo temples sacred to some or other of their family deities. There are none who do not possess, and are not bound by the most sacred precepts of their religion to maintain and uphold the worship of their family deities established by their ancestors, and which are to be seen in the house of the poorest Hindoo. Every son is equally bound to contribute according to the means which he derives from his ancestors, or acquires himself, to the support of the family deities. Many shrines are largely endowed by the liberality and piety of deceased Hindoos with considerable property, which is vested in the deity, the object of consecration, through the medium of the donor's sons and descendants. It is one of the means by which the sons and descendants are enabled to perform those rites by which the salvation of their fathers and other ancestors is secured, and whereby as Hindoos they believe that immortality and heaven are attained. It is obvious that none but Hindoos can perform this. When, after the death of the father, partition and division may take place—temples, and property devoted to their maintenance, and idols, through whatever number of generations

generations transmitted, property of this kind cannot be divided—nor can property consecrated to religious purposes according to Hindoo law. Upon partition amongst several sons taking place amongst Hindoos, each son has his pullah, or turn of worship, in the family idols, the temples, and the property devoted to their maintenance. The Christian or Mahomedan convert would look with contempt upon the idols, which had been the objects through which he had, previous to his conversion, addressed his devotions to the incarnations of the Deity; which would still remain the most sacred objects of the domestic reverence and devotion of the others. If entrusted to such convert, he would destroy them, under the instigation of the priests or mollahs whom he followed, and divert the revenues devoted to the support of the temple to his own immediate benefit, or in some way foreign to the religion which he deserted, to the horror and distress of his brethren, whose duty it is to see their father's obsequies and religious rites performed according to the principles and precepts of their creed. The foregoing are (amongst many) a few instances in which your memorialists conceive the proposed Act, if passed, by altering the law of the Hindoos, will most materially and grievously interfere with their religion. To enlarge further, and to produce other instances is unnecessary, and they fear your Lordship will be of opinion that they have been already too diffuse upon the point.

With their social customs, habits, and mode of living, the proposed law, if enacted, would equally interfere and occasion perpetual heats and angry quarrels between Hindoos and converts from its religion of the same family. Your memorialists have already observed that no Hindoo would continue to associate in any way with a converted brother or relative. To eat or consort with him in any way would necessarily create a loss of caste in those who remained true to the religion of their ancestors. Not only from this cause, but from his inability to approach the shrine of the family worship without polluting it, immediate separation would be necessary. But if the proposed law were to become a portion of the law to which the Hindoos were compelled to submit, he would remain entitled to his equal share of the house and shrine and property, whether merely secular or religious. His entrance to the temple, whether for the purpose of removing the idols, or insulting the religion of his forefathers, could not be resisted without incurring the risk of committing a trespass. It would be the only alternative—trespass, or submit to desecration of all which sincere Hindoos hold sacred and revere. On this point your memorialists feel there is no necessity to enlarge.

These are the chief reasons which induce your memorialists to enter their solemn protest on behalf of themselves and brother Hindoos in every part of India against the proposed Act, as an encroachment on the integrity of those laws under which the Hindoos have hitherto lived, at any rate from the period under which they have been subject to the rule of the Crown of Great Britain.

They respectfully submit that they are not intolerant, because they consider the proposed law inconsistent with the due exercise of their religion. Exclusive their religion may be; they do not deny that it is of the essence of their religion to be so. They admit no others within it, for a person professing another religion cannot perform the duties incumbent upon them. Considering their ancestors to retain a perpetual interest in that which they possessed in their life, they hold that any one who ceases to be able, whether by his apostacy from it or otherwise, to perform those sacred trusts clothed with which they took it, ceases to have any interest in it. But they tolerate all other religions; they persecute none, and wish to persecute none. They do not seek or wish to persecute, or to punish those who leave it; nor do they wish to deprive them of any self-acquired property, or of any political rights, as is the case with Mahomedans and various other religions, even with the Protestant religion in England towards the Roman-catholics, until a very late period. What they have ventured to state at some length of the peculiar bearing and connexion of their religion, as coupled with and influencing and controlling their law, seems wholly unknown to, or never considered by Mr. Bushby, or those who dictated his letter; but all is put down to a spirit of illiberality, of fanaticism, and intolerance, quite foreign to their real sentiments, which has constrained them to go into details, which, with every endeavour to shorten, they feel are inconveniently long for a memorial. Your memorialists do not enter into the question whether there was originally an engagement on behalf of the Government of the East India Company with the Hindoos and Mahomedans in India, that each of those great classes should enjoy their

their distinctive laws: probably it would be difficult to put a finger on that treaty which could establish such a specific agreement. The acquisition of India on behalf of the Crown of Great Britain was too gradual to allow of the existence of such formal treaty. It is sufficient to say that the Hindoos and Mahomedan persuasions have enjoyed their respective laws from the growing establishment of the now wide-spread British power in India, from the time of the first commencement of its growth. The Act 21 Geo. 3, c. 70, enacted it, not as a new privilege conferred at that time, but recognising it as the existing law of the country throughout the government administered by the East India Company. The proclamations, the Regulations (in 1793) of Lord Cornwallis (one of the ablest Governors-general which England has sent to sway the destinies of this country, whose earnest endeavours were bent on giving a consolidated code of laws suited to the inhabitants of the territories placed under his command,) proceed upon the acknowledged principle of such being the existing law of India; and whilst Mr. Bushby in his letter studiously and reiteratingly denies any engagement upon the part of Government, he admits and states that such is the law which the Hindoos enjoy, and "reminds" the Hindoos that they were delivered from the application of the Mahomedan law by the British Government. There can be little gained by establishing the disputed fact that the law of the land originated in any engagement of Government. The Act 21 Geo. 3, c. 70, which, while it recognised it, enacted that such should be the law administered, was passed by a power to which the Government of India and the governed were alike subject. The power of the local legislature, if it exist, to abrogate any portion of so important an Act of the British Parliament (and that within a short period of the expiration of the Charter), your memorialists respectfully submit ought not to be lightly exercised, where the object is opposed to the feelings and religious prejudices of a large portion of the native subjects of Great Britain.

That the Hindoos were delivered from much practical oppression of the Mahomedans when the British power gained the ascendant, your memorialists readily admit, and gratefully acknowledge; but they would respectfully suggest that, whilst the fact is indisputable that much of the British supremacy has been gained by the intelligence, the industry, the wealth, and attachment of the Hindoos of Bengal, who have ever preferred the milder British rule to that of their former conquerors, it may be very much doubted whether Mr. Bushby's letter is correct in the representation of the state of the Hindoos under the Mahomedan rule; nor if it were, would it be a strong ground whereon to rest any claim upon the Hindoos for continuing gratitude, that after 92 years which have passed since the capture of Calcutta, during which time they have enjoyed their own laws in their original integrity, freed from the tyranny of Mahomedan law as affecting their inheritance, they are now, when the British power is supposed to be more firmly consolidated, to find that a law is to be passed by the British local legislature, which will deprive them of any more protection of their laws, on which their religion rests, than they enjoyed under the Mahomedan rule. But your memorialists beg permission to dispute Mr. Bushby's position. The very letter from which he draws his illustration of the severity of Mahomedan law proves, by the admission of the Naib Dewan, that "where a dispute could be decided by a reference to the Brahmins, no interruption was ever given to that mode of decision;" and it is notorious that the Hindoos were not as a body subject to persecution by the Mahomedans, although their criminal and police law was made the general law of the countries under their rule: but your memorialists believe it to be a fact, as stated by one of the most distinguished of modern commentators, in writing on the law of nations, and the universal practice of all nations of any civilization, from the time of the Romans, to leave to the inhabitants of conquered countries their domestic law, that "the Mahomedan conquerors of Hindoostan introduced their own law so far only as it affected the followers of Mahomet, leaving the conquered Hindoos to enjoy their own laws as amongst themselves." If this be so, as your memorialists believe it is, it is clear that the Hindoos enjoyed as much of their own laws under the Mahomedans as the Legislative Council now propose to leave to them, even if Mr. Bushby's statement be correct. Your memorialists doubt, however, whether by the Mahomedan law any Mahomedan convert ever obtained in the Mahomedan courts in India a decree for any ancestral property of which he was a part owner with other Hindoos, from whose tenets he seceded. Many acts of

tyranny and oppression were irregularly committed by powerful Mahomedans against Hindoos; but your memorialists are not aware of any such recorded case; and on the contrary, your memorialists know of some recorded decisions of the Mahomedan court of Lucknow, that show no such rigid rule prevailed under that Mahomedan government. Nor can your memorialists perceive how the maintenance of their own law of inheritance in the case of a person who has "chosen to quit the Hindoo community," is a forcing upon him of the Hindoo laws of inheritance; by his own choice he ceases to be a Hindoo. At that moment he ceases to have any continuing claim upon the inheritance to which, as a Hindoo, he was previously entitled, if he performed the trusts with which he took it. What, your memorialists would ask, is the law which he is to acquire in its place? A British subject is entitled, whether Protestant or Catholic, to the law of primogeniture. If the eldest son of a Hindoo should be converted to Christianity, would he thereby, would his posterity, acquire a right of property to the whole real property of his Hindoo father? He would have as much natural right to the whole, as he would to retain his proportion as a Hindoo when he had ceased to be one, as appears to your memorialists. It may be said, it is not as a Protestant or as a Catholic he takes by the law of primogeniture, which the law of England upholds; it is not by virtue of his religion that he takes by English law. To that it may be answered, it is by virtue of his religion alone that he took as a Hindoo, and by virtue of which alone he can retain it. When he is a Christian, of whatever denomination, he cannot hold the property which he obtained from his Hindoo progenitors. If he becomes a Mahomedan, he would be entitled with every brother to double what each sister becomes entitled to. Would that be his share under the proposed Act if he becomes a Mahomedan? the aggregate of the brothers and sisters of this Mahomedan convert from Hindooism being still held by the remaining brothers. In either case he would take according to a foreign law, and the faithful Hindoos would have the foreign law forced upon them, contrary to their own law, and to the system which has been pursued towards them since they became the subjects of Great Britain, recognised as the law applicable to them by Lord Cornwallis in 1793, as a pre-existing law confirmed to them by the statute of the British Parliament 21 Geo. 3, c. 70, and acknowledged by Mr. Bushby, in his letter to those who represented the Hindoos in 1845, to be the law under which they lived; which he stated they owed to the beneficence of the British Government. If the convert took merely the share to which when a Hindoo capable of performing the duties attached to it, he was entitled, he would take it as that which he was not, and in right of performing duties which he had voluntarily incapacitated himself from performing, and in right of a law which no longer related to him. Your memorialists venture to urge, that if the convert is so satisfied that the religion of his fathers is erroneous, and that his eternal happiness requires him to quit it, it would be a faith hardly worth the cost of deserting that of his fathers for, and abandoning all the duties attached to the property he relinquished, if he was prevented from adopting it by the lingering love he felt for the property apart from its duties. It is understood that the first converts to Christianity were not thus deterred by the fear of abandoning their property, and that property was not saddled with any sacred duties which compelled its renunciation to those who would perform them. It seems also to your memorialists doubtful how far this proposed law would, either with reference to clause 6, Regulation XI. of 1793, or otherwise, interfere with the acknowledged right of Hindoos in Bengal to dispose of the whole of their property, ancestral or self-acquired, by will, to the exclusion of a converted son, or how far such a will would be recognised in the courts of law.

Your memorialists cannot but avow that they entertain the same fears which were felt by the memorialists against the clauses in the proposed *Lex Loci* Act. Your memorialists do look upon this Act as the prelude to other aggressions against their national code, as the first edge of the wedge. They look upon this as the first pioneering effort of the proselyting body in Great Britain, whose crusade has been preparing for more active efforts in a field where hitherto they have met with but few victories against the Hindoos, flattering themselves that the cause of their present victories being almost wholly confined to the lowest and most needy of the Hindoo community, arises from the fear which those who would otherwise be converted entertain of losing any property to which they may be entitled by the Hindoo law; and from an ignorance of those principles

upon which alone conversion, according to the Hindoo law of inheritance, works a forfeiture of property. We may again be assured that it is not so, that our apprehensions are groundless; but your Lordship will permit us to say, that whether amongst your memorialists, or amongst those countless millions of Hindoos who form so large a portion of the population of India, vain will be all assurances which we may receive that no ulterior measures are intended against our religion or our laws. They are so inseparably connected, that one cannot be assailed without the other being affected. It is possible that nothing farther is now intended by your Lordship or the Legislative Council. If this proposed measure originates with the Government of India, they may be able to give that assurance with propriety and truth, but that will not reassure or give any confidence to the native community of Hindoos. The measure, as your memorialists have endeavoured to point out, is so at variance with their religion, will be so destructive, if it should have any operation, of their domestic usages and customs, that it has been viewed by the whole Hindoo population with the utmost horror and dismay. How and in what way it must be met by Hindoos, should it ultimately (after appeal if necessary) pass into a law, your memorialists are not prepared to say. Their present dread of it disables them even to contemplate the necessity which may arise to meet it. Consistently with their religion they cannot; but if the Government were even able to give this assurance, that their fears of further innovation were groundless (inoperative for the above reasons, as it must be if the Act originates with them), it would be the lighted match thrown amidst the inflammable spirit of proselytism in England, and the Government would be unable to quench the flame they had lit. They would be driven (perhaps against their will) by those who are ever on the watch to promote the cause of Christian conversion, to give the cause more direct aid, and bit by bit the Hindoo Code, and consequently the Hindoo religion, would be, if not undermined, the object of indirect persecution. That the Hindoos of Bengal have ever been and are amongst the most loyal of the British subjects in India will not be probably be disputed. They are essentially a peaceable and quiet people, engaged chiefly in commerce and agriculture, and little disposed to turbulence or violence. To meditate even open resistance to a power like that of the British Government would not be more absurd than it would be foreign to the wishes and feelings of Her Majesty's subjects of that persuasion. Your memorialists feel that they need not assure your Lordship that in their opposition to the proposed Act they are actuated by no feelings whatever opposed to the strictest loyalty and attachment to Her Majesty's Government, but your memorialists may be allowed to observe that Hindoos are strongly attached to their religion, and deeply reverence the memory of their ancestors, ancestors whose spiritual welfare they believe entrusted to them as the most sacred duty of their lives; and your memorialists will not conceal that from the moment that the proposed Act becomes a part of the law applicable to Hindoos, that confidence which they have hitherto felt in the paternal character of their British rulers will be most materially shaken. No outbreak, of course, is to be dreaded, but the active spirit of fervent loyalty to their Sovereign, and of pride in their rulers, will be changed into sullen submission to their will, and obedience to their power. The readiness which many of the Hindoo body have exhibited on various occasions to contribute largely and liberally to the objects promoted by the British-born subjects of Her Majesty need not be expected, when they are told in reply to a remonstrance against a law which has for its object to sap the foundations of their religion, and cannot have any operation unless by the destruction of the most sacred and cherished precepts which are enjoined by their Shastres, that they are intolerant, illiberal, and unenlightened.

In conclusion, your memorialists most humbly, but most fervently pray your Lordship and Legislative Council not to pass the proposed Act entitled "An Act for extending the principle of section 9, Regulation VII. of 1832, of the Bengal Code, throughout the territories subject to the East India Company;" and, if the latter Regulation has in Bengal the effect it is supposed to have, to repeal section 9 of that Regulation, as a section subversive of the dearest rights of Hindoos, and passed in so silent and (whether intentional or not) concealed a manner, that it was utterly unknown to, and unsuspected by, the great mass of the Hindoo population, until many years after it was passed.

And your memorialists will ever pray, &c.

— No. 34. —

To Major-General the Honourable Sir *J. H. Littler*, G. C. B., Deputy-Governor in Council of *Bengal*.

No. 81.

The Memorial of the undersigned Native Inhabitants of the Presidency of *Fort St. George*,

Respectfully sheweth,

1. THAT your memorialists having read in the "Fort St. George Gazette" for the 16th November last the draft of an Act for extending the principle of section 9, Regulation VII., 1832, of the Bengal Code, throughout the territories subject to the government of the East India Company, and regarding such an extension as the infraction of the Act of the Imperial Parliament, 21 Geo. 3, c. 70, s. 17, which guarantees to Hindoos their national law of inheritance, and also as a violation of the 53d section of the present Charter Act, under which India is governed, cannot but remonstrate and protest against the said extension as strongly as they did in the year 1845 against the draft of the *Lex Loci*, which was drawn up with the same object.

2. In reply to the remonstrance against the *Lex Loci* of 1845, the memorialists received a letter, dated the 24th May in that year, from the Secretary to the Government of India, combating certain parts of the remonstrance, and assigning reasons, professing to show the right which the Supreme Government possessed to frame the proposed Act. Your memorialists will therefore in the first place analyse such parts of the letter as bear upon the question.

3. Your memorialists had stated that the *Lex Loci* would be a breach of faith on the part of the Indo-British Government, incompatible with the arrangements of former Governments, on which Mr. Secretary Bushby observes:—

"The principle which guides the Government of India is, that all the religions professed by any of its subjects shall be equally tolerated and protected, not on account of any engagement it has come under (for no such engagement exists), but because it is just and right so to act. If the Government were to depart ever so widely from this principle, it could not justly be reproached with breach of faith."

To this over-confident assertion your memorialists adduce, in express contradiction, the proclamation issued by the British Government on taking possession of the dominions of the Nabob of the Carnatic, dated the 31st July 1801, to the following effect:—

"Para 5. Although the Right honourable the Governor in Council trusts that the experience which the inhabitants of the Carnatic have already had will have rendered it unnecessary for his Lordship to explain the general principles of moderation, justice, protection, and security, which form the characteristic features of the British Government, yet his Lordship in accepting the sacred trust transferred to the Company by the present engagements, invites the people of the Carnatic to a ready and cheerful obedience to the authority of the Company, in a confident assurance of enjoying, under the protection of public and defined laws, every just and ascertained civil right, with a free exercise of the religious institutions and domestic usages of their ancestors.

(signed) "*J. Webb*,
Chief Secretary to Government."

4. Your memorialists represent that they have herein the express and sacred guarantee of their just and ascertained civil rights, and the free exercise of the religious institutions and domestic usages; and they assert, without the fear of contradiction, that their law of inheritance is a just and ascertained civil right; that it is part of the religious institutions and domestic customs of their ancestors; and that for the Supreme Government to destroy that law, whether wholly or in part, is both a violation of "the sacred trust transferred to the Company," and a breach of the public faith pledged in the proclamation.

5. The pledge is as clear and distinct as words can make it, and that this pledge was still considered necessary and proper in 1834 and 1849 by the
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Supreme Government, your memorialists prove by the proclamations of that Government, when it assumed a charge of the two latest conquests accruing to the British rule in this country. At the conquest of Coorg, in the year 1834, was issued the following

“Proclamation.

“Whereas it is the unanimous wish of the inhabitants of Coorg to be taken under the protection of the British Government, his Excellency the Right honourable the Governor-general has been pleased to resolve that the territory heretofore governed by Peer Rajender Woodyer shall be transferred to the Honourable Company.

“The inhabitants are hereby assured that they shall not again be subjected to native rule; that their civil rights and religious usages will be respected, and the greatest desire will invariably be shown by the British Government to augment their security, comfort, and happiness.

(signed) “J. Frazer,
Lieut.-Colonel and Political Agent.”
“Camp at Maddarkurn,
7 May 1834.”

And in the proclamation which declares the annexation of the Punjaub, dated the 29th March 1849, the following forms a conspicuous paragraph and pledge:—

“The British Government will leave to all the people, whether Mussulman, Hindoo, or Sikh, the free exercise of their own religions; but it will not permit any man to interfere with the others in the observance of such forms and customs as their respective religions may either enjoin or permit.”

How then, your memorialists would respectfully inquire, can the Government justify its own interference with the Hindoo religion when it stands pledged to prevent the interference of all others?

6. Mr. Bushby next observes:—

“If a Hindoo becomes a Christian, it is just and right that he too should be protected against any loss of property on account of the profession or exercise of the religion he has adopted.”

This is an entire mis-statement of the fact; inasmuch as the convert does not forfeit his title to inheritance because of the new religion he professes, but because he refuses to perform the duties of the old religion he has voluntarily cast off and rejected; he has no right or title to the inheritance of property but what is conferred upon him by the religion which he rejects; and it is his rejection of this religion, not the assumption of another, which then causes the resumption of the title so conferred; and when the Supreme Government says that the Christian shall receive what Hindoo law assigned to the Hindoo, and to the Hindoo only, through he spits in the face of that law, and has disowned it, it breaks down a civil and ascertained right, and arrests the free exercise of those religious institutions and domestic usages, which have existed centuries before there was a Christian in the world.

7. Your memorialists would respectfully ask if this is the Company's principle of toleration, or the principle laid down in the letter from the Court of Directors to the Supreme Government, dated 12th August 1786, para. 85?

“We are actuated in all our ideas concerning the preservation and government of our possessions in India by the necessity of accommodating our views and interests to the subsisting manners and usages of the people, rather than by any abstract theories drawn from other countries as applicable to a different state of things.”

The idea of subverting a portion of the Hindoo law in order to accommodate deserters from it, is an abstract theory drawn from another country, and inapplicable to this, in the case of the Hindoos; and if carried into act, the Company may rest assured that the ill feeling it will generally create will be quite as great as that they dreaded to experience 64 years ago.

8. Mr. Bushby proceeds:—

“When the Hindoos became by conquest the subjects of a Mussulman prince, they

they were deprived of their own law of inheritance if they entered into the courts of justice, and compelled to submit to the Mahomedan law.”

This passage is not strictly true; for in the Asiatic Annual Register for 1799, in a view of the history of India, from the earliest ages to the year 1603 of the Christian era, it is read:—

“Akbar conquered as much for the benefit of the vanquished as for his own aggrandisement. In every province that he subjected to his power he granted to the Hindoos an unlimited toleration in the exercise of their religious worship.”

And again, in the volume for 1801, page 2:—

“In the dominions which he (Akbar) conquered, as well as in those which he held by inheritance, he restored the Hindoos not only to the free exercise of their religion, but to many of their civil rights.”

And at page 5 of the same volume:—

“Litigations between the Hindoos themselves were always referred to the decision of two pundits, who tried and adjudged them according to the ordinances of Hindoo law.”

9. In proof of his incorrect assertion, Mr. Bushby has nothing to produce but the assertion of the Naib Dewan of Moorshedabad, in 1772; which coming from a Mahomedan, and by his religion a hater of Hindoos, is worth nothing, standing by itself; and it is in fact overruled and destroyed by the opinion expressed, in the very report wherein the Dewan's remonstrance appears, by the Committee of Secrecy, whose investigation into the earlier state of India included the remonstrance as well as a great deal more. The committee, in the teeth of the remonstrance, assert, page 2:—

“Causes respecting religion appear to have been distinguished from the ordinary course of judicature; questions of this nature were not trusted to the judgment or discretion of the temporal judges; in every such case, the judge before whom the question depended was obliged to call in the assistance of the cazee of the district, and even to submit to his authority in the decision of the cause; and your committee find that the Gentoo subjects enjoyed a similar privilege with respect to all cases of a religious nature in which persons of that persuasion were parties, for that in every such case it was necessary that the temporal judge should be assisted by a Bramin of the caste, particularly where the cause was of such a nature as might be attended with the consequence of forfeiture of caste.”

And your memorialists conceive that the assertion of the interested dewan is unable to stand comparison with the better and wider scope of knowledge possessed and judged upon by the disinterested Committee of Secrecy; and that Mr. Bushby has made use of improper language when he says that

“The British Government delivered the Hindoos from this oppression, and gave them the free enjoyment of their law of inheritance.”

10. This conception is corroborated by the declaration of Mr. Charles Grant, for many years chairman of the Court of Directors, in his evidence before the House of Commons in the year 1832:

“The civil code stands upon the basis of the Mussulman system, and it refers causes between Hindoos to be decided by the laws of that people.” If, therefore, the Mussulman system prevalent before the British civil code was the system upon which it was based, by referring causes between Hindoos to the decision of their own laws, that system could not have abrogated the law of inheritance; while the obligation, under the Mogul government, for the judge of the district to call in the assistance of a Bramin, and submit his authority in the decision of the cause to such Bramin, particularly where the consequence might be attended with forfeiture of caste, proves incontestably that other laws besides that of the Koran were recognised in the courts of justice, and that the determining power, superior to that of the usual presiding power, resided in the Hindoo in reference to causes of a religious nature among persons of the Gentoo persuasion.

11. Mr. Bushby then states:

“The Government of Bengal enacted the 9th section of Regulation VII. of

1832, to prevent that law of inheritance which the Government had restored to the Hindoos being converted into an instrument of oppression against those who have ceased to be Hindoos. The law has been the law of Bengal since 1832, and has never been complained of as being oppressive, or as a breach of any engagement entered into between the Government and the Hindoos, and now in the same spirit the Governor-general is about to extend that principle to the whole of the British Indian empire."

12. The assertion, that the clause in Regulation VII. of 1832 of the Bengal Code was introduced in order to prevent the Hindoo law of inheritance from becoming an instrument of oppression, is but meagerly supported by the facts of the case. No complaint, as far as your memorialists can ascertain, was ever made in behalf of Christian converts under the presidency of Fort William, prior to the Regulation which bears date the 16th October 1832; but your memorialists find recorded in the evidence of Mr. John Sullivan, formerly a member of Council at this presidency, on his examination before the Commons' House, on the day of the 28th February in the same year, that gentleman's statement, that the natives in Tinnevely on being converted were in a worse situation than those who were not converted, and that the converts were Hindoos, who forfeited their claim to hereditary property on their conversion; and Mr. Sullivan gave his opinion that a law might be made determining that a man should not forfeit that right in the courts of law, recommending that the same should be done in express, but general terms; meaning that the law should be slipt in in such a way as would not be easily perceptible to the natives.

13. This advice of one who was a great patron of missionaryism, was given in February, and in the month of October, and eight months afterwards, the Regulation VII. of the Bengal Code was produced, consisting of no less than eighteen sections, about revenue matters, zilla judges, moonsiffs, ameens, &c. &c., in the middle of which, as likely to escape notice, was inserted the section bringing in the law which Mr. Sullivan had recommended, and as he had advised, in general terms.

14. Considering that no complaint against the Hindoo law of inheritance had previously occurred under the presidency of Fort William, and that Mr. Sullivan could not point out any occasion where the point had been litigated under the presidency of Madras, your memorialists cannot accept Mr. Bushby's reason for the enactment of the Regulation, as being intended "to prevent the law of inheritance from being made the instrument of oppression," the more especially as the Regulation was confined to the Bengal Code, and did not affect the position of the converts in this presidency, who, in Mr. Sullivan's opinion, were worse off after conversion than before. The true reason, your memorialists apprehend, was the desire of the then Bengal Government to lend its aid to the progress of Christian proselytism, so quietly and covertly, that the motive might appear different from what it really was. The Madras Government of the day was not infected with the mania of convertism, and therefore no law of the kind was admitted into the Regulations of the Madras Code.

15. That the enacting section has never been complained of in Bengal is not to be wondered at, seeing it has never been enforced, and that the people, even those of the capital, were totally ignorant of its existence, as is proved by their protesting against the *Lex Loci*, which turned out to be the old section under a new face; but the instant the coverture recommended by Mr. Sullivan was thrown off, by the Legislative Council being now obliged to publish the drafts of their Acts previously to their passing into law, the flame of opposition burst forth, and it was instantly denounced by them as an oppression, and a breach of faith on the part of the Government.

16. Mr. Bushby next quotes from the present Charter Act, which empowers the Legislative Council

"Fully to inquire into the jurisdiction, powers, and rules of the existing courts of justice and existing forms of judicial procedure, and the nature and operation of all laws, written or customary, prevailing and in force, and directs the Law Commissioners to make reports from time to time, in which they shall fully set forth the result of their said inquiries, and suggest such alterations as may in their opinion be made in the judicial procedure and laws, due regard being had to the

the distinction of castes, difference of religion, and the manners and opinions prevailing among different races, and in different parts of the said territories."

And upon this Mr. Bushby argues thus:—

"So far is this section from being a pledge that the laws existing in the country shall not be altered, that it is, on the contrary, an announcement that the Legislature contemplated the alteration and amendment of them."

And he contends that if the law have shown "due regard to the difference of religion and the manners and opinions prevailing among different races and in different parts of the territories, the Commissioners are competent to suggest such a law." Your memorialists admit the conclusion if the provisions of the section had been fulfilled; but that such has been the case they most pointedly deny.

17. The Commissioners have made no inquiry into the nature and operation of the law of inheritance from those upon whom that law is binding, and who hold it to be, as it is, a part of their religion; the Commissioners have been consequently unable to fulfil the previous condition of stating fully the results of their inquiries, before suggesting an alteration; and if there were no other reason, this manifest neglect of the stipulated conditions of the Act of Charter renders the Commissioners wholly incompetent to destroy any part of a law, regarding which, it is clear, they have neither made the full inquiry, nor fully stated the results of the inquiry, which the Charter Act has commanded.

18. There is, however, another equally great impediment in the way of the Commissioners: in whatever alteration they may suggest, due regard must be had to the distinctions of castes, difference of religion, and the manners and opinions prevailing among different races, and in different parts of the territories; and your memorialists may with strict propriety contend that, under the definition "difference of religion, and the manners and opinions prevailing among the different races," the Christian religion, although Mr. Bushby has stated it to be "the religion of the Government itself," cannot be included, seeing that it is a new importation by foreigners, and is professed by no race of aborigines in the country; however, if it could be so included, still due regard is had to that, when it is not meddled with, and when every right it confers is tolerated; and your memorialists are sure that the Christian religion as recognised by British law, can confer no right which interferes with the possession and distribution of ancestral property belonging to persons of the Government creed, and still less, when belonging to persons of a different creed; therefore, when Mr. Bushby pretended that the proposed law which interferes with the Hindoo law of inheritance was required as a protection of rights conferred by the Christian religion, he predicated an absurdity, and assumed a palpable fiction in the place of fact.

19. Further, the terms "castes" and "races" apply to birth and not to creeds. An Englishman, renouncing the religion which his parents professed at his birth, and becoming Catholic, Mahomedan, or atheist, would not change his race; neither does a Hindoo, forsaking the religion of his forefathers and adopting the faith of the European missionaries, thereby become of European race. If caste and race are synonymous, he should be a Hindoo still, and must be included in that race, and legislated for as one belonging to it; *i. e.* must submit to the Hindoo law of inheritance; but if, as Mr. Bushby argues, he ceases to be a Hindoo by renouncing his caste, then it is clear that he is of no race, and cannot be included in the number of those whose different religions, as prevailing among the different races of the territories, the Charter Act has ordered to be regarded. The repetition of a creed and the performance of religious ceremonies cannot alter a man's birth, nor translate him from one race to another; neither can it indue him with the right of claiming, after he has voluntarily renounced his old religion, the ancestral property which falls to his inheritance only in virtue of the religion he has previously rejected.

20. Your memorialists having thus disposed of Mr. Bushby's arguments defensive of the *Lex Loci*, proceed to remonstrate against the draft Act, which it is proposed to substitute in its place. The draft states, "that it is expedient to extend the principle of section 9, Regulation VII., 1832, of the Bengal Code, throughout the territories subject to the government of the East India Company."

To base an Act upon mere expediency, without explaining in what the expediency consists, opens the door to grave consideration and suspicion on the part of those whose laws, existing from time immemorial, it is the object of the Act to subvert and annihilate. Expediency is the basis on which the worst of tyrants have always executed their most detestable oppressions. It was expediency which kept the lower classes throughout Europe in slavery and serfdom for centuries; it is expediency which still keeps them so in the territories of Russia; and it was expediency which encouraged man-stealing and man-selling by Act of Parliament, as it still encourages the slave trade under the government of the Brazils, Cuba, and the southern provinces of the United States; there is no wrong or wickedness which may not be justified by an appeal to the expediency of it to the perpetrators; and when your memorialists find that the Legislative Council can put forth no better reason for the innovation upon the Hindoo religion and the gross breach of faith involved in the draft Act, their suspicions, formerly expressed, are immeasurably increased, that "the security in person, property, and religion, hitherto assured to native subjects, is in danger of being taken from them; and that the protection thus undermined in one instance will eventually be denied to them altogether."

21. The reason assigned by the Government which meditated the *Lex Loci* was, that the Act might serve as a preventive to oppression. No instance, from 1832 to 1849, has yet been quoted in which such oppression has occurred; but since the year 1845, when the *Lex Loci* was sought to be introduced for the same purpose, very many and afflicting instances of oppression, practised by the men who are of the religion of the Government, have been sustained by the professors of Hindooism in Madras, in Calcutta, in Agra, and Bombay. Whole families have been thrown into misery and disgrace by the kidnapping of their children by the missionaries, in order to force them to abjure the religion of their forefathers, and to embrace the religion of the Government.

22. The Legislative Council, so anxious to relieve renegades to Christianity from supposititious Hindoo oppression, cares so little for the actual oppression practised on the Hindoos by the religionists of the Government, that it desires to add a stimulus to the oppression and increase the power of the oppressors; and under the transparent pretence of preventing the converts to its own creed from receiving wrong in the forfeiture of property to which they are not entitled, makes their conversion the engine for imposing wrong and insult upon the millions who adhere to the creed of their forefathers. A Government which stands pledged by public proclamations to preserve to the natives the unmolested exercise of their religion, enacts a law by which, at the expense of the Hindoos, it directs a premium to be given to all those who shall molest that religion, and do their utmost to effect its destruction; and this conduct is held up by Mr. Secretary Bushby as the perfection of the Company's toleration.

23. Your memorialists have established the existence of these pledges in confutation of the wrong assertions of Mr. Bushby; but they do not mean to argue upon them with the Supreme Government, it being obvious to them that "ease has retracted the vows made in pain," and that the wrongdoing from which the Company abstained, when it would have compromised their interests and obstructed the successful progress of their ambition, is held to be an act of toleration, now that the object of their ambition has been attained. Then the Court of Directors could see the necessity of accommodating their views and interests to the subsisting usages and manners of the people, for the preservation and retention of their possessions; but now that they are lords of the country from the Ganges to the Indus, from the Himalayas on the north to Cape Comorin on the south, the necessity has disappeared; and ceasing from the subjugation of the country, they can conscientiously begin the subjugation of its religion.

24. When a government has become so regardless of right and wrong that on attaining to independence it can repudiate the principles and the pledges under which it acted, in its weakness, towards those who helped it forward to that independence, the confidence of the people can no longer be retained. Your memorialists know that it is in vain for right to plead against might, all they can do is to protest against the operation of that might when used, as it is in their case, for the purposes of oppression; but they can, and do, call the attention

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of the Legislative Council to its incompetency to enact a law which does not pay "due regard to the distinctions of caste, difference of religion, and the manners and opinions prevailing among different races, and in different parts of the said territories."

25. The Hindoos have both definite caste and race; and the manners and opinions prevailing among them are distinct and well ascertained. Their manners, their law, and their religion, all combine to bar from all title to ancestral property the man who renounces his caste, and turns his back upon his race. No such person can be made entitled to claim a property no longer his, by the orders of Government, but in violation of the charter. And if the Legislative Council persists in its determination to enact an illegal law, intended to reward apostates from Hindooism for embracing the religion of the Government, they will be as fully determined to carry their appeal against the convertizing and illegal enactment to the Imperial Parliament.

26. The persons for whose advantage this violation of the charter is contemplated have no claim to it, under the conditions by which the Legislative Council are empowered to amend and alter the "laws prevailing and in force" in India. If they possess race, it must be Hindoo race, and as such they are amenable to Hindoo laws; if they have neither caste nor race, they have no place among the "races," to whose religion, manners, and opinions due regard is to be had, and the draft Act cannot be propped up by vain pretensions, which neither they nor the Government can define. As Christians, they can inherit Christian property under English laws, to which Hindoo property is not subject, in the matter of inheritance; but they cannot break down Hindoo laws, in order to come at Hindoo property.

27. If the Legislative Council can empower the Christian convert to seize Hindoo property, in violation of Hindoo law, it can also empower him to seize, not such portion only as that law awards to him in his unconverted state but all and every part of the ancestral property; and from this it would be no great stretch of injustice, and one that may be expected, were the Legislative Council to enact that the Hindoos shall possess no property at all without the express permission of the Government. This is the condition to which Hindoos must look forward, if the draft Act is to be made law. No longer masters of a part of their property, they must expect by degrees to be despoiled of the whole, if they tamely submit to the encroachment which, while it robs them of an experimental portion for the avowed purpose of protecting the religion of the Government, offers wanton injury and insult to their whole community, from one end of India to the other.

28. Besides the direct act of tyranny, which is the sole principle of the draft under remonstrance, in the Government assuming the might and autocracy to dispose of ancestral property at its pleasure, because it is deemed advantageous to the Government religion, this oppressive enactment will destroy the peace of families, and jeopardize the harmony and welfare of the entire millions of the Hindoo population; for it goes directly to the encouragement of litigation between relatives, and offers a premium for bickerings and strife, which will be stirred up and fomented by all the arts and influence of missionary agents, in enlarging their system of kidnapping young persons whom they allure to their schools, and contrary to the wishes of their parents, and secluded from their friends, teach them to despise the customs of their forefathers, while they are of an age too tender to form a correct judgment of their own; and thus every fickle boy, falling a prey to these allurements, will be instigated to insult his family, and throw discord and misery and disgrace upon its social relations, under the plea of embracing the religion of the Government, which rewards him for the apostacy by a share in the patrimony which the laws of the caste in which he was born have peremptorily denied.

29. In passing such a law, the Government, as declared by Mr. Sullivan in his examination before the House of Commons, will indeed "follow the practice of its Mussulman predecessors," from the cruelty of which the secretary to Government pretends in his letter that it had departed; and treading in the path of oppression, the Government will deserve, what it will assuredly obtain, the hatred and detestation of the oppressed.

30. Your memorialists therefore beg that the Legislative Council will persist in their desire to fall back into the measures of the Mahomedan conquerors, for no better reason than that Christianity may supply the place of Islamism; but that it will leave the Hindoo laws, customs, and religion as they were found when the British first came to India; that the Council will have due regard to them in this vital instance, nor attempt to violate the Act of the Company's charter, by legislating in direct opposition to its letter and its principle, which enact, in the 85th section, that the Government shall provide, by laws and regulations, "for the protection of the natives from insult and outrage in their persons, religion, and opinions," by "the intercourse of Europeans." Their opinions, their religion, and the persons of their children are outraged and insulted by the system of convertism; and the extension of the Bengal Regulation being calculated to uphold and increase this insult and outrage upon the religion of the natives, in specific aid of a religion foreign to them and to the country, is so manifestly an infringement of the 85th section just quoted, both in its letter and spirit, that your memorialists confidently trust the Legislative Council will see the propriety, justice, and necessity of abandoning the draft Act, and rescinding the Regulation at once and for ever.

And your memorialists, as in duty bound, shall ever pray.

(signed) *J. Vatchennarasalhadd,*
And Others.

Madras,
16 January 1850.

— No. 35. —

No. 82.

To the Most Noble the Marquis of *Dalhousie*, Governor-General of India,
in Council.

The Memorial of the undersigned Native Christian Inhabitants of
Calcutta, and its Vicinity,

Respectfully sheweth,

THAT your memorialists have noticed with great gratification, in the "Calcutta Gazette" of the 31st October 1849, the draft of a proposed Act, read in Council for the first time on the 26th October last, entitled "An Act for extending the principle of Section 9, Regulation VII. of 1832, of the Bengal Code, throughout the Territories subject to the Government of the East India Company." They cannot help expressing their thanks for this proposal to extend the principles of toleration and of liberty of conscience throughout the presidencies of this vast empire.

The principle of section 9, Regulation VII. of 1832, is so obviously one of justice and equity, that it would be entirely a work of supererogation, and therefore an unnecessary trespass on your Lordship's time, if your memorialists expatiated upon it. The maxim of the British Government is toleration to all creeds, and equal protection to all sects, of whatever religion, who are peaceable and loyal subjects. It is only consistent with that maxim that the persecuting rigour of an antiquated law, compiled in an unenlightened age, should be softened by the dictates of equity and toleration.

But your memorialists have been equally surprised and distressed to learn that a certain number of their countrymen, describing themselves as "Hindoo inhabitants of Bengal, Behar, and Orissa," have presented a memorial against the above-mentioned draft Act, "as an encroachment on the integrity of those laws under which the Hindoos have hitherto lived; at any rate, from the period under which they have been subject to the rule of the Crown of Great Britain."

It is a contradiction in terms, my Lord, to say that any individuals or bodies can have any rights or privileges which are oppressive to their neighbours, and are subversive of liberty of conscience, or that they can have a right to do what is wrong. Nor can it be a hardship to one portion of a nation to be deprived of the power of trespassing on the freedom of another portion, or of inflicting penalties on it on the plea of difference of opinion.

But your memorialists beg to submit, that "the laws under which the Hindoos have hitherto lived" are inseparable from the Hindoo religion, the precepts of

of both being founded on the same authorities. There is no authorised code of laws distinct from the institutes of religion. To preserve "the integrity of the laws under which the Hindoos have hitherto lived" would be to preserve in their integrity the Institutes of Menu, and all the sayings of all the sages who are held sacred by the Hindoo population.

True it is that the Dayabhaga and the Mitakshara are acknowledged, the one in Bengal, the other in the Upper Provinces, as legal authorities distinct from religious institutes; but the author of the Dayabhaga is no greater authority in law than Baghunandan, the author of the Astabinsati Tuttwa, is in religion. Both are mere compilers, and their only title to the veneration of the Hindoos is their conformity to the Shasters—the statute law of Hindooism. The legal validity of the Dayabhaga proceeds from the sanction it has received from British judges administering the Hindoo law. But since that law was entirely set aside by the Mahomedan rulers of India, and since there are no authentic reports of any judicial proceedings previous to the Mahomedan conquest, there is no evidence on record of the Dayabhaga having ever been acknowledged as a code by any government in India before the establishment of the British supremacy.

The "integrity" of the Hindoo law, therefore, which the Hindoo memorialists of Bengal, Behar, and Orissa appear so anxious to preserve, can mean nothing less than the integrity of the Institutes of Menu, and of the other Shasters held sacred by the Hindoos. Those institutes were, however, composed in a rude and unenlightened age, when the principles of jurisprudence were little understood; and they contain enactments, civil as well as criminal, which are inconsistent with sound policy, justice, and equity, and which the Hindoo memorialists themselves would perhaps be unwilling to see enforced without modification. Menu's code was intended to perpetuate the social degradation of the sudra or servile caste, and to establish the supremacy of the Brahminical order. Many of the rajahs and zemindars in Bengal, Behar, and Orissa are sudras by caste. They can scarcely be supposed to entertain so suicidal a desire as that of enforcing all the laws of Menu. The undue elevation of the priestly class, and the unjust depression of the sudra, would be the natural consequences of that law.

"A king," says Menu, "even though dying with want, must not receive any tax from a Brahmin learned in the Vedas." Chap. vii., 133. Clauses such as this can never receive countenance from an enlightened government; nor can the Supreme Council sanction such invidious and barbarous enactments as the following:—

"Never shall the king slay a Brahmin, though convicted of all possible crimes; let him banish the offender from his realm, but with all his property secure and his body unhurt. No greater crime is known on earth than slaying a Brahmin; and the king therefore must not even form in his mind an idea of killing a priest." Chap. viii., 380, 381.

"But a man of the servile class, whether bought or unbought, he (the Brahmin) may compel to perform servile duty, because such a man was created by the Self-existent, for the purpose of serving Brahmins.

"A sudra, though emancipated by his master, is not released from a state of servitude, for of a state which is natural to him, by whom can he be divested?

"A Brahmin may seize without hesitation, if he be distressed for a subsistence, the goods of his sudra slave; for as that slave can have no property, his master may take his goods." Chap. viii., 413, 414, 417.

"A once-born man (*i. e.* a sudra) who insults the twice-born with gross invectives, ought to have his tongue slit, for he sprang from the lowest part of Brahma.

"If he (the sudra) mention their (the Brahmin's) names and classes with contumely, as if he say 'Oh Devadatta, thou refuse of Brahmins,' an iron style, 10 fingers long, shall be thrust red hot into his mouth.

"Should he through pride give instruction to priests concerning their duty, let the king order some hot oil to be dropped into his mouth and his ear.

"If he seize the Brahmin by the locks, or by the feet, or by the beard, or by the throat * * * let the king, without hesitation, cause incisions to be made in his hands." Chap. viii., 270, 272, 283.

It would be alike disrespectful to your Lordship's Council, and to our Hindoo countrymen themselves, to suppose for a moment that the former can advise or

the latter can desire the prevalence of such barbarous ordinances as the preceding.

The personal security of the Hindoo memorialists themselves, the vast majority of whom, probably, many of whom, certainly, are sudras, requires that the Hindoo law must be deprived of its intolerance and extravagance. During the suspension of Brahminical supremacy for some centuries, many of the servile classes have risen to so much opulence and respectability, that if your Lordship were now to restore the Hindoo law in its integrity, it would be felt as a curse from the Himalaya to the sea. The security of the vast majority of Her Majesty's native subjects requires that the British Government should continue, as it has hitherto done, to mitigate the rigour of the Hindoo law, by abrogating its unjust and barbarous clauses.

Since then the Hindoo law must be altered, since its intolerant provisions must be rectified, since encroachments must be made on the integrity of the Brahminical statutes, it is to us a subject of no ordinary grief that any of our countrymen should have called upon your Lordship to be guided in your correction of the Hindoo Code by other principles of conduct than perfect justice, equity, and toleration; that they should wish their law to be modified for their own benefit, but retained in its original ferocity for the purpose of persecuting those who differ from them in sentiment.

It would not be equal justice to all Her Majesty's subjects if while relief was granted to the sudra, by the abrogation of those clauses which endangered his person and property, no relief, such as was contemplated in section 9, Regulation VII. of 1832, of the Bengal Code, were given to him who dared to avow that he dissented from the authors of those rude enactments, and that he could not believe they were inspired of God, nor persuade himself to continue in the ranks of their followers. It is the more necessary to extend the principle of section 9, Regulation VII. of 1832, now that the rapid progress of education in the different presidencies of India is annually swelling the number of those whose properties would need the protection of that section.

Nor can your Lordship consistently perpetuate the Hindoo law of inheritance in its integrity without mixing your Government with the Hindoo religion itself. A great intellectual movement, induced in a great measure by the progress of education, has for the last quarter of a century been steadily advancing in Bengal. A growing aversion as well to other popular superstitions and ceremonies of the country, as also to that rite on the performance of which inheritance depends, agreeably to the Hindoo law, has been the consequence of that movement. Two of the most respectable Hindoo gentlemen of Calcutta, the Rajah Rammohun Roy and Baboo Dwarkanauth Tagore, have braved the perils of the sea, and by visiting England, and there publicly eating and drinking with Europeans, have exhibited their contempt of the popular tenets of Hindooism. Their families are much respected in Calcutta, and they own large property in different parts of Bengal. It might become a nice question in Hindoo theology, and therefore in Hindoo law, whether the families of those two distinguished individuals have lost their titles to their ancestral property. Thousands have also manifested their disbelief in the popular religion by word and deed. Their acts have incapacitated them for the performance of "those rights by which," to quote the words of the Hindoo memorialists, "the salvation of their fathers and other ancestors is secured." If then the Hindoo law of inheritance were to continue valid in its integrity it would be necessary to create a tribunal of religious commissioners to define the overt acts which involves loss of caste, and therefore of title to ancestral property. "Him who lives apparently," says Menu, "by the rules of his caste, but really departs from those rules, let the king severely punish by fine, as a wretch who violates his duty." IX. 173. The rules of caste laid down in the Hindoo Shasters are so severe that scarcely a single Brahmin or sudra would be safe with his property if they were rigorously enforced. Under these circumstances, if the Hindoo law is to be continued, nothing less than a religious inquisition to guard generally against improper inheritance of property, would be just to those who openly disavow what they do not believe, or cannot practise. Otherwise, if every one who "apparently lived by the rules of his caste," though he might "really depart from them," were allowed to enjoy his patrimony, at the same time that the sincere and honest offender was excluded, the verdict would neither be consistent with Menu nor with equity. It would amount to a premium to insincerity, and

become

become grossly unjust to the open apostate from Hindooism, be he a Christian, Mahometan, or Deist, since he alone would suffer, and that only because of his honesty and candour.

The extension of the principle of section 9, Regulation VII. of 1832, to all India, would, as far as this presidency is concerned, be no alteration of any law; and as far as the other presidencies are concerned, it would only amount to a slight modification of a law which had already been altered in practice since the days of Menu. The law which the first Governor-general of India gave to the Hindoos was not the Hindoo Code in its integrity, but a mere portion of it, clipped of all its penal statutes, and understood to be greatly modified in its civil enactments also. The first Governor-general of India established it only to give relief to the Hindoo subjects; and Lord William Bentinck corrected it in Bengal, that what was intended as a relief to some might not operate as a persecution to others.

Your memorialists accordingly submit, that since it is only a mutilated Hindoo law that now prevails in any part of British India, since the vast majority of the Hindoos themselves must consider the Hindoo law in its integrity as a grievance, since all parties must have recourse to the dictates of equity in the correction of the Hindoo law, the voice of that equity is equally strong in favour of toleration. The extension of section 9, Regulation VII. of 1832, may therefore be demanded in justice by the friends of mental freedom; nor can there be a consistent popular voice against it.

The orthodox Hindoo cannot protest against inheritance of property by his heterodox neighbour any more than the Brahmin can complain of his privation in not being allowed to compel the sudras to do him service, or help himself to their substance.

Notwithstanding the large number of respectable Hindoos who have memorialised against the draft Act mentioned before, we believe the vast majority of our countrymen are not opposed to it; they know too well that the enforcement of the whole Hindoo code is neither desirable nor practicable; they do not expect that their British rulers are capable of entertaining a proposal to disinherit converts to their own religion. Whatever special pleading a few of our Calcutta countrymen, educated in English, and confident of the tolerant character of the British Government, may bring forward in support of an antiquated system, scarcely venerated by themselves, and with whatever success they may procure subscriptions to such a memorial, the quiet agricultural population of Bengal would not spontaneously raise their voice against an Act which they could not but expect under an enlightened and a Christian Government; nor would they change "their active spirit of fervent loyalty into sullen submission" to the will of their rulers, in case that Act is passed into law. They are far too glad at their own deliverance from the humiliation contemplated in the Institutes of Menu to think of injuring others who believe that Menu was wrong.

In submitting the foregoing statements for your Lordship's consideration, your memorialists trust solely to the justice and equity of the British Government. For ourselves, we confess we are a small community in comparison with the followers and professors of Brahminism. But though the voice of 12,000 converts in Bengal, all loyal and respectable subjects of Her Majesty, may in itself be feeble, the voice of justice and equity is mightier far than that of any human community, however large. To that voice we appeal.

But we cannot help representing that the number of those who would suffer in their substance but for sec. 9, Reg. VII. of 1832, is annually on the increase. Whether as converts to Christianity, as followers of the late Rajah Rammohun Roy and the late Baboo Dwarkanauth Tagore's examples, or as mere free-thinkers, large numbers are being annually incapacitated for the performance of the shrad, on which inheritance depends agreeably to Hindoo law.

For ourselves we have far too great respect for the faith we have adopted to apprehend for a moment that even the persecuting clauses of the Hindoo law can retard its progress or destroy its intrinsic force. Our religion does not, however, call upon us silently to submit to injustice and usurpation. We must, therefore, solicit your Lordship, in justice to us and to our faith, to pass the draft Act before alluded to, that we who are under the jurisdiction of the Supreme Court may have the benefit of the principle of sec. 9, Regulation VII. of 1832, and that the same benefit may be reaped by all similarly circumstanced with ourselves in the sister presidencies of Madras and Bombay.

Your memorialists neither solicit nor expect any special favour to their community. We only desire that your Lordship's principle of non-interference with the religion of Her Majesty's native subjects may be fully carried out in practice. We only desire that in no department of your government, in no court of justice, in no department of the public service, in no institution supported or controlled by the State, should the Christian, the Hindoo, or the Mahomedan have reason to complain, or exult that he is hardly or favourably treated, merely because of his religion; and that equal justice may be done to all who are peaceable and loyal.

And your memorialists will ever pray, &c.

(signed) *Krishnamohana Banerjea, and Others.*

—No. 36.—

No. 89. MINUTE by the Honourable *J. E. D. Bethune*, concurred in by Sir *F. Currie* and the Honourable Mr. *J. Lewis*; dated 26 March 1850.

Rights of converts to inheritance.

THE memorial of the inhabitants of Calcutta against the proposed Act is much more temperate and guarded in its language than that from Madras, the tone of which appears to me extremely reprehensible. A great part of it is taken up with an elaborate argument in reply to Mr. Bushby's answer to the memorialists of 1845. This course seems to me very irregular, even if the memorial were written in becoming and respectful language, which it is not.

The mildness of the Company's Government cannot be more strikingly illustrated than by the fact that these memorialists should dare to say in an address to that Government, that it has become "regardless of right and wrong, that 'ease has retracted the vows made in pain,' and that by treading in the path of oppression, the Government will deserve, what it will surely obtain, the hatred and detestation of the oppressed."

The whole argument of both memorials turns on the fact, which I believe to be indisputable, that according to the Hindoo law, a man who becomes an outcaste, either by change of religion or in any other way, is liable to be deprived of the share of his patrimonial inheritance which would otherwise belong to him. I conceive, however, that there is a fallacy in the statement that the right of inheritance depends on the obligation to perform the funeral rites. If this were so, it would perhaps be necessary for us to enact new rules of inheritance when we provide that an incompetency to perform these rites (which avowedly results from the loss of caste) shall not operate as a disinheritance. I find it stated in Haughton's Translation of the Ordinances of Menu, ch. IX. sec. 104 :

"After the death of the father and the mother, the brothers being assembled, may divide among themselves the paternal and maternal estate."

Section 105. "The eldest brother may take entire possession of the patrimony, and the others may live under him as they lived under their father, unless they choose to be separated." Then follow directions in detail for the division of the property, according to certain supposed circumstances of the family. This is a clear law of inheritance*. It is undoubtedly true that the obligation to offer the funeral cake descends on the same line of heirs as the right of inheritance; but it is clear that the two are no otherwise connected in their origin, and that it is by way of penalty only that the outcaste loses his inheritance.

This discussion is important only so far as upon it depends whether or not it is necessary to declare a new law of inheritance in our Act: I think not.

It is also a mistake to suppose that the incapacity to inherit land arising out of excommunication is peculiar to the Hindoo religion; I am sorry to say that it was formerly paralleled even in England, where the power of the church never rose to quite the same pitch that it did in other Christian countries. But Coke, quoting Bracton, says, "Every lawful Act is interdicted to a person excommunicate; with one excommunicate it is not lawful to pray or eat or speak, publicly or privately." And again, Comyn (Excommuniement, A. 1): "If a plaintiff

Co. Sett. 133, Cr.

* In Hallhed's Gentoo Laws, chap. II. contains a very minute enumeration of its details; sect. 5 mentions the disqualification of outcastes, and those who do not perform the sradda.

plaintiff sue an action, real, personal, or mixed, it is a good plea in disability of his person that he is excommunicated."

And this penalty was resorted to for merely temporal matters, as by stat. 25 Edw. 1, c. 4, all archbishops and bishops shall pronounce the sentence of excommunication against all those that by word, deed, or counsel do contrary to the foresaid charters (the Great Charter and Charter of the Forest), or that in any point break or undo them. And so late as 3 Jas. 1, c. 5 (1605), "every popish recusant" (under which title were included many merely political offenders) "shall stand and be reputed, to all intents and purposes, disabled as a person lawfully and duly excommunicated; and every person sued by such person so disabled shall and may plead the same, in disabling of such plaintiff, as if he or she were excommunicated by sentence in the ecclesiastical court." And this Act was not formally repealed until 1844.

It is the policy of the professors of every dominant religion to connect as much as possible their spiritual armoury into a storehouse of weapons of offence for securing objects of earthly advantage. In this respect the Christian and the Hindoo histories show the same kind of device. I hold it to be the duty of every government to keep in its own hands and constantly maintain the right of regulating the succession to property in whatever way it deems most for the advantage of the State. The right of inheritance is altogether artificial, the creature of the law, and cannot claim exemption from the control of that by which it was created. Formerly, indeed, the Act 21 Geo. 3, c. 70, s. 17, fettered the Indian courts and legislature, by enacting that in the Supreme Court the inheritance and succession to lands, rents, and goods should be determined, in the case of Mahomedans, by the laws and usages of Mahomedans, and in the case of Gentoos, by the laws and usages of Gentoos; and before the last Charter Act there was more room for doubting whether it was within the power of the local legislature to make any regulation in any way affecting the laws of inheritance of Hindoos; but there is now no such restriction on the power of the Governor-general in Council. The subject is not otherwise alluded to than in the discretion to the Law Commissioners (sect. 53), that in the alteration of the law which they recommend as beneficial they are to have "due regard to the difference of castes, difference of religion, and the manners and opinions prevailing among different races and in different parts of the said territories." "Due regard" means only as much regard as ought to be had, considering each case by itself.

The Madras memorialists, with reference to this passage, maintain that a Hindoo ceasing to hold the Hindoo religion either continues a Hindoo, and in that case, as they contend, must be bound by Hindoo law or ceases to be a Hindoo, and in that case is of no race, and cannot be included in the number of those whose different religions the Charter Act has ordered to be regarded. I am not much afraid of this argument appearing to have any weight. In a memorial presented to Government by native Christians, they suggest that the integrity of the Hindoo law of inheritance would deprive of their possessions many of those who are forward in their opposition to the proposed Act. This may be a good argument as directed against them, but I take the higher ground of the inherent and inalienable right of every government to regulate the law of property, and to deprive any class of its subjects of the power of securing conformity to their own opinions by the infliction of penalties, which it belongs to the government only to impose. They have hit on the expedient of connecting the possession of property with the performance of religious duties, just as of old time things used to be consecrated, in order to save them from pillage. It is a sufficient recognition of the liberty of conscience if they are left undisturbed in the performance of their ceremonies, though the State takes on itself the disposal of that property, on the accumulation and distribution of which depends in a great degree the object of its institution, the wellbeing of the native.

26 March 1850.

(signed) *J. E. D. Bethune.*

I concur with the Honourable Mr. Bethune in his view of this question, and I trust the law will pass without delay. I see that an addition has been made to the draft as suggested by the judges of the Bengal Sudder Court; I think this addition was necessary to secure the inheritance of a seceder from the Hindoo or Mahomedan religion, after seceding, to the share of the paternal estate which

would fall to him by Hindoo or Mahomedan law, if he had remained within the pale of the religion in which he was born. I think the question raised by the Advocate-general of Madras, regarding the succession of one of another faith to family property of a purely religious character, worthy of consideration. We should also, I think, consider by what law the inheritance of the heirs of the seceder to his property, after his death, would be governed. I consider our present law to go much further than section 9, Regulation VII. of 1832.

5 April 1850.

(signed) *F. Currie.*

I concur in Mr. Bethune's views.

(signed) *J. Lewis.*

— No. 37. —

No. 84. From *Arch. Grant*, Esq., to *F. J. Halliday*, Esq., Secretary to the Government of India, dated 3 April 1850.

Sir,

I HAVE been requested to forward the accompanying address to his Lordship the Governor-general on behalf of the subscribers.

May I beg the favour of your taking the necessary steps to deliver it to his Lordship.

Calcutta, 3 April 1850.

Your obedient servant,
(signed) *Arch. Grant.*

— No. 38. —

No. 85. To the Most Noble the Marquis of *Dalhousie*, K.F., the Governor-General of India in Council, &c. &c. &c.

My Lord,

WE, the undersigned Christian inhabitants of Calcutta, beg leave to address your Lordship to express the cordial satisfaction with which we have noticed in the Government Gazette the draft of a proposed law, entitled "An Act for extending the Principle of Section 9, Regulation VII., 1812, of the Bengal Code, throughout the Territories subject to the Government of the East India Company," by which our native fellow-subjects, embracing the Christian religion, will be delivered from severe and ruinous disabilities.

We all, my Lord, feel a deep interest in the welfare of the people of this land. The Christian faith, which we profess, constrains us to seek their good; we wish not to see any class among them stigmatized or wronged; but we ardently desire that peace, justice, and all the advantages of civil and religious liberty may be secured to the whole population.

We deprecate any attempt to multiply conversions by favour or by force. The measure contemplated by the government, over which your Lordship so ably presides, commends itself therefore to our warmest approbation. It offers no premium, and inflicts no penalty. It enables the convert who seeks admission to the Christian church, to obey the dictates of his conscience free from the dread of forfeitures, while, at the same time, it leaves his relatives in possession of precisely the same property which they had before.

My Lord, we hail the promulgation of this measure with joy, such as must ever be felt by all lovers of freedom and of truth, when they witness the progress of sound principles, and see legislation applied to righteous and benevolent purposes. We remember with thankfulness the abolition of suttee, and the suppression of infanticide and Thuggee, and have long regarded those humane measures as pledges that the government of India will not allow the perpetuation of injustice and crime, under the sanction of any religion.

Whatever opposition your Lordship's government may now have to encounter in carrying out this salutary principle, we doubt not that in future, and not distant years, the wisdom and the righteousness of your policy will be acknowledged by all men. And we earnestly hope that undeterred by the sophistry, which represents the Hindoo or Mahomedan as injured when no longer allowed

to

to oppress his Christian relative, your Lordship in Council will pass into a law the Act respecting which we have thus ventured to express our sentiments.

We have, &c.
(signed) *James Norman*, and Others.

— No. 39. —

MINUTE by the Most Noble the Governor-General, dated 9 April 1850.

No. 86.

THIS draft Act is one of importance.

I have read the memorials in opposition to and in support of the draft; and after giving to the subject most careful consideration, I have to express my concurrence in the views expressed by the Honourable Mr. Bethune, and my readiness to assent to the passing of this Act.

I entirely agree with Mr. Bethune in the principle he lays down, that it is the duty of the State to keep in its own hands the right of regulating succession to property.

The memorialists have altogether failed to show that the government of India is barred from the full exercise of this right by any pledge binding it to maintain the Hindoo law unchanged in all its parts; and it is abundantly demonstrated that, in point of fact, the Hindoo law has been and is repeatedly altered in many of its essential features.

The government of India will doubtless continue, as heretofore, to administer to Hindoos the general body of Hindoo law; but I conceive that the government will not do its duty if it leaves unchanged any portion of that law which inflicts personal injury on any one by reason of his religious belief.

In now acting on this principle I can see no semblance of interference with the religion of the Hindoos, nor any unauthorized interference with rights secured to them.

(signed) *Dalhousie.*

9 April 1850.

I concur.
(signed) *J. H. Littler.*

— No. 40. —

Act No. XXI. of 1850.

Passed by the Governor-General of India in Council on the 11th April 1850.

No. 87.

An Act for extending the principle of Section 9, Regulation VII., 1832, of the Bengal Code, throughout the Territories subject to the Government of the East India Company.

WHEREAS it is enacted by section 9, Regulation VII. 1832, of the Bengal Code, that "whenever in any civil suit the parties to such suit may be of different persuasions, when one party shall be of the Hindoo and the other of the Mahomedan persuasion, or where one or more of the parties to the suit shall not be either of the Mahomedan or Hindoo persuasions, the laws of those religions shall not be permitted to operate to deprive such party or parties of any property to which, but for the operation of such laws, they would have been entitled:" and whereas it will be beneficial to extend the principle of that enactment throughout the territories subject to the government of the East India Company, it is enacted as follows:

I. So much of any law or usage now in force within the territories subject to the government of the East India Company, as inflicts on any person forfeiture of rights or property, or may be held in any way to impair or affect any right

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of

48 CONNEXION OF GOVERNMENT WITH IDOLATRY, &c.

of inheritance, by reason of his or her renouncing, or having been excluded from the communion of any religion, or being deprived of caste, shall cease to be enforced as law in the courts of the East India Company, and in the courts established by Royal Charter within the said territories.

The foregoing Act to be published for general information.

(True copies.)

(signed) *T. L. Peacock,*
Examiner of India Correspondence.

East India House,
30 April 1851.

Recd by Steam 1-10-51

43
SANITARIUM, NEILGHERRIES.

RETURN to an Order of the Honourable The House of Commons,
dated 21 June 1849;—for,

COPIES "of all PAPERS relative to the Formation of a SANITARIUM on the
Neilgherries for EUROPEAN TROOPS."

East India House,
August 1850. }

J. D. DICKINSON,
Deputy Secretary.

(*Mr. Hume.*)

Ordered, by The House of Commons, to be Printed,
15 August 1850.

IDOLATRY (INDIA).

COMMUNICATIONS in relation to the Connexion of
the Government of *British India* with IDOLATRY,
or with MAHOMETANISM; including Copies
of any Communication between the Court of
Directors of the East India Company and the
Governor General of India in Council, relating
to the Juggernaut Pagoda.

(*Sir Robert Harry Inglis.*)

Ordered, by The House of Commons, to be Printed,
7 May 1851.

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Under 8 oz.

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COPIES of all PAPERS relative to the Formation of a SANITARIUM on the Neilgherries for EUROPEAN TROOPS.

EXTRACT Revenue Letter from Fort St. George; dated 6 July 1821.

Para. 47. WE beg leave to draw the attention of your Honourable Court to a letter from Mr. Sullivan, Collector of Coimbatore, conveying interesting information with respect to the Neilgherry Hills, in his district, and the manners and customs of their inhabitants. Anticipating much advantage from the acquisition of an accurate geographical and statistical knowledge of that tract of country, we adopted Mr. Sullivan's suggestion for employing in that manner Lieutenant M'Pherson, the officer under whose directions a road to the hills was then making. We also observed, that if the existence of the practice of infanticide (a point involved in doubt) should be established, it would form one of Lieutenant M'Pherson's objects of attention to put a stop to it, by all the means of encouragement and persuasion in his power.

EXTRACT Fort St. George Revenue Consultations; 21 July 1820.

LETTER from J. Sullivan, Esq. to D. Hill, Esq., Secretary to Government, Fort St. George.

Sir,

I HAVE taken the liberty more than once to trouble Government about the Neilgherry Mountains. I have lately had another opportunity of visiting them, and of comparing my notes upon the subject with those of Lieutenant M'Pherson, the officer employed in superintending the formation of the road.

2. As it will cost some money, I thought it right to satisfy myself, by minute inquiries, that the Government was not likely to be put to useless expense, I knew that Lieutenant M'Pherson had gone up the mountains in a deplorable state of health, and that he was a bad fever subject. I called upon him, therefore, to report to me, for the information of Government, his opinion of the climate, and its effects upon him and his followers, the greater proportion of whom were poor naked Coolies from Trichinopoly. I beg leave to enclose Lieutenant M'Pherson's answer, which is entirely satisfactory with regard to the climate, and contains interesting information upon other points. If the air was not unusually pure and healthy, it is probable that the officer and his party would have suffered severely, as they were exposed for several nights to heavy rains, the greater proportion of these being without clothes or shelter.

5. The thermometer, during the months of March, April and May, ranged from 54 to 74; it seldom reached this mark, and was often much below it during the hottest part of the day. The mean temperature of the air in the three months was about 64, and this was the hottest season of the year; during the rest of the year the climate is infinitely cooler, and extremely cold in the winter. There is no Asiatic or African climate known to us (with the exception of that of the Nepal Mountains) so cool and equal throughout the year, as the climate of the Neilgherries; and I have no doubt that when the road is made accessible, and a medical man stationed there, these mountains will become the general resort of invalids, instead of the Cape and the Isle of France. It is needless to dwell upon the saving of expense which this would occasion, both to the public and individuals.

4. To get the road properly made, it is very desirable that the party of pioneers should be increased; 20 men, in addition to the 15 now employed, would be sufficient. The party was originally stronger, but many men were carried off by the cholera before they reached the mountains.

5. The labour of the convicts at Salem and Coimbatore might also be employed in forming the road, with great advantage. It has been thought inexpedient to employ them on this work, first, from considerations of health; secondly, from the danger of the prisoners escaping; and, lastly, from the comparative value of their labours as now employed. The climate, both of Coimbatore and Salem, is notoriously more unhealthy than that of the mountains; fever invariably prevails in both these places, to a certain extent, in the hot months; and at Salem I know the deaths this year amongst the prisoners, from cholera and fever, have been so numerous, as to induce the judge to make a public representation on the subject. On the mountains there were but three men last month amongst the pioneers and Coolies taking medicines; cholera is quite unknown, and fever comparatively rare. When the prisoners are once up, there is little danger of their getting down unperceived; there is only one pathway, and the country on either side of it is so rugged and steep, that a prisoner would not dare to deviate from it; a sentinel, therefore, at the top and bottom of the pass, would be sufficient to prevent the escape of any person employed in working under the officer. With regard to the last objection, the comparative value of their labours elsewhere, I can only say, that at Coimbatore they do nothing throughout the year but repair a few yards of road immediately round the tower, and at Salem their labours are not much more important.

6. The road up the mountains is, I believe, a great public object, and one in which the whole European community is concerned; and my reason for being so urgent about the prisoners is, that Coolies are not to be hired in Coimbatore, and that it is expensive bringing them from a distance.

7. The next point that I wish to bring to the notice of Government is of more importance; there is very strong reason to believe that the practice of female infanticide prevails amongst one class of the mountaineers, the Todewars. They are supposed to be descended from the original inhabitants of the Hills; only one wife is permitted to a family, however numerous the brethren may be. This singular custom, and the great preponderance of the male over the female population, excited suspicions that unfair means were used to keep down the latter to a certain level. Lieutenant M'Pherson has made particular inquiries upon this subject, and the result of them leaves little room for doubt. It appears that the eldest daughter in every family is alone preserved, and that the rest of the females are destroyed immediately after their birth. The reason that is assigned for this inhuman practice by the natives themselves, is the fear that if females increased too much, they would be compelled to marry into other and lower castes.

8. It is of course very desirable that these inquiries should be followed up, and that means should be taken to put a stop to this destruction of human life. The fittest instrument for the task is Mr. M'Pherson; he is now established on the Hills, and has succeeded in conciliating the people, and gaining their confidence. The residence of the Todewars is generally near the summits of the highest Hills, in the centre of the pasture lands, and away from all other habitations. It would be necessary for Mr. M'Pherson to pay them frequent visits, and to transport his tent, and every article of necessity, except milk, from a distance. There are no carriage cattle upon the mountains; all baggage must be transported by Coolies. A subaltern's purse would of course be quite inadequate to support charges of this kind; it is necessary also to induce servants to stay on the Hills, to give them high pay and warm clothes.

9. If the Governor in Council could give Mr. M'Pherson a salary equal to what officers of his own rank received when employed on survey, he would be able to move about the Hills, and exert himself to save the female children, who now perish, probably in numbers, and to make a complete survey of the country for the information of Government, and without interfering at all with the Surveyor-general's Department.

10. My own mind is strongly impressed with the important results which may follow from the discovery of this country, as affording an excellent asylum for invalids, both officers and soldiers. The most satisfactory proof has been adduced in favour of the climate. It is literally true that out of the sun, heat is not known on the mountains in any one month of the year. The soil is remarkably fertile; wheat and barley are already cultivated, and many of the European fruits grow wild, and only require culture to attain perfection.

If

If there should be any apprehension that my fancy is more lively than it ought to be in the picture I have drawn of this singularly interesting country, the reality of it may be ascertained by reference to several gentlemen who have visited it.

I have, &c.

(signed) J. Sullivan,
Collector.

Madras, 5 July 1820.

To John Sullivan, Esq.

Sir,

I HAVE the honour to acknowledge the receipt of your letter of the 1st instant, calling upon me to state my opinion of the climate of this lofty region, its effects upon myself, and the people under my orders; the diseases of the natives, and whether they are more or less liable to fever than the inhabitants of the low district; the capabilities and resources of the country, whether it is adapted for the growth of European productions, and generally to remark on any other topic worthy of being brought to the notice of the public or of Government.

Limited as is the information a person in my humble situation in this country has an opportunity of showing on some of those heads, I am sensible I can do the subject but little justice; yet, as a plain statement of facts may do much good by bringing to the notice of Government and the European community the temperature and salubrity which this extraordinary and interesting country enjoys, above every other to which we can have convenient access, I undertake the task with pleasure, but with much diffidence.

With respect to the climate of the Neilgherry, in so far as my experience has hitherto extended, I think I may venture to pronounce it one of the pleasantest in the world as it regards temperature; my residence in these mountains has been since the 14th of March (now about three months), and probably the hottest season of the year, a reference to the monthly registers of the thermometer with which I have furnished you, will prove that this is incomparably the most temperate Asiatic climate with which we are yet acquainted, and far superior to that of the Cape or the Mauritius; here, at no season of the year is it too hot in the shade, and to sleep under a light blanket in the warmest months is always agreeable. To invalids, and people suffering from the debility produced by a long residence in a hot climate, this, I should think, must prove of the first importance. Neither hot winds nor sultry nights are here known; during the continuance of the milder months (for we have no hot ones) the mornings and evenings are so cool, that a visitor from the low lands is very willing to seek the warmth of the sun, and one may almost every day take exercise in the open air, suffering no other inconvenience than perhaps being a little sun-burnt. I am informed by gentlemen who have visited the Hills in December, January and February, that the thermometer is frequently below the freezing point, and that ice is found on the Chattys in the mornings. It is at that season very cold and chilly, and it will be absolutely necessary to furnish with warm clothing such natives as may accompany their masters to the Hills, for otherwise they will be liable to attacks of ague and bowel complaints from the excessive coldness of the night air.

So long back as 1815, I suffered an attack of the Ganjam epidemic, which appears to be an intermittent in its most malignant form, since which period, when in feverish situations, or after exposure to inclement weather, I have been subject to occasional attacks of fever. At Madras, in December last, while residing in a house nearly surrounded by water (in Chintachepelta) I had two attacks of ague; in the February following at Coimbatore, I was nearly brought to the brink of the grave by the same disorder; in March I ascended the Neilgherry weak and debilitated; in a few days my appetite was restored, and I soon recovered health and strength, since which period I have not had a single day's sickness.

My followers and servants, without exception, had all the fever of the low country, and some of them ascended the Hill suffering under its effects; in a few days they also completely recovered (bark was administered to them), and, except in two instances, there have been no relapses; the Coolies employed under my orders joined me on the 22d April, the very day, it will be seen by the register

1. Temperature of the climate.

2. The effects of the climate on myself, and on the constitution of the people under my orders.

of the thermometer, on which the rains commence that usually fall here about that season; and though they were exposed to severe winds and rain for several nights without cover, there were but seven or eight of them complaining of bowel complaint or slight agues, and as the weather cleared up, all of them recovered, and on this day, amongst my followers of all descriptions, but three are taking medicine.

Of the diseases of the natives, and whether they, or the inhabitants below, are most subject to fever.

I have been particular in inquiries relative to the diseases of the natives, and whether or not epidemic or infectious maladies are ever prevalent amongst them; the result has been most satisfactory, their appearance, indeed, bespeaks them not a sickly race, no epidemic was ever known amongst them but the small-pox, of which they stand in much fear, and which occasionally makes dreadful ravages amongst them, and causes a great waste of population. The scourge of the low lands, the cholera morbus, has never extended to these Hills. More instances of fever have occurred in the Hills within the last two years than was ever known before; but, I believe for one case of fever here, more than 30 occur below.

The resources of the country.

The Hills produce a variety of grains, pulses and other articles which are subjects of exportation, such as wheat, barley, pease, nachneg, and a variety of small grains; onions, garlic, ghee, honey, bees-wax, dammer, sandal-wood, hides and rattans. Some pepper, and excellent opium are amongst their productions; the inhabitants reserve grain, &c., just, enough for seed and for their own subsistence, so that nothing can be obtained here for money except milk and ghee.

Nature of the soil, and whether adapted for the growth of European productions.

The soil is uncommonly good, generally a fine rich dark vegetable mould, mixed with red earth; it is perhaps not too bold an assertion to say, that almost all European productions would grow here, when we consider its advantages of climate, soil, and the great facility of obtaining water for the purposes of irrigation, from innumerable and inexhaustible springs and rivulets gushing on all sides from the Hills.

The face of the country, so far as I have seen, is uneven hills and bottoms, for they are too confined to be called valleys; but the Hills, to their very summits, are generally covered with a fine soil, and their ascent is not so abrupt or steep but they might easily be subjected to the labours of the plough; unlike the other hilly regions of India, there is very little jungle (and to this and to its elevation must be attributed, I think, its temperature of climate and salubrity of air), and all that is required to bring the country under a more complete system of cultivation is the protection of the ryot against the tyranny and oppression of the heads of villages, more extended population, and a free market.

Division of the country into nauds or districts.

The region denominated the Neilgherry, is divided into three nauds or districts, the Todernaud, Mekenaud and Purganaud; these are inhabited by a race of people differing in language, appearance, and doubtless in origin, and divided into twelve castes, the three principal and most marked being the Todewars, Kottewars and Bergers.

TODEWARS.

These appear to be the aborigines of the Hills; they are the acknowledged lords of the soil by the other castes, by the universal practice prevailing amongst them of presenting to the Todewars a certain portion of each crop yearly. The Todewars themselves never engage in the labours of agriculture; they have large herds of buffaloes, with which they range from pasture to pasture, and subsist entirely upon their produce, and on the tribute of grain presented to them by their vassals.

Their appearance.

The Todewar is fair and handsome, with a fine expressive countenance, an intelligent eye, and an aquiline nose; his appearance is manly, being tall, strong-built, and well set-up; his limbs muscular and finely proportioned.

It is not uncommon in a circle of 20 Todewars to find two or three above six feet high, their hair generally curls, and some of the women have natural ringlets which many a fine lady might envy; but this is their only charm, possessing no other grace nor beauty. Men and women go bare-headed and bare-footed, a single cloth which envelopes their persons is the dress common to both sexes.

Singular customs amongst the Todewars.

A singular custom prevails amongst this caste, the brothers of a family having but one wife in common. They serve her on all occasions, and carry her on their shoulders when she journeys or chooses to visit. She selects whom she pleases as her companion in bed and board; in short, her sway is universal in the family, and her orders not to be disputed. Neither the men nor the women ever wash their clothes, which they wear until they drop off from age and filth.

Among

Among this people it is to be feared the practice of female infanticide prevails. I have had information on this head which leaves me little room to doubt the fact; they themselves disavow it if questioned, and account for the comparative paucity of the female sex by declaring that amongst them more men than women are born. It is my intention, at a future period, to prosecute further inquiry into this subject, with a view of submitting some plan, if possible, for its prevention.

Female infanticide.

This is esteemed a low caste, the Paria of the Hills, and none of the other castes will eat with them, or even enter their houses; they are the artisans, being carpenters, braziers, silver and iron smiths, chucklers and chutty makers; they are also the musicians and dancers, in which amusement the women never engage. Their dress is the same as the Todewars, a coarse loose cloth, which they also never purify by washing; they go bare-headed and bare-footed in all weathers; they speak a language different from, and not understood by the Todewars; they are small men, but stout and muscular; the hair of very many of them is bushy, and usually tied behind in a knot.

KOTTEWARS.

This caste are the cultivators of the soil; they have a tradition amongst them that they emigrated from Mysore many years ago, they wear a turban, and shave the beard; sandals are not in use in the Hills; like the former caste, they do not employ a washerwoman on any occasion.

BERGERS.

The marriages of this caste remind one of what is called "bundling" in Wales; the bride and bridegroom being bundled together for the night; in the morning the bride is questioned by her relations whether she is pleased with her husband elect; if she answers in the affirmative, it is a marriage; if not, the bridegroom is immediately discharged, and the lady does not suffer in reputation if she thus discards half-a-dozen suitors.

Their marriage ceremony.

Liquors of an intoxicating quality are never distilled in the Hills, nor drunk by any of the castes; opium is chewed, but I believe seldom, if ever, to excess.

Intoxicating liquors or drugs.

As drunkenness is unknown here, so likewise is its usual attendant, crime. Robbery or murder being unheard of, and I believe petty pilfering even seldom, if at all practised.

Crimes.

All the castes worship one God, the Creator of Heaven and Earth; they sometimes make images, but they say these are not Gods, but serve to remind one of him. Idols are not common, and I have never seen one: they pay a yearly visit to Rungasawmy Coil, which is, I believe, the only pagoda in the country. They make offerings of the fruits of the soil, but do not sacrifice.

Their worship.

They have two holydays or days of rest in the week (Saturday and Monday), on which they will on no account work their cattle. Though they will do nothing for themselves on those days, they count it no sin to do service for me.

Days of rest.

This caste eat animal food; but individuals born on a Friday are prohibited this indulgence; their diet must consist exclusively of milk and vegetables.

Eat animal food.

Cultivation is carried on with much pains and wonderful neatness; they plough the field five times, and weed it carefully before they deposit the seed, the weeding is performed by the women and children with a crooked iron instrument; they make an inclosure or pound of loose stones near the field to be cultivated, in which the cattle are confined at nights for a certain period, and they thus preserve and ripen the manure until it is fit for use.

Mode of cultivating and manuring the fields.

Of the grains, most of them may be said to be put in the ground soon after the first rains, that is about the end of May and beginning of June, and reaped towards the end of August and beginning of September; it is singular that they make no use of their forage; they leave it to rot on the ground.

Grains, when sown.

The opium is usually sown in October and gathered in January.

Opium, when sown and reaped. Wild fruits and flowers.

In the jungles are found a variety of wild fruits, and a profusion of beautiful flowers; of the former there are wild figs, strawberries, raspberries, red and white; a fruit resembling the gooseberry both in taste and internal structure, a berry, which the European visitors to the hills have called the barberry, and the natives juckul (the root of the bush on which this berry grows yields a most beautiful yellow dye), and many others; of the latter, the white rose, sometimes showing itself 30 or 40 feet high (being a creeper), honeysuckles, marigolds, and a hundred others, for which I have no name, adorn the jungles.

I am sensible that the above account is very imperfect, and but little calculated to give a proper description of the Hill, or the manners and customs of its inhabitants,

inhabitants, my opportunities of acquiring information having been necessarily confined, and the difficulty and expense of moving much about, where tents, baggage and everything must as yet be carried by men, has been no inconsiderable obstacle in the way of my being better acquainted with these subjects; on this account, as well as because I am but little in the habit of writing on any subject, I must solicit a partial perusal of the foregoing remarks.

I have, &c.

(signed) *Evan M'Pherson*,
Superintendent Neilgherry Roads.

Neilgherry, 12 June 1820.

To *John Sullivan*, Esq. Collector of Coimbatore.

Sir,

I AM directed to acknowledge the receipt of your letter of the 5th instant, and its enclosure, conveying interesting information with respect to the Neilgherry Hills, and the manners and customs of their inhabitants. The Governor in Council anticipates much advantage from the acquisition of an accurate geographical and statistical knowledge of that district, and is pleased to adopt your suggestion for employing Lieutenant Macpherson to obtain it, with the allowance of an officer of his rank employed as an assistant surveyor. He will draw that allowance from the 1st of August. Should the existence of the practice of infanticide be established, it will form one of Lieutenant Macpherson's objects of attention to put a stop to it, by all the means of encouragement and persuasion in his power.

I am, &c.

(signed) *D. Hill*,
Secretary to Government.

Fort St. George, 21 July 1820.

EXTRACT Revenue Letter to Fort St. George; dated 18 August 1824.

Letter from, dated 6 July 1821. (47) In consequence of information received from Lieutenant M'Pherson respecting the Neilgherry Hills, that officer has been employed to collect materials for a statistical report on the district.

39. We approve the Commission thus given to that Officer, and the instructions conveyed to him.

EXTRACT Public Letter from Fort St. George; dated 1 October 1822.

Para. 99. IN our general letter in the Revenue Department under date 6th July 1821, paragraph 47, we took the opportunity of drawing the attention of your Honourable Court to a letter which had been received from Mr. John Sullivan, Collector of Coimbatore, conveying interesting information respecting the Neilgherry Mountains situated in his district, and reported that we had employed Lieutenant Macpherson, with a party of pioneers, to open a road up them for the convenience of invalids who might be desirous of visiting them for the benefit of their health.

100. We have directed the Accountant-general to charge the expense incurred in effecting this object to the general department of the Government.

101. For more ample information regarding these Hills, we beg to refer your Honourable Court to the consultations noted in the margin. The Medical Board submitted for our consideration three able reports on the climate and general localities of these mountains, by three surgeons, Messrs. James, Stodart and Orton, who for some time had resided upon them, and recommended that an experiment should be made for the purpose of more clearly ascertaining the character of their climate, by a number of convalescent European soldiers drafted from different regiments serving under this Presidency being sent to reside upon them. As, however, we had it not in contemplation to recommend the formation of any public establishment in that situation, we declined to accede to the suggestion.

EXTRACT Fort St. George Public Consultations, 19 June 1821.

READ the following Letter from the Principal Collector of Coimbatore:—

To *D. Hill*, Esq., Secretary to Government, Fort St. George.

Sir,

Para. 1. I HAVE the honour to enclose the copy of a letter addressed to me by Lieutenant Macpherson, the officer employed on service in the Neilgherry Mountains.

2. More than three years have elapsed since these mountains became an object of interest to the public, and a place of resort for travellers and invalids. The nature of the climate has been clearly ascertained by the repeated visits of gentlemen at different seasons within this period, and more particularly by the observations and experience of Lieutenant Macpherson, during an uninterrupted residence on the mountains of 14 months. The result of these observations is to establish beyond a doubt, not only the extraordinary coolness, but the salubrity of the climate.

3. I have myself resided in the mountains during part of the hottest months in three successive years, and I have never observed the thermometer to stand at more than 74°; it is very seldom so high, whilst it invariably sinks in the night to 54° and 58°. During the prevalence of the Malabar monsoon the temperature is very considerably cooler, and in the coolest season, the months of December, January and February, frosts are common, and the thermometer has been observed to fall as low as 24°. It results from these facts, that the climate, one month with another, throughout the year, is cooler than that either of the Cape or of the Isle of France, or of any other place within the limits of the Company's Charter to which persons from India are in the habit of resorting for health, and there can be no doubt that these mountains would be generally frequented by the invalids, if it was possible for them to procure accommodation and medical advice. A few sick are now residing here, and others have been deterred from coming, merely because there is no place for them to live in, and no medical attendance but what Mr. Jones (the Assistant-surgeon at Coimbatore) can give them during his occasional visits to this part of the country. It would certainly be a great convenience to individuals, and, eventually, an immense saving to Government, if the Neilgherry Mountains were to become the resort of invalids, instead of their being obliged to proceed to the Cape and other distant stations; and all that is wanting to effect this is the construction of a few small bungalows, and the appointment of a medical officer to attend the sick. The want of medical advice is so much felt, that some of the sick who are now on the mountains have signified their intention of quitting them, when Mr. Jones, who is now here, returns to Coimbatore.

Two bungalows sufficiently comfortable might be built for 2,000 rupees, and they might be kept in repair by the charge of a moderate rent to tenants. I feel assured that very great advantages will be derived from the outlay of this small sum, in the event of a medical officer being permanently stationed on the hills to give attendance to such invalids as may resort to them.

I have, &c.

(signed) *J. Sullivan*,
Collector.

Dimhutty, May 1821.

P. S.—For 24 days during the last month (April) the thermometer at noon was under 70°, and it never rose above 72°.

To John Sullivan, Esq., Head Collector and Magistrate, Zillah of Coimbatore.

Sir,

I HAVE the honour to report to you, that about 10 miles of the Neilgherry Road are already finished, from Dimhuty downwards towards Streemook; and I expect that before the end of the year the ghaut will be entirely open, and the road completed and accessible for paulankeens and carriage-cattle lightly laden.

Having now resided upwards of a twelvemonth on the Neilgherry Mountains, I consider it my duty publicly to record the opinion which this experience has enabled me to form of the salubrity of the climate, as deduced from its effects on my own constitution, and as it affected the health of my people under my orders.

The table of the extremes of heat and cold in the shade throughout the last year (viz. from March 1820 to March 1821), which accompanies this letter, will point out, better than any words of mine, the wonderful temperature of the air, and the small variation from heat to cold throughout a complete year; and if it be admitted that it is great and sudden changes which are injurious to the health of the invalid, the extraordinary equality of the temperature of the Neilgherry Mountains would alone, *ceteris paribus*, lead to the conclusion that it must yield to no climate in the world; and here we have neither jungles nor marshes to corrupt the air, which are usually assigned as the causes which render other hilly regions unhealthy. The effect of the climate on my own constitution has been peculiarly beneficial; I ascended the mountains suffering from recent fever, without strength or appetite; the latter I recovered here immediately, and I soon regained strength; and from that day to the present I have not had one moment's ailment, although often exposed to every vicissitude of weather.

The labourers employed under my orders were necessarily liable to many hardships, inhabiting little, wretched, temporary huts, and sleeping on the cold ground; yet, out of the whole number employed on the road, varying from 50 to 240, but four deaths occurred throughout the year, a proportion remarkably small amongst the labouring class in any climate or situation. Several of them and of my own servants suffered from ague on their first arrival here; but these attacks were exceedingly slight, and uniformly yielded in a few days to remedies administered by myself. To these facts it may be objected, that though the Neilgherry Mountains proved so remarkably healthy throughout the preceding year, that another season may turn out to be equally sickly; to this I can only reply, that the country has now been visited annually since 1818, at different seasons of the year, by the gentlemen of Coimbatore and others, and that their experience goes entirely to support what I have recorded of my own.

The number of days in which rain fell during the last 12 months on these mountains, was greater than in any other country I have visited in India. The rain, however, fell for the most part in showers and at intervals; and I have reason to believe that the rains extended through a longer period of the last year than is usual.

If, in opening the ghaut it was the intention of the Government to afford facility of access to invalids to try the benefit of the air of these mountains, the benevolent intention is greatly frustrated by the want of accommodation, and the great distance at which medical aid can be obtained in case of necessity; the nearest station, Coimbatore, being about 40 miles off, in which is included 15 of ghaut. Having now stated all that I know for or against the salubrity of the climate, I shall conclude by remarking, that it seems admirably calculated to the growth of European productions. In a small spot of ground cultivated by myself, I have raised almost every variety of European vegetable in high perfection, and two other gardens are cultivated on the hills on a more extended scale, with equal success.

I have, &c.

(signed) E. Macpherson,

Lieutenant, Superintendent Neilgherry Road.

Neilgherry Mountains,
21 March 1821.

TABLE

TABLE showing the Extreme of Heat and Cold in the Shade on the Neilgherry Mountains, throughout the year 1820-21.

MONTHS.	Greatest Degree of Cold in the Hut at 6 o'clock, Morning.	Greatest Degree of Heat in the Hut at Noon.	Number of Days in each Month in which the Thermometer at Noon was under 70°.
March - - -	55	72½	6: no observation from the 1st to the 15th.
April - - -	55	77	12.
May - - -	57	79	13.
June - - -	57	71	26.
July - - -	55	72	26.
August - - -	57	70	24.
September - - -	57	77	25: no observation for four days.
October - - -	52	73½	26.
November - - -	42	69	30.
December - - -	44	71	26.
January - - -	49	64½	18: no observation for 13 days.
February - - -	43	64	14: no observation for the remainder.

N.B.—The number of days in which observations of the thermometer were made, was 311, and it stood below 70° at noon for 274 days. It may be remarked here, that the observations were taken at Jackainary, the first stage on the mountains. In the interior of the Hills it is many degrees cooler, and it is probable that for six or eight weeks, in the months of December, January and February, the thermometer will be found about the freezing point at dawn of day. In the Toduad District, on the 24th, 25th and 26th February last, I observed the thermometer at dawn of day to stand at 35°, 24½° and 29°.

Ordered, in consequence, that the following letter be despatched:—

(No. 523.)

To the Medical Board.

Gentlemen,

I AM directed by the Honourable the Governor in Council to transmit to you the accompanying copy of a letter from the Principal Collector of Coimbatore, with a copy of its enclosure. You will perceive that the object of that officer is to render the Neilgherry Mountains, in his district, a place of general resort for Europeans on the establishment suffering from the influence of a tropical climate; and on various grounds the Governor in Council deems the object to be highly important, if a just estimate has been formed of the climate of these mountains. It is necessary, however, that this last point should be ascertained before adopting the proposed arrangements, and the Governor in Council desires that you will take the best measures for the purpose, and submit to Government such information as you may obtain. In the event of your report being favourable, the Governor in Council wishes you further to take into consideration whether it might not prove a beneficial arrangement to provide medical attendance in the Neilgherry Mountains, by means of medical officers, who might themselves stand in need of a change of climate.

I have, &c.

(signed) D. Hill,
Secretary to Government.

Fort St. George,
19 June 1821.

EXTRACT Fort St. George Public Consultations; 14 September 1821.

READ the following letter from the Medical Board :—

(No. 283.)

No. 15. To the Right honourable Major-General Sir *Thomas Munro*, K.C.B., Governor in Council, &c. &c. &c., Fort St. George.

Honourable Sir,

Para. 1. WE have the honour to state, that immediately after receiving Mr. Secretary Hill's letter, No. 523, dated the 19th June, desiring us to take the best measures for ascertaining, with reference to opinions therewith transmitted for our consideration, whether a just estimate had been formed of the climate of the Neilgherry Mountains, and to submit to Government such information as we might obtain on the subject, we addressed a letter to Mr. Jones, zillah surgeon of Coimbatore, who, we observed, by the documents transmitted to us in Mr. Hill's letter, had visited these mountains. That officer's report is favourable, but by no means conclusive; and having no previous information whatever regarding the Neilgherries, we took advantage of the circumstance of Mr. Acting-surgeon Orton, of His Majesty's 34th Regiment, and Mr. Acting-surgeon Stodart, of His Majesty's Royals, both proceeding thither for the benefit of their health, to call upon them to make the most careful observations on the climate and localities of these regions which their circumstances would permit, and to report to us the result for the ultimate information of Government. These officers are still in that quarter, and have not yet made any communication, but we fully trust to receive reports from them in due time.

We have, &c.

(signed) *Henry Harris*, M.D.
First Member.

John Goldie,
Second Member.

J. D. White,
Third Member.

Fort St. George Medical Board Office,
30 August 1821.

EXTRACT Fort St. George Public Consultations; 22 February 1822.

READ the following letter :—

(No. 8.)

To the Honourable Major-General Sir *Thomas Munro*, K.C.B., Governor in Council, &c. &c. &c., Fort St. George.

Honourable Sir,

* Nos. 1, 2 and 3. WITH reference to our letter of the 30th August last, we have now the honour to submit copies of the Reports* of Messrs. Jones, Stodart and Orton, on the Medical Topography of the Neilgherry Hills.

2. These reports are all valuable, and are more or less full, according to the opportunities of the observers. We beg particularly to notice that of Mr. Orton, as containing clear and just views of the subject, and exhibiting a spirit of observation and research highly creditable to that officer.

3. The Neilgherries appear, like other mountainous regions, to be favoured with a very cool atmosphere, and in as far as the solvent power of the air is concerned, which is in the ratio of its temperature, it may be presumed that it is also dry. For the recovery of patients, therefore, labouring under the effects of liver complaints and of dysenteries, and in the numerous cases of reduced health to which the heat and moisture of an intratropical climate give rise, we fully anticipate very great advantages from a resort to these Hills.

4. It would seem, however, that the Neilgherries are not exempt from the causes of fever, although these are not ordinarily productive of dangerous or inveterate types of that disease, and they cannot yet be pronounced to be free from such causes of disease as are not obvious to the senses, although certainly the presumption is in favour of their possessing a remarkable immunity from them

them. To patients who are subject to fever, the experiment appears to be of questionable propriety; yet even to them, the other recommendations of the climate, as tending to recruit the constitution generally, might warrant a cautious trial.

5. We collect from the reports, that the most eligible spot for fixing a residence has not yet been determined upon; and in reference thereto, as well as with a view of ascertaining the fact by experience, and of obviating the incurrence of public expense in erecting buildings, while there may be a chance of their locality turning out unfavourably, we would respectfully recommend, that, instead of erecting bungalows, as proposed by the Collector, Government should provide a suitable establishment of hospital tents for the accommodation of about 50 men; and as the proposal of the Collector appears in some measure to refer to the accommodation of gentlemen of the public service who may resort thither on sick certificate, Government may perhaps be induced to extend the provision of tentage to the accommodation of a certain number of gentlemen in officers' tents.

6. It does not appear necessary to fix any particular season for the resort of invalids, with reference to the Hills themselves. We would therefore respectfully advise, that as soon as the requisite accommodation of tents can be got ready on the spot, instructions be issued for the march of about ten European soldiers from Trichinopoly, the same number from Quilon, from Cannanore and Bangalore. By drawing the men from those opposite quarters, and different climates, some useful information might be acquired, and a greater scope afforded for the selection of cases most adapted for the experiment.

7. Having in our letter No. 2, of the 3d instant, recommended that Mr. Assistant-surgeon Jones should be continued with the Collectorate of Coimbatore with a reference to the object now under consideration, we have only further to observe, that on the pleasure of Government being signified, the superintending surgeons will be instructed as to the cases to be selected. With respect to the subsistence of the men who may thus be sent to the Neilgherries, and to the due maintenance of order and discipline, so necessary on their own account, as well as in reference to the inhabitants of a country so little habituated to intercourse with Europeans, and especially those of the description of soldiers, we have only to advert to the necessity of suitable arrangements being made by the respective departments before the men shall be moved from their stations.

8. We have thus stated to your Honour in Council what appears to us to be practicable and warranted, as far as our information extends, towards ascertaining experimentally the salubrity of the Neilgherry Hills over other parts of the territories of this Presidency. Their natural history, which involves the climate as well as the soil and productions, all intimately connected with health, can only, we apprehend, be fully and accurately obtained by the employment of the technical researches of a naturalist.

9. Should the Neilgherries be ultimately established as a station for the resort of invalids, so as to demand the exclusive services of a medical officer, we shall, in obedience to the suggestion conveyed in the concluding para. of Mr. Secretary Hill's letter of the 19th June last, consider the best means of combining that object with the employment of such as may themselves stand in need of a change of climate. At present, we trust that your Honour in Council will consider the services of the Assistant-surgeon now in that vicinity to be sufficient.

We have, &c.

(signed) *Henry Harris*, M.D.,
First Member,
John Goldie,
Second Member,
J. D. White,
Third Member, } Medical Board.

Fort St. George,
Medical Board Office, 10 January 1822.

P. S.—The rough sketch of the Neilgherry Hills which accompanied Mr. Orton's paper, having been submitted to Lieutenant-colonel Otto, Quarter-master-general, that officer has very obligingly furnished the copy now forwarded to Government. A comparative statement of the range of the thermometer on the Neilgherry Hills and at Madras is preparing, and will be forwarded without delay.

No. 1.

EXTRACT of a Letter from Mr. Assistant-Surgeon *John Jones*; dated
Coimbatore, 7 July 1821.

I HAVE the honour to acknowledge the receipt of your letter of the 25th ultimo.

With regard to the climate of the Neilgherry Hills, the observations which I have made enable me to speak decidedly in its favour. Several gentlemen of my acquaintance, who have at times visited them when suffering from ill health, have found benefit from it, and to my own personal knowledge in no instance has the contrary been the result.

I consider those Hills to be highly recommended as the resort for invalids in most cases, from a confidence as to the benefit they will derive from it; and such being the case, it will appear to the Board to be a fortunate circumstance that there is such a climate within the reach of all such persons in the southern part of the Peninsula, a trip to which will often save them and the Government the expense of their making a voyage to the Cape or to Europe.

Instead of my own notes of the weather made at the few times I have been there, I deem it better to forward a register of the thermometer for fifteen months successively, furnished me by the kindness of Lieutenant Macpherson, which will enable the Board to judge of the regularity and temperature of the climate.

With regard to the inhabitants themselves of those Hills, they are entirely free from the epidemic diseases that occasionally prevail in this and other districts. No case of spasmodic cholera has been known there, and they appear on the whole to be remarkably healthy; a lame or deformed object is very rarely seen, and there is reason to believe that some of the people attain to an extreme old age.

The mountains are situated about N. N. W. from Coimbatore, and their nearest base is about 20 miles distant from that place. They are bounded on the North by the table land of Mysore, on the South by the province of Malabar, to the West by Wynaad, to the East by the low land of Coimbatore, of which province these Hills form a part. They are entirely insulated from the eastern and western range of ghauts, by a valley from 5 to 20 miles in breadth, which forms a belt round them. The Rivers Myaar and the Sur Bhowanee have their sources in the highest peaks of the mountains, the one running from east to west, the other from west to east, until they find their way to the valley below. The Sur Bhowanee then rounds the southernmost, and the Myaar the northernmost point of the Hills, and their streams unite at Poughur, a few miles from Denargencottah, and form the Bhowanie River, which empties itself into the Cavery at Bhowanie.

Barometrical measurements have been taken of some of the stations on the mountains; and the heights computed from Hulhuty, a village at the foot of the mountains, are as follows:—

									Feet.
* The first village on the mountains.	Jackanairy*	-	-	-	-	-	-	-	4,659
	Jacktally	-	-	-	-	-	-	-	4,976
† The Collector has a bungalow here.	Dimhuty†	-	-	-	-	-	-	-	5,041
	Ootacamund	-	-	-	-	-	-	-	5,416

The height of Hulhuty above the level of the sea is from 900 to 1,000 feet. The real elevation of those parts of the mountains which have been measured may therefore be stated to be about 6,000 feet. No measurements, however, have been made of the highest peaks, and the only judgment that can be formed of their elevation is by the temperature at which water boils upon them. Upon one of the highest, "Moorchoorti Bet," water boiled at a temperature of 98°: calculating 700 feet to each degree of diminished temperature, this gives 9,800 feet for the elevation of the peak.

But as nothing like accuracy can be hoped for from an observation of this kind, made with a common thermometer, it may be prudent perhaps to deduct 1,000 feet from the calculation, and to call the elevation of this peak 8,800 feet above the level of the sea.

The length of the mountains from east to west, is from 40 to 50 miles, their breadth from north to south from 15 to 25. One of the most remarkable features is,

is, their entire freedom from jungle, with the exception of topes of wood, composed of large fruit trees. The whole surface of the country is clear, and fit for the plough; it is composed of a succession of hills more or less steep, which are separated by vallies; in these vallies streams of the purest water flow perpetually, affording inexhaustible supplies for irrigation.

The implements of husbandry are the same as those used below, but much greater pains are taken by the mountaineers in the cultivation of the soil, and in their home farms the seeds are never sown until the land has undergone three or four ploughings. The plough is followed by the women, who, with a mallet and stick pulverize the earth; it is then carefully manured, and afterwards sown. The soil is, for the most part, red, deep, and extremely fertile, yielding two crops in the year.

The principal grains cultivated are wheat, barley, poppies, peas, millet, garlic. European vegetables attain to a high degree of perfection, retaining all the original flavour, and yielding abundance of the finest seeds. A succession of crops is obtained of these throughout the year. Of European fruits, strawberries, peaches and apples have been tried; the former thrive uncommonly well; few peaches have yet been produced, but they were of a remarkably good kind. The apple trees are yet too young to give fruit. Pines and plantains have been tried without success.

Of the wild fruits, a species of the septospermum is the most deserving of notice. The mountains are covered with this plant; it grows to the size of the largest shrub, its leaves oval, deep green, the blossom similar to that of a peach; the fruit, in shape, like a medlar, but in size, internal conformation and taste, affording an exact resemblance to the gooseberry. It is eaten in quantities by the natives, and is considered a very wholesome fruit. A well-flavoured jelly can be made from the pulp.

The mountains afford a very rich field for botanical research. Amongst the flowers, which are produced in abundance, are the rose, red and white, myrtle, jasmine, honeysuckle, hyacinth, &c. The natives, though familiar with the names of every plant, appear to be entirely ignorant of the medical properties of any, and trust entirely to nature for the cure of their diseases.

The most prevalent of these appear to be leprosy, and diseases of the skin, arising partly, it is to be supposed, from the keen dry air, and from their over filthy habits, it being a common practice among them to permit their clothes to rot, unwashed, upon their backs.

The small-pox is much dreaded amongst them, but its appearance is unfrequent; it is either very slight, or makes dreadful ravages, for a person bearing the marks of the disease in his person is rarely to be seen.

The domestic animals on the Hills are black cattle and buffaloes, with a few goats; the former are numerous and very fine, yielding rich milk, and very excellent meat. Sheep have been recently introduced, but do not appear to thrive. Of wild animals, the principal are elk, hog, and a species of sheep, jungle dogs, hares, &c. Tigers occasionally find their way up from the sides of the Hills, but are said not to breed upon them. There are abundance of pea-fowl, jungle-fowl and black quail.

The chief food of the natives is a species of millet, called "koorly," barley, wheat, garlic, and quantities of rich and rancid ghee. They occasionally eat animal food.

The population is said not to exceed 5,000. This, for the extent of the country, is very small, and the want of a larger population is not easily accounted for, as the houses appear crowded with young and healthy children, and it is stated to be no uncommon circumstance for a woman to be the mother of 12 and 14 children.

I beg the particular attention of the Board to the register of the thermometer, as exhibiting a climate of extraordinary coolness and equality. The last was considered an extremely hot and wet year; and by comparing the register of the weather for the months of April, May and June of 1820, with the corresponding months of this year, a considerable diminution of temperature will be observed. There is every reason to think the climate as healthy as it is cold.

No. 2.

To *W. Scott*, Esq., Secretary Medical Board, Madras.

Sir,

I HAD the honour to receive your letter of the 16th July, requesting me to report on the salubrity of the climate of the Neilgherry Mountains. At that time my residence here had been so short, that I did not feel myself capable of forming an opinion on the subject.

I now, however, have the honour to lay before the Board all the information of that nature which I have been able to collect.

The few remarks which I have to offer will be comprised under the following heads:—

- 1st. Appearances of the country. Height.
- 2d. Temperature, and state of the weather.
- 3d. Experience of the effects of the climate.

The surface of the country is extremely uneven; nothing but mountains interspersed with vallies and deep ravines, so that the only level ground to be found is near the tops of the smaller hills. These, as well as the ridges, are generally in a state of cultivation, and are chosen by the natives for the situation of their villages. To this they appear to pay great attention, as their habitations are never seen in the valleys.

The soil is chiefly composed of red gravel, and in consequence of the inequality of the surface, the rain runs off as it falls.

On the eastern part of the range, the ground is covered principally with brushwood, chiefly the country gooseberry, having very little high or thick jungle. The latter appears in detached patches, in the manner of woods in Europe, which agreeably diversify the prospect.

On this part of the Hill there are no swamps of any consequence.

The eastern edge of the range is, however, thickly covered with high jungle and luxuriant vegetation.

The range itself forms a sort of table land, increasing in height to the westward.

The elevation of the first stage (Jackanary), which is about 10 miles from the base, appears, from some observations, which seem to be pretty accurate, about 5,000 feet above the sea; that of Dimhutti, three miles further, about 1,000 more. This height continues for about 10 miles to the westward, after which there is a rise of about 2,000 feet, into a part of the country called the Toodienaad. This part of the table land puts on a very different appearance from that which has been already described. The surface is much less uneven, consisting chiefly of small rises covered with short grass. The brushwood entirely disappears, but the large woods are much more numerous and extensive. The general appearance of the country is extremely beautiful, much more so than the eastern part of the range. The rain which falls here has not such a rapid descent, and, in some places, small swamps are formed between the eminences.

The temperature of the eastern part of the range is 25 or 26 degrees less than that of the low country; and that of the Toodienaad, or western range, is about eight degrees lower than the former. The lowest extreme which I have observed on the whole Hills is 52, and the highest 72, in the shade.

Experience of the effects of the Climate.—On this head I have very little to advance from my own knowledge. I have been informed by Lieutenant Macpherson, commanding a party of pioneers, and who has a number of Coolies employed in making a road, that, during the first year of his residence on the hills, not more than three deaths occurred out of the whole party, varying in number from 50 to 250. Mr. Macpherson, on his arrival here, was much debilitated from a recent attack of intermittent fever (to which he was subject); he, however, rapidly recovered strength, and remained free from disease during the whole of the time he was employed on the top of the Hill. He says, that several slight cases of fever occurred among the workmen, but that all bad symptoms disappeared on having recourse to medicine. The Coolies, he informs me, were but indifferently clothed.

About the beginning of the present year, however, Lieutenant Macpherson, together with his party, proceeded about half-way down the eastern edge of the

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Hills for the purpose of finishing the road, where they were surrounded by very thick jungle. At this place they remained healthy about two months; but during April and May a very great proportion had attacks of the worst kind of fever, and a number of fatal terminations ensued. Lieutenant Macpherson had likewise a return of fever during the above months.

Several natives, servants to a party of officers who ascended the Hills in June last, had attacks of fever. These, however, were brought on in some degree by exposure to the night air, and sleeping on the ground. My own servants, and those of some other officers, have continued healthy.

I have seen several cases of fever among the natives of the Hills. In them, the disease frequently terminates in dysentery, which in general proves fatal in a few days. It may be right to remark, that they are but very indifferently clothed, and their food is, in my opinion, unwholesome.

I understand that a number of European gentlemen have recovered rapidly from fever on ascending the Hills.

Mr. Orton has likewise, of late, reaped considerable benefit from the climate, although, for the first two months that he resided in it, he suffered from intermittent fever, to which he was previously subject, and had an attack at Bangalore, on his way to the Hills.

Lieutenant Cozens, who arrived here about a month since, labouring under chronic dysentery and hepatitis, informs me "that he finds himself much improved by the climate."

My own complaint is of a nature which, I fear, will require a long residence in a cold climate. I have, however, recovered my strength, in some degree, and, on the whole, feel myself much better.

In my opinion, this climate will be particularly favourable to Europeans who have suffered either from a long residence in a hot climate, or by frequent attacks of fever, hepatitis or dysentery, and more particularly when the latter disease has degenerated into that chronic state when temporary relief is scarcely afforded by medicine.

The greatest caution, however, is requisite on ascending the Hills, as the transition from excessive heat to a climate much below that of the European summer, is extremely sudden; warm clothing is indispensable. With regard to the natives, this ought to be particularly attended to; and besides, they ought to be prevented from sleeping on the ground, or exposing themselves to the night air.

Gentlemen proceeding to the Hills from the Presidency ought, in my opinion, to be strongly recommended to come by Mysore, or as far as Calicut, by sea. The temperature of the former is lower, by several degrees, than that of the Coimbatore district.

It may be worthy of remark, that although the spasmodic cholera has raged with great violence in the vicinity of the Hills below, yet not a single case of it has appeared among the natives here, during the time I allude to. I am informed that the natives had frequent communications with those of the low country.

I have, &c.

(signed) *W. Stoddart*,
Assistant-Surgeon, Royal Scots.

No. 3.

MEDICAL REPORT on the NEILGHERRY MOUNTAINS.

THIS tract of country is about 20 miles in breadth from north to south, and 50 in length from east to west. It is bounded on the north by Mysore, on the east and south by Coimbatore, and on the west by Malabar. It forms a perfect table land, its edges being well defined, and generally rising abruptly to the height of several thousand feet above the plain, and the lowest vallies on its surface being vastly higher than the low country. It is completely insulated, except perhaps at its western side, where the ghauts appear to be continued across it; but it is said to be completely separated on both sides from these also. The general elevation of the eastern half of the range, and a large tract of the north-

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west part, is between 5,000 and 6,000 feet above the sea; but on proceeding to the interior and western part, either from the east or north edge, we arrive at another abrupt ascent of 1,500 or 2,000 feet, which may be termed the second edge of the table land. On ascending this, we arrive at a very extensive and pretty level tract, forming the top of the table land, which is termed the Todienaad. Beyond this, at a great distance to the westward, is seen a great range of mountains still higher, which appears to be situated about the western extremity of the Neilgherry, and to be a part of the great line of western ghauts.

The strata of the Neilgherry are very similar to those of the Malabar coast in general, consisting chiefly of a great layer of laterite in various states over the basis of granite. Above this, again, are frequently formed strata of black earth, resembling the cotton soil of the low country, and of vegetable mould; but these are in very many places wanting, the laterite forming the surface; and as it is very gravelly, and unfit for vegetation, it gives the Hills a rather bare appearance.

The surface of the whole of the less elevated part of the country consists of a continued series of steep hills and mountains, without any level ground. It is almost entirely covered with short thin brushwood and grass, except where cultivated, and has no swamps, and very few woods, except at the extreme edges of the table land, which are thickly clothed with high jungle. The top of the table land, or Todienaad, has, however, a different appearance. It consists chiefly of swells of moderate height, quite free from brushwood, but interspersed with numerous swamps and patches of high and thick jungle, where much vegetable putrefaction is continually going on. It is uncultivated; but its soil appears very rich, as a thick layer of brown vegetable mould appears almost everywhere at the surface, producing thick short grass.

The inhabitants of the Neilgherry consist of three different castes of Hindoos—Bergers, Kottewars and Todewars, all living in separate villages. The Kottewars are a black and miserable looking race, of the lowest caste, and much resembling the Chucklers below. The Bergers, who compose the principal part of the population, are a better looking race, and bear no appearance of the effects of an unhealthy climate. Their complexion is rather lighter than that of the ryots below; but I cannot say that they exhibit either the firmness or muscularity one would expect to find in the inhabitants of a temperate climate; many of them have, however, much of the European contour of features, and particularly the Grecian nose. The Todewars are a very remarkable set of people; their stature is equal to that of Europeans, and they are nearly as muscular; so they differ very widely in these respects from other natives of India. Their features are so regular, that in a whole village scarcely a man could be found who might not be called handsome. Their dispositions, too, appear to be very different from those of other natives. They have a continual and excessive flow of spirits, and two of them became so much attached to Mr. Stoddart and myself, that they actually shed tears on our departure. They inhabit only the Todienaad. They live solely by attending buffaloes, and never cultivate the ground, migrating frequently from place to place on account of the grass. By their own account they are a very healthy race. The weather in June, when I ascended the mountains, was fine for about one-third of the month, the rest very rainy. In July several slight showers fell almost every day, and there was little sunshine; but no great quantity of rain fell. August was fine, almost throughout; September, October, and the beginning of November were very rainy, cloudy and foggy, the intervals of fine weather being very few, and not more than a day or two at a time. The falls were often very heavy, and continued. In October the prevailing wind changed from the westward to the eastward. I was informed that the months of November and December are also usually very rainy, the north-east monsoon prevailing in at least an equal degree with the south-west. But in the latter half of December the atmosphere becomes clear and very cold, and continues so all January, February and March; and all accounts speak of these months as being most delightful and healthy. April and May are rather showery, but perfectly temperate. The south-west monsoon sets in in the beginning of June. It may be said, therefore, in short, that the first three months of the year are dry, clear and very cold; the two next chiefly fine and cool, but rather showery; and the remaining seven for the most part rainy, foggy and cloudy, but with considerable intervals of fine weather.

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The changes in the weather are often extremely sudden; the sky, from being perfectly serene and bright, becoming all at once overcast by immense clouds, which, after a little while, disappear again as suddenly as they appeared, and this perhaps several times in a day. The weather, when fine, certainly is delightful. There is something highly exhilarating in breathing so rarefied an air when it is clear. The sky, when clear, exhibits a deep blue colour, such as we never see below; and under the same circumstances, distant objects appear uncommonly distinct and bright. It is also a strong fact in favour of the climate, that iron is slow in acquiring rust, even in rainy weather, at least in the south-west monsoon. Thunder and lightning seemed to be of rather rare occurrence, as we observed them only three or four times in a slight degree at the breaking up of fits of fine weather.

It is a very prevailing opinion among the natives of the lower country about the Neilgherry, that its climate is extremely unhealthy, and they have consequently the greatest dread of ascending it. I find also, that Dr. Buchanan mentions the existence of a similar report in the time of his visiting that neighbourhood (about 1800). It is said that this report is owing to the false accounts of the renters of the Hills, whose interest it was to keep Europeans in ignorance of them, and to the disagreeable impressions which natives receive from entering suddenly into so cold a climate in their half naked state. I fear, however, that it is not entirely, though in a great measure contradicted by late experience. It appears sufficiently evident, that some disposition to produce fever does exist in this climate; the principal question regarding it is the degree in which this cause prevails. From all that I have seen and heard on the subject, I should conclude that it certainly does not exist there in any greater degree than in the rest of the province of Coimbatore, or even in the less unhealthy parts of Mysore; and the low temperature of the climate must and does prove highly beneficial to many persons labouring under the diseases produced by a high one. But I will put the Board in possession of all the facts which have led me to these inferences.

I have incidentally met with a few cases of fever in the Berger and Kottewar villages, and there deaths appear to be rather too numerous. Six persons died in the village of Dimhutti, consisting of about 30 families, during the five months which I remained on the Hills. The Kottewar village in the same neighbourhood suffers at least as much; but the food and clothing of these poor people seems so very inadequate to the wants of nature, that they could scarcely be expected to be quite healthy in any climate. In the Todewar village of Ootacamund, I was informed that no death had happened for three years. A large party of pioneers and Coolies, employed in making a road up the Neilgherry, continued healthy, excepting rather frequent, but slight attacks of fever, during the year they were employed upon the table land, but have suffered extremely since they began the work at and near the bottom. Three-fourths of the servants and followers of four officers who went up in June last (of whom I was one), were very shortly attacked with fever, but all recovered; and, after two or three months, those who remained no longer suffered returns of it. A remarkable difference was found in the case of the very numerous followers of two officers, who went up in July and August; for though the circumstances were, in other respects, similar, not more than two or three of them suffered attacks during the three months they remained. From the facts and observations in my own case, it appeared very strongly that the first month of my residence on the hills (June) was much less healthy than the remaining four. It is to be remarked, that the south-west monsoon set in in June, and it is probable that the climate became more healthy in consequence of the first heavy rains, as is generally observed to be the case in hilly and jungly countries, particularly at Courtalune, the climate of which probably bears a great analogy to that of the Neilgherry.

It appears to me that many of the attacks of fever which occurred among our followers, were owing to exposure to cold and damp, the predisposing or principal cause having been contracted elsewhere, and that, therefore, the climate, in such cases, was no more to be blamed than that of Bangalore is, for the very numerous attacks of fever which occur there in persons arriving from Seringapatam. This opinion was strengthened by the circumstances of most of these attacks happening almost immediately after arrival on the Neilgherry. The operation of the great cause of endemic fever appears to be much more gradual, for a corps generally remains healthy for several months after arriving at Seringapatam. Again, we found that the attacks in our followers almost entirely

ceased to recur after we had been some time on the Hills, whilst at places where fever is endemic to a great extent, as at Seringapatam, the reverse is the case. The sudden transition too, from a very high to a low temperature, which is generally experienced on ascending the mountains, doubtless, is a great cause of the attacks of fever which occur. Thus, when I ascended them it was about the hottest season of the year. The thermometer, in the low country of Coimbatore, getting as high as 98, and not falling lower than 82; but after a march of ten miles to Jackanary, we found the temperature no higher than 72 in the afternoon, and as low as 60 at night. It is no wonder, therefore, that many attacks of fever were produced in persons who had no defence against the cold but a cumly or two, who all slept on the ground, and many of them in an open shed, with the wind blowing on them.

These circumstances evidently suggest the necessity for persons visiting the Neilgherry carefully to guard against exposure to cold and damp. I believe it will rarely be found that the attacks are not to be traced to some cause of that kind. The exciting cause of my first attack appeared to arise from walking for some distance in a heavy dew, among long grass and shrubs; another officer was attacked with fever on the day after his having got wet in a shower, and neglected to change his clothes. It is also necessary for the invalids to avoid much exposure to the sun; for though it is seldom so powerful as to be felt inconvenient, it always burns the face, almost as much as in the low country; and I know, from experience, that it is very injurious to health, and productive of fever.

A considerable number of European gentlemen have already visited the Neilgherry for the recovery of their health, and the results of these experiments seem in general to have been favourable. Mr. Sullivan, Collector of Coimbatore, attributes a complete renovation of his health, which had long been in a bad state, to a residence on these mountains, after having tried a voyage to the Cape of Good Hope, in vain. He has probably paid more attention to the subject than any other person, and has formed a very high opinion of the salubrity of climate. He states, in a letter to me, "Mr. Lutchtenault, French naturalist, came to me, at Coimbatore, in November 1818, with fever, and he was confined to his bed, and in a very dangerous state, until January, when he proceeded to Pondicherry. He returned in April in a most miserable state of weakness and suffering, hardly able to walk, without appetite, and with his skin the colour of saffron. He accompanied me up the Hills in May, and I never saw so great and so rapid a change in any man. He was able to take constant walking exercise, his appetite and strength were completely restored in less than three weeks, so that he was able to go from stage to stage on foot. Mr. Jones, the Assistant-surgeon here, was one of the party; he had been a fever subject for four years, and in the months of February, March and April, the attacks were repeated and violent; the Hill air completely set him up, and he has had no fever since. Until Mr. Macpherson caught his fever in the ghaut, he might be quoted as another remarkable instance of the effects of the climate on a fever subject."

The Military Chaplain of Trichinopoly visited the Neilgherry, in consequence of a severe chronic disease (of what nature I am not informed), but was shortly afterwards attacked with dysentery, and obliged to return for medical assistance. Captain Dun, Deputy Quartermaster-general of the Southern Division, made trial of the climate on account of severe headaches, arising from a fracture of the skull, and derived very great benefit from it. When I first saw him on his arrival here, he was very sallow and thin, and suffering greatly from his local affection; but when he left the place about four months afterwards, he had fully recovered his flesh, strength and looks, and almost entirely got rid of his headaches. Mr. Campbell, of the 34th Regiment, who went up along with him on common leave, had been slightly unwell all the way thither, and some weeks after his arrival had a very severe attack of remittent fever, with affection of the liver; but he had a very rapid recovery, and left the Hills in high health. Assistant-surgeon Stoddart, of the Royal Scots, went thither in consequence of violent palpitations of the heart, severe intermittent headaches, and other nervous affections, and in a short time his health was restored to its usual state; but his illness appeared to be owing to excessive mental labour, as he had the whole duty of his corps to perform in a very hot season at Trichinopoly, and probably would have recovered in any climate on his being relieved of so intolerable a burthen. Lieutenant Cozens, of the 25th N. I., went to the Neilgherry, labouring under epilepsy and chronic dysentery of long standing, for which he

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had been repeatedly advised to return to Europe. In the course of a month he found himself much better. He subsequently relapsed, but, upon the whole, expressed himself as much benefited by the climate when I left him. He appears to be a very proper subject for the experiment. If the climate should restore his health to any tolerable condition, it will be a strong argument in its favour. It is probable that it is in such cases as this, in chronic hepatitis, and various other local chronic affections, and in general relaxation and debility of the constitution from heat of climate, that the climate of the Neilgherry will be found most beneficial. In the present state of our experience on the subject, it certainly does not appear advisable for fever subjects to venture upon the experiment.

I was induced to make trial of the climate for a complaint of a local nature; my general health also was completely deranged; I was much emaciated and debilitated, and incapable of digesting a sufficient quantity of food. Since suffering severely from the Seringapatam fever, in 1815-16, I had always been a valetudinarian. On my way to the Neilgherry, I had one paroxysm of fever at Bangalore, and many more during the first half of my residence on the mountains, which appeared to prevent the climate having any considerable good effect either on my constitution or the local affection; subsequently, however, I recovered rapidly in every respect. I had another return of fever just before my leaving the Neilgherry, which proved rather obstinate, but did not materially throw me back; and I have since enjoyed a much greater share of general health, flesh and strength, than has fallen to my lot for years back. I noticed a striking peculiarity in the intermittent fever of the Neilgherry, in almost all the cases which came under my observation, that is, the absence of the sweating stage. In all the attacks which I experienced, there was scarcely ever the smallest appearance of unusual moisture on the skin. I found also that very small quantities of mercury quickly affected the mouth; this was probably owing to the cold preventing its passing off the skin. It seems to show that the very free use of calomel, which we are in the habit of making in this country, would be improper in the temperate climate of the Neilgherry, as it is in England. It is evident that a very remarkable suppression of the perspiration takes place in consequence of the sudden transition to the cold of the Neilgherry, from the great flow of urine which universally occurs for some time after entering the climate. May not this suppression be one of the causes of the attacks of fever which appear at the same time. The rigors are also very trifling in this fever; Mr. Macpherson, the officer of pioneers stationed here, informed me that the enlargement of the spleen was a very common attendant on the fever, which his party suffered from so severely at Seroloo, and that those who died were generally carried off by a chronic dysentery which supervened to the fever.

The temperature of the climate is already well known, from registers which have appeared in the public prints, and which appear to have been carefully kept by Mr. Macpherson. I subjoin a table of the monthly extremes for 12 months at Jackanary, compared with those of eight months of the preceding year at Madras, the former being extracted from Mr. Macpherson's registers, the latter from those kept at the Military Male Asylum. From this very imperfect comparison, it appears that the mean difference is about 18°. This, however, relates only to Jackanary, which is only about 5,000 feet high. The Todurnaad is nearly one-half higher, and may, therefore, be supposed to be about 25° colder than Madras. I observed by the thermometer the Todurnaad to be about eight degrees colder than Dimhuty. The most western part of the range, about the remarkable mountain called Moomurty, is probably much colder than even Ootacamund, at least the Todewars of the latter place informed us so, and Mr. Macpherson, during an excursion which he made in that part of the Hills, found the thermometer sink as low as 29½ and 24½, on the 25th and 26th February. The western extremity has been very little explored by Europeans.

I have endeavoured to ascertain the height of the Neilgherry by means of the boiling point of water, and annex the result of these observations in a Table. It cannot be considered as any more than an approximation to the truth; but I found the calculation to agree within 100 feet with one made by the barometer by a scientific gentleman at Dimhuty, the mercury being found there at 23.9.

Some idea of the topography of the country will be conveyed by the accompanying rude sketch of it. It has no pretensions to perfect accuracy, as I had

no better instrument for taking angles than a pocket compass, and was unable to go about sufficiently for the purpose; I have, however, taken some pains to try its correctness, and am confident that none of the places laid down will be found more than a mile out of their true situation.

In the event of Government forming an establishment for invalids on the Neilgherry, it will require mature consideration to fix on the most proper situation for that purpose. The neighbourhood of Dimhutty would be most convenient for procuring supplies, &c., by the new road, and on account of the Collector's establishment being placed there; but the country about Codavomoody is much prettier, more cultivated and populous. The Todurnaad, from its much greater height and coldness, would deserve the preference, were it not to be apprehended that its swamps and woods would be injurious; it does not, however, appear from experience that such is the case. The Todewars are a more robust and healthy race than the other castes, who occupy the less elevated parts. It is probable that a clear and dry tract may be found equally elevated with the Todurnaad. The country immediately west of Sooloor seems to possess all these advantages, and it is close to Mysore, and a pass leading down into it. It might be deemed eligible to erect a few small temporary buildings for the reception of sick officers, similar to some already raised by Mr. Sullivan for travellers, at several different parts of the table land. The experiments of proving, on a sufficiently large scale, the effects of this singular climate on the European constitution, would be a highly interesting one in a philosophical point of view, and, if successful, its results would be highly important and valuable.

TABLE of EXPERIMENTS on the Altitude of the *Neilgherry Mountains*, &c., by means of the Boiling Point of Water.

PLACE.	Boiling Point found.	Probable Elevation above the Sea, at the rough calculation of 555 Feet to every degree of the Boiling Point below 212.
Naikanary, at the top of the Pidnaigodroog Pass - -	209	- - 1,665 feet.
Colar - - - - -	208	- - 2,220 "
Bangalore - - - - -	207½	- - 2,500 "
Treemoka, in Coimbatore, at the foot of the Nilgherry Mountains - - - - -	210½	- - 832 "
Serooloo - - - - -	206	- - 3,330 "
Jackanary - - - - -	202½	- - 5,275 "
Dimhutty - - - - -	201½	- - 5,827 "
Codovomoody - - - - -	202	- - 5,550 "
A high Peak near Codovomoody	200	- - 6,660 "
Denaar - - - - -	202	- - 5,550 "
Sooloor - - - - -	202	- - 5,550 "
Ootacamund - - - - -	199	- - 7,215 "
North Peak of Bewy Bet -	197	- - 8,315 "

TABLE

TABLE, showing the EXTREMES of TEMPERATURE at *Jackanary*, in the *Neilgherry Mountains*, for Twelve Months of 1820, and at *Madras*, for Six Months of 1819.

	LEAST.		GREATEST.		MEAN DIFFERENCE.
	JACKANARY.	MADRAS.	JACKANARY.	MADRAS.	
March - - -	55	77	72½	83	16
April - - -	55	79	77	87	17
May - - -	57	82	79	91	18½
June - - -	51	-	71	-	-
July - - -	55	-	72	-	-
August - - -	57	79	70	87	19½
September - - -	57	-	77	-	-
October - - -	52	77	73½	85	18½
November - - -	42	-	69	-	-
December - - -	44	-	71	-	-
January - - -	49	69½	64½	80	18
February - - -	43	-	64	-	-

Madras, 2 January 1822.

(signed) *Regd. Orton*,
Assistant Surgeon, H. M. 34th Regt.

Ordered, in consequence, that the following letter be despatched:—

(No. 144.)

To the Inspector of the Government Press.

Sir,

I AM directed by the Honourable the Governor in Council to transmit to you, for publication in the Government Gazette, the accompanying Table of the temperature of the Neilgherry Mountains, in comparison with that of Madras.

I am, &c.

(signed) *H. Dickinson*,
Secretary to Government.

Fort St. George, 22 February 1822.

EXTRACT Fort St. George Public Consultations; 7 June 1822.

READ the following letter:—

To the Chief Secretary to Government, Fort St. George.

Sir,

I HAVE the honour to request, by order of the Medical Board, that you will submit to the consideration of the Honourable the Governor in Council, that advantage would, in their opinion, result from publishing in the Government Gazette, for general information, the official reports on the medical topography of the Neilgherry Hills, copies of which were transmitted in their letter, No. 8, dated 10th January last.

I have, &c.
(signed) *W. Scott*,
Secretary Medical Board.

Ordered, That copy of the Reports on the medical topography of the Neilgherry Hills, which accompanied the foregoing letter, be transmitted to the Inspector of the Government Press, for publication in the Government Gazette.

EXTRACT Public Letter to Fort St. George, dated 10 March 1824.

Letter from, dated 1 October 1822.
99 to 101. Reports relative to the Neilgherry Mountains,
in Coimbatore.

15. We hope that the climate of the Neilgherry Mountains will prove as beneficial to invalids as there seems reason to expect.

EXTRACT Revenue Letter from Fort St. George; dated 6 July 1827.

2. We have noted in the margin a voluminous correspondence on the subject of the Neilgherry Hills. The equal temperature and great salubrity of the climate on these Hills render them a desirable place of resort for invalids, and we have endeavoured, by opening roads and passes, purchasing buildings for the accommodation of the sick, appointing a medical officer to attend them, enabling officers resorting to the Hills to draw their pay from the Collector on the spot, and appointing a committee for framing and proposing detailed plans and arrangements, to make them available to all who may be disposed to repair to them, in preference to incurring the expense and exposing themselves to the inconvenience of a voyage to the Cape of Good Hope, or to Europe.

3. It was at one time our intention to transfer some of the European pensioners from the depôt at Cuddalore to the Neilgherries, and measures were in progress with that view; but the want of suitable accommodation to the extent required induced us temporarily to defer the execution of the project.

EXTRACT Public Letter from Madras; dated 8 February 1828.

2. We have now the honour to bring to the particular notice of your Honourable Court a minute recorded by our President, at our consultation under date the 11th December last, offering detailed observations on the best mode of rendering the Neilgherry Hills more generally beneficial.

3. Warmly concurring in the sentiments of our President that the measures which he recommended are demanded by every feeling of humanity and enlightened policy, that they will ultimately prove to be measures of true economy, and that they will obtain the cordial approbation of your Honourable Court, we have given immediate directions for carrying them into effect.

EXTRACT Fort St. George Revenue Consultations; 2 August 1825.

Ordered, That the following letters be despatched:—

From Mr. Chief Secretary *Hill* to the Medical Board.

Gentlemen,

I AM directed by the Honourable the Governor in Council to desire that you will report your opinion whether, from the experience which has now been obtained of the climate of the Neilgherry Hills, it would be advisable to provide accommodation, to a limited extent, for invalids resorting thither for the benefit of their health.

I have, &c.

(signed) *D. Hill*,
Secretary to Government.

Fort St. George, 2 August 1825.

From

From Mr. Chief Secretary *Hill* to the President and Members of the Board of Revenue.

Gentlemen,

I AM directed by the Honourable the Governor in Council to transmit to you the accompanying copy of a letter to the Medical Board, calling for a Report as to the expediency of providing accommodation, to a limited extent, for invalids resorting to the Neilgherry Hills for the benefit of their health. You will be pleased to make a reference on the same subject to the Principal Collector of Coimbatore, desiring him also to submit his sentiments regarding the best mode of providing the requisite accommodation, and the rules and terms under which he would propose that invalids should be allowed the use of it.

2. I enclose, for your information, a copy of a letter formerly received from the Principal Collector of Coimbatore, with a copy of the reply to it, relative to the purchase of two bungalows on the Neilgherry Hills. Dated 27 April and 30 April 1822.

I have, &c.

(signed) *D. Hill*,
Secretary to Government.

Fort St. George, 2 August 1825.

EXTRACT Proceedings of the Board of Revenue at Fort St. George; dated 8 August 1825.

From *J. Dent*, Esq., Secretary to the Board of Revenue, to *J. Sullivan*, Esq., Principal Collector of Coimbatore.

Sir,

I AM directed by the Board of Revenue to transmit to you the accompanying extract of a letter from the Chief Secretary to Government, with copy of a communication to the Medical Board, and to desire that you will submit a Report as to the expediency of providing accommodation to a limited extent for invalids resorting to the Neilgherry Hills, and of the rules and terms under which you would propose that invalids should be allowed the use of it.

(signed) *J. Dent*,

Fort St. George, 8 August 1845. Secretary.

EXTRACT Proceedings of the Board of Revenue at Fort St. George; 8 September 1825.

READ the following letters:—

From *J. Sullivan*, Esq., Principal Collector of Coimbatore, to the Board of Revenue.

Gentlemen,

I HAVE the honour to acknowledge the receipt of Mr. Dent's letter of the 8th instant, with its enclosures, relative to the expediency or otherwise of providing accommodation to a limited extent for invalids resorting to the Neilgherries, of the best means of providing such accommodation, and of the rules and terms upon which invalids should have the use of it.

2. Conceiving that the opinion of a medical man upon the expediency of the project would be entitled to more weight than any opinion of my own, I requested Mr. Staff-surgeon Haines, who is now residing on the Hills, to give me his sentiments on the subject. The result of the reference is given in the enclosed letter from that gentleman.

3. It will be observed that the favourable opinion given of the climate in the Report is founded mainly upon the healthy condition of the native population of the Hills. This is the most satisfactory test to which the question in dispute can be brought. The benefit which the comparatively few Europeans who have resorted to the Neilgherries may have derived from the climate during the last five years is not a convincing proof that it is uniformly healthy, but the uniformly healthy state of the mass of the resident population carries this conviction with it.

it. To those who are acquainted with the hilly countries of the south, and I believe of the north also, it is well known that the character of their climate is legibly written in the diseased appearance of the natives. This is the case of the population of many hilly tracts in Coimbatore, of less elevation and greater proximity to the jungle than the Neilgherries. It is to the great elevation of these mountains above the sea and above the jungle, and the very open nature of the country, that the salubrity of the climate must be mainly attributed. I have only to add on this branch of the subject, that my own experience, which is now pretty extensive, and the experience of many others with whom I have had communication, is entirely in unison with the opinion pronounced by Mr. Haines.

4. With regard to the nature and extent of the accommodation to be provided, I should suppose that, as an experiment, it would be enough to provide for about ten bachelors, three families, and if the Government intend to include private soldiers in the term invalids, for 20 in that class of people.

5. The only available materials which the Hills afford for building, are unburnt bricks, and thatch for roofing. Buildings of this description cannot, of course, be considered durable, though they will last a much longer time here than in the low country; they are, moreover, liable to be burnt, and where fires are much used, this is a danger to be considered. Workmen of every description must be brought from below upon high wages, and as the native population have a great disinclination to work, it would be necessary, if Coolies were required in any number, to bring them also from the low country.

6. The cost of buildings of the inferior materials above mentioned, for a limited number of bachelors, married persons and invalid soldiers, would, I imagine, be about 20,000 rupees. With reference to the convenience of the parties to be accommodated, and more particularly to save the Hill inhabitants from the harass to which they are now constantly subjected in carrying up and down the mountains, the furniture, &c., of invalids resorting to the Hills, it would be highly desirable that the houses, as recommended in the report of the medical officer, should be furnished at the expense of Government, and provided with every necessary, plate excepted. The outlay on this account may be estimated at from 4,000 to 5,000 rupees. It would be advisable also, that Government should keep an establishment of servants at the different buildings.

7. On all accounts, the formation of a large garden, as recommended, would appear to be highly desirable; it might be done in a few months, and when once brought fairly under cultivation, would pay its own expenses. The cost of this may be estimated at a further sum of 5,000 rupees.

8. Advances for the purchase of rice, and for keeping up a bazaar, would be necessary; three of the four ghauts leading from the Neilgherries into the low country have been opened and repaired; it will be expedient, with a view to ensure an abundant supply of rice, to open the fourth, which may be done for about 5,000 rupees.

9. Taking the outlay for the construction or purchase of the buildings and furniture necessary for the accommodation of 10 unmarried and three married invalids at 20,000 rupees, it remains to show upon what terms invalids should have the use of the accommodation.

Interest of 20,000 rupees at 12 per cent., 200 rupees per month or, 2,400 per annum.

Establishment of servants, 200 rupees per month, or 2,400 rupees per annum.

Repairs and contingent expenses 1,200, total 400 per month, or 6,000 per annum.

10. Supposing the unmarried invalids to be all officers, five of the rank of subaltern, three of captains and two of field officers, the subalterns to pay the full rate of house-rent allowed them by Government, the captains two-thirds, and the field officers half for accommodation in the public building, the rent would amount, at the least, to 300 rupees per month, or 3,600 rupees per annum. For the accommodation of three families, a building one-third larger would be necessary, the aggregate rent of which might, according to the scale taken for the bachelors, be fixed at 400 rupees per month. The rent of the two buildings would thus amount to 700 rupees per month.

11. It appears from this calculation, that although a much larger sum should be expended in providing accommodation, the Government would, in all probability,

bility, receive a fair interest for the money expended in providing it. It is presumed, that the buildings would be fully occupied throughout the year, and from the demand which exists for houses, there is every reason to believe that this would be the case.

12. Neither the expense of the building for invalid soldiers, nor of forming the garden, are included in this calculation, because the subsistence of the invalids would, in a great measure, be derived from the garden, and it is supposed that the expense of maintaining them here for a given period, would be less than the charge of their voyage to England.

13. As, however, the Government have it in view to make merely an experiment for the benefit of invalids, it would certainly be advisable, rather to rent, if possible, buildings for a limited period, even at a high rent, than either to purchase or build them. If the experiment should prove satisfactory, substantial buildings may be erected, and the Neilgherries be made a regular and established depôt for the sick.

14. A tender has already been made by Captain Dun, of a house for the accommodation of six invalids, which I have the honour to enclose. I beg leave to suggest that this tender may be referred, with any other offers of the same kind, to a committee. The under-mentioned gentlemen are now residing in that part of the Hills where it is proposed to form the sick depôt:—

Mr. Surgeon Haines, Captain O'Brien, 4th Light Cavalry, Captain Dun, Captain M'Pherson and Assistant-surgeon Coleman; and if the Government think proper, any or all of these gentlemen may be associated with me as a committee, and be ordered to report upon this offer, and upon any others of the same kind that may be made.

15. In conclusion, I beg leave to remark, that a body of unexceptionable testimony has been collected, and in part laid before Government, in favour of the Neilgherries. If what is asserted of the salubrity and temperature of the climate, the fertility of the soil, the resources in water, the richness of the botanical and mineralogical field be true, the subject is of more importance and deserves more consideration than has hitherto been bestowed upon it.

16. The Neilgherries are not, as is generally supposed, an insulated range of hills, but form the crest of the two great ranges of ghauts, one of which, branching from it, runs in a S. W. direction with Guzerat, the other in a N. E. direction, as far, I believe, as Behar. Something extraordinary in the soil, productions and climate of a tract so elevated and so interestingly situated, might be anticipated.

17. I would beg leave respectfully to suggest, that Government should satisfy themselves that the testimony which has been given in favour of the Neilgherries is in no degree exaggerated. This might be done by the appointment of a committee of competent and unprejudiced persons, who might be instructed to report generally upon the resources of the Hills, and to suggest the best means of turning the resources to account.

(signed) J. Sullivan,
Collector.

Ootacamund, 27 August 1825.

P. S.—I should have stated in the body of this letter, that having received authority to build a certain number of bungalows in the district, in 1822, I have placed two small ones on the Neilgherries, on the road leading from Coimbatore into Wynaad. These bungalows cost about 700 rupees each, and are now occupied by two families.

(signed) J. Sullivan,
Collector.

(No. 1.)

From Mr. Staff-Surgeon Haines to J. Sullivan, Esq., Collector of Coimbatore.

Sir,

In reply to your letter of the 16th instant, requesting my opinion as to the expediency of providing accommodation for invalids resorting to the Neilgherries for their health, and as to the best means of providing such accommodation, I

beg leave to state, that, from my own experience of the country, as well as from the sentiments I have heard expressed by others, I think it would be highly desirable to form such an establishment.

2. The climate of the Neilgherries appears to me to possess advantages over that of any other portion of the British dominions for invalids, and, under a conviction that its importance has been overlooked, I shall embrace this opportunity of entering more fully into the subject than otherwise would be necessary.

3. The Neilgherries extend in length from north-east to south-west nearly 50 miles, being about 30 miles wide. The table land consists of sloping eminences generally covered with a deep rich mould of earth; some of these hills are of considerable elevation, and present somewhat the appearance of the South Downs of England. The dells, which are deep between the hills, are often, for the most part, well wooded with forest trees, with a stream of water passing down their centre. The natives of that part of the Hills from which I write, generally select the vicinity of the woods for their residences, in order to be sheltered, a strong proof that no noxious air is generated from the woods.

4. During the south-west monsoon the wind blows with considerable force, though not with greater violence than it does in Mysore and in Coimbatore, pursuing its course over the extreme length of the table land; and, notwithstanding it passes in its progress to the Hills over a wide and extensive tract of jungle, where fever prevails, it is perfectly devoid of any miasma before it ascends to the elevation of the Hills. That such has hitherto been the case, appears from the concurring testimony of the native inhabitants, both the Todewars and Bergers, who are ignorant of any endemical complaint, and express their horror at the idea of any epidemic,—sufficient evidence that they have not been familiar with any such disease; indeed, the stout, athletic appearance of the Todewars bespeaks the salubrity of their native mountains.

5. With an elevation of 8,000 feet above the level of the sea, the air is much rarefied; the vicissitudes of temperature are very inconsiderable, from all the thermometrical observations which have been published. The maximum heat in a terraced house during the month of May (the hottest in the year) was only 68°. These circumstances, coupled with the nature of the country, which is in general remarkably open, and admits of horse exercise being conveniently taken, lead to the most satisfactory conclusions respecting the climate. Resting upon these facts, I shall only further add, that the general appearance of the Europeans on the hills goes in confirmation of the healthiness of them. It is only necessary to contrast the ruddy countenances of the children here with those of the low country, to be satisfied of the great superiority of the climate.

6. There is, I believe, no instance of an European having given the climate a fair trial without deriving benefit from it. During the last six months of the year, when rain prevails more or less, it may not be favourable to rheumatic complaints; but from December to June, the air is stated to be dry and rarefied in a very remarkable degree, and at that season persons troubled with rheumatic affections would probably derive benefit from the country.

7. It has been questioned whether permanent benefit has been derived to invalids from a temporary residence here. I may venture to remark upon this doubt, that if the same advantages are expected to result from this climate as from that of the Cape or of Europe, the trial of it should be extended to two and three years. To persons whose constitutions are shattered with chronic disease, I should conceive that a residence in this climate of such an extent would be necessary before permanent benefit could reasonably be expected; the excellent health enjoyed by those who live here throughout the year appears to warrant this opinion.

8. With regard to the best means of providing accommodation to a limited extent for invalids resorting to the Neilgherries, I am in some doubt, from the letter from the Chief Secretary to Government to the Medical Board, enclosed in yours, what description of persons are to be classed under the head of invalids; whether it is intended to be confined to officers, civilians and other persons in the service, or to extend to invalid soldiers. And here I may take the liberty of expressing my conviction, that a great saving of lives and money would be effected, by sending invalid soldiers to the Neilgherries, instead of to Europe.

9. It is lamentable to observe, that, opposed to the most unremitting attention, and under the most skilful medical treatment, our European hospitals exhibit a long list of sick, chiefly among the newly arrived recruits. Many of these have

not

not been dismissed from their drill before they fall victims to disease; numbers are consigned to an early grave, whilst others linger six or eight months in hospitals, to be passed by an invaliding committee, and sent to England. It is men of this description who would, in all probability, by a few months' residence in the Hills, recover completely their health, and be again fit for the service. This is a subject of the utmost importance, as it holds out the most reasonable grounds to hope that, by their timely removal to the Neilgherries, a great many lives would be saved, and a very heavy annual expense incurred in replacing those who die and are discharged, be saved to the Company.

10. That a residence on the Hills for some time will very frequently supersede the necessity for sick officers returning to Europe, is unquestionable, and will render them efficient to the service in one-half the time which a voyage to Europe would require.

11. Presuming, therefore, that the accommodation required is not to be considered as confined to officers only, but extended to a limited number of non-commissioned and privates of European corps, I proceed to state, that the table land in the neighbourhood of this place offers many very eligible situations; that the spot on which the buildings are to be erected should be well sheltered from the prevailing winds. Assuming that the accommodation is intended for a certain proportion of troops as well as officers, the buildings would require to be of three descriptions; the one for the invalid soldiers to consist of a range of sleeping apartments sufficient to contain about five cots in each, with a mess-room; the godowns to be as near as they can be conveniently placed, with a covered way to the privies. The buildings should be protected from the rains during the monsoon by a verandah, with a fire-place or stove in each apartment. Warm clothing and stout shoes are indispensable, and arrangements should be made for preventing the detention of the sick in the country immediately below the Hills, which is generally unhealthy.

12. For unmarried officers, a building in some respects similar to the other would answer, except that the sleeping apartments would not be required to be so spacious, being only required for one or two cots; in other respects it would be the same as the former.

13. For married persons coming with their families to the Hills, a separate building or buildings of a superior kind would be necessary. It appears desirable that all invalids should come to the Hills as little encumbered as possible with furniture and baggage, and therefore it would be desirable to have the whole of the accommodation provided with every requisite to render them convenient and comfortable, the Government to be remunerated for such expense by the payment of such a rent as may appear upon consideration proper.

14. The great difficulty of procuring supplies of almost every description would render the formation of a large garden highly desirable. The excellence to which all European vegetables and grains grown here attain, and the great returns which they yield, would ensure an abundant supply in a very few months of wholesome and grateful food for the invalids. It would afford the means of gentle exercise to many amongst the European invalids, who, in all probability, would be soon in such a state of convalescence as to make gentle exercise in a garden desirable to them. By their aid, and the aid of a few pensioned Europeans of good character, under a good surgeon, the garden might be cultivated, and the sale of the produce would pay the expense of the establishment. The rare plants with which the Neilgherries abound might be collected here, and many articles used in medicine and brought from Europe at a heavy expense might, in all probability, be raised here in abundance.

15. In conclusion, I take the liberty of stating my conviction, that highly important benefits would result from a complete development by a scientific person of the resources of these Hills. The rich veins of black-lead and of iron which are found in almost every direction, indicate great mineral wealth, and the field for botany is as extensive as can be met with in any part of the world.

(signed) W. Haines,

Staff-Surgeon.

Ootacamund, 26 August 1825.

EXTRACT Fort St. George Revenue Consultations; 13 September 1825.

READ the following letter from the Medical Board, and its enclosures:—

To the Honourable Major-general Sir *Thomas Munro*, K.C.B., &c. &c.

Honourable Sir,

WE have the honour to acknowledge the receipt of Mr. Chief Secretary Hill's letter, dated the 2d instant, desiring us to state our opinion, from the experience which has now been obtained of the climate of the Neilgherry Hills, whether it would be advisable to provide accommodation, to a limited extent, for the invalids resorting thither.

2. Some cursory observations on the climate of the Neilgherry Hills were introduced into the report on the Shenarvy and Chundamnugalem Hills, which was submitted to Government just as the letter above-mentioned reached us. The opinion then expressed being, however, from general observations rather than practical experience, it was probably less specific than may be necessary towards determining the propriety of the point now referred to us, we accordingly do ourselves the honour of submitting some further remarks on that subject.

3. All accounts agree in stating that the climate of the Neilgherries is such as to render the accommodation of tents, or such slight and temporary buildings as suit the climate below, altogether unsafe for invalids, and even for persons in health; and the Assistant-surgeon, in his half-yearly report, concludes by stating, that no medical man who was aware of the inefficient nature of the existing accommodation, would consider himself as justified in recommending his patients to resort to that quarter without accommodation suitable to the condition of invalids in that climate. The Neilgherry Hills can therefore prove of little or no advantage to the public; and it seems equally certain, from all the accounts received, that it can only be provided by the helping hand of Government.

4. It is necessary, therefore, to determine whether the advantage hitherto derived to invalids from the Neilgherry climate, is such as to justify the incurrence of the expense necessarily attendant on the erection of sick quarters; and we much regret that we cannot adduce any very decided practical results from the experience hitherto obtained. The only figured statements which we have yet received, relate to the period from February 1824 to July 1825 inclusive; and they present only an aggregate of twelve cases, of whom three have died, and four remain on the Hills. Of these four, three are stated to be relieved, and one no better; five patients have left the Hills, of whom one is stated to be cured, two relieved, and two no better. It would be, however, unfair to cite this as the sum of the experience which has been obtained of the climate. These were apparently chiefly cases of fixed organic disease, which even in the climate of England might have required a long residence for their removal. The climate of the Neilgherries, indeed, appears to be chiefly adapted for restoring the health when the system is merely shaken by the high temperature of the low country, or by diseases which have not left any very serious injury in the vital organs. This class of invalids is numerous in India; but it would appear by Assistant-surgeon Coleman's report, that he is not ordinarily called upon for his attendance on those who, under such circumstances, resort to the Hills, and therefore he has not been able to present any account of them; it would seem that it is only in cases of severe and dangerous disease that he is usually called in.

* * * * *

8. We think that the general tenor of the reports, and the experience which we believe has been had by a number of people who have visited the Hills, warrant us in strongly recommending the provision of suitable accommodation, to a limited extent, for the use of the invalids; and though the question of the proper site for those dwellings does not directly form the subject of the present reference, we still feel it our duty to offer some observations on the subject, in consequence of the representations contained in the medical reports before us.

9. We have elsewhere stated that Dimhatty is about 6,000 feet above the level of the sea, and Ootacamund about 8,000 or 9,000 feet. Dimhatty is, therefore, not so cold as Ootacamund; it is nearer to the unhealthy boundaries of the Hills; it is more wooded, and we should suppose is situated on a wetter soil. Ootacamund, therefore, possesses the advantages of greater elevation, a lower temperature, and a more open and drier surface, and, on these accounts, it is to be preferred as a Sanitarium to Dimhatty, but it is further from supplies, which are chiefly drawn from the low country. This objection must be very serious to

those who possess but limited means, for we have understood that neither the natives of the low country, nor the natives of the hills about Dimhatty, are willing to penetrate so far as Ootacamund, and, consequently, as there is no market for butcher's meat, bread, butter, &c., nearer than Coimbatore, whence the invalid or casual visitor can be supplied, much distress must be experienced by them at Ootacamund, whereas the low country people will bring supplies as far as Dimhatty. The medical officers, however, allude to the formation of a bazaar near Ootacamund, which is expected to yield a more ready supply, and if this be confirmed by the Collector, we certainly would give the preference to Ootacamund as the site of the principal station of the proposed accommodation.

10. But if the Collector cannot hold out a pretty certain prospect that Ootacamund will become a place where supplies can be obtained within the means of officers of the army, we would respectfully recommend that the Sanitarium should be placed at Dimhatty. It is obviously a matter of great importance that the medical officer should reside at the station where the greatest number of sick may take up their quarters, and, accordingly, whether this be at Ootacamund or Dimhatty, there the surgeon should be fixed.

11. We think it highly necessary, however, that the facility of change of residence should be afforded, and that a resting place, midway between the bottom of the hill and Ootacamund, should be provided, in the event of that place being fixed upon for the residence of the invalids. At Dimhatty, therefore, accommodation for two or three families should be provided, if Ootacamund is to be the main station, and at Ootacamund, if Dimhatty is to be the main station. At the main station we should suppose that accommodation for six families would be sufficient.

We have, &c.

(signed)	<i>George Baillie,</i>	} Medical Board.
	First Member;	
	<i>W. Peyton,</i>	
	Second Member,	
	<i>W. Prichard,</i>	
	Third Member,	

Fort St. George,
Medical Board Office, 25 August 1825.

RESOLUTION of Government thereon.

WITH the view of remedying the inconveniences which appear to arise from the difficulty of obtaining supplies suitable to the wants of invalids on the Neilgherry Hills, and more especially at Ootacamund, the station which, in other respects, seems most fit to be selected as a place of resort for the benefit of health, it is resolved that a reference be made, through the Military Department, to the officer commanding the depôt of European pensioners at Cuddalore, in order to ascertain whether, in his opinion, a limited number of those pensioners might not, with advantage to that object, have their residence fixed upon the Hills; the number ought not at first to exceed four or five. The full willingness of the men to make the proposed change in their situations ought to be regarded as indispensable; and from those willing to remove, only such should be selected as possess qualifications likely to render them useful. Government would provide them habitations suitable to the climate, and it is proposed that they should occupy themselves in providing supplies, chiefly of vegetables, poultry, and such other articles, as by the culture of small spots of land, they might be able to rear, for the use of invalids resorting to the Hills for the benefit of their health. Habits of sobriety and industry, therefore, together with some knowledge of tillage and gardening, or at least a turn for such employment, would seem to be the most important qualifications. If the officer commanding the depôt should be of opinion that settlers of the required description can be obtained from among them, he will be pleased to state what further specific encouragement, if any, he would recommend to be afforded to them by Government, besides providing them with proper dwellings.

It is resolved to defer adopting any final resolutions on that part of the Medical Board's Report which relates to the providing of accommodation for invalids resorting to the Neilgherry Hills, until the answer of the Principal Collector of Coimbatore to the reference made to him on that subject, through the Board of Revenue, shall have been laid before Government.

EXTRACT Fort St. George Revenue Consultations ; 30 September 1825.

READ the following letter :—

(No. 371.)

From *J. Dent*, Esq., Secretary to the Board of Revenue, to
Mr. Chief Secretary *Hill*.

Sir,

I AM directed by the Board of Revenue to request that you will submit, for the information of the Honourable the Governor in Council, with reference to Mr. Secretary Macleod's letter under date the 2d August, the accompanying correspondence with the Principal Collector at Coimbatore, relative to the expediency of providing accommodation to a limited extent, for invalids resorting for the benefit of their health to the Neilgherries, the means of providing such accommodation, and the rules and terms upon which invalids should be allowed the use of it.

2. Mr. Sullivan's opinion is entirely in favour of the plan. He proposes that accommodation should be provided, in the first instance, for three families and 10 single gentlemen, and also for 20 invalid private soldiers, if the plan be intended to include that class. He recommends that the buildings to be erected or purchased for this purpose should be furnished and provided with every necessary, plate excepted, and that an establishment of servants should be entertained. He observes that the formation of a large garden would be highly desirable, and that advances for keeping up a bazaar would be necessary. Mr. Sullivan states the means by which the plan may be carried into effect, to the extent proposed by him, and gives an estimate of the probable cost ; he suggests the terms upon which it might be expedient to allow the use of the accommodation to be provided at the public expense to invalid officers, &c., and submits a calculation, by which it would appear that the sole charge to Government would be the original cost of the buildings, and that all charges incidental to the establishment, including interest upon the capital expended by Government, would be defrayed by the contributions of the invalids receiving the benefit of the accommodation.

3. Mr. Sullivan remarks, however, that as it is apparently the intention of Government only to make an experiment for the benefit of invalids, it would be expedient rather to rent buildings for a limited period, even at a high rent, than to purchase or build them ; and he submits a tender which has been already made by Captain Dun, of a house possessed by that gentleman, for the accommodation of six invalids. This tender, Mr. Sullivan suggests, may be referred, with any other offers of the same kind, to a committee.

I have, &c.

(signed) *J. Dent*,
Secretary.

Fort St. George, 19 September 1825.

Ordered, That the following reply be despatched :—

(No. 573.)

From Mr. Secretary *Macleod* to the Board of Revenue.

Gentlemen,

I AM directed by the Honourable the Governor in Council to acknowledge the receipt of your Secretary's letter of the 19th instant, No. 371, and to transmit to you, as connected with the subject of that communication, the accompanying copies of the papers noted in the margin.

2. I am further directed to communicate to you as follows:

3. The Governor in Council approves generally of the view taken by the Principal Collector of Coimbatore on the subject of providing accommodation on the Neilgherry Hills for persons resorting thither for the recovery of their health.

4. The Governor in Council is, however, averse to the project of a public garden, and thinks that the end in view, in the proposed formation of one, will be best encouraged by affording such encouragement as may be required to individuals in the cultivation of small gardens for their own profit. You will observe that an inquiry has been ordered for the purpose of ascertaining whether a limited number of pensioned European soldiers may not, with advantage, have their

Report of Medical
Board, 25 August
1825.
Resolution of
Government
thereon, 13 Sept.

their residences fixed on the Hills, and be induced to employ themselves in such occupations.

5. It occurs to the Governor in Council, that the rent proposed by the Principal Collector to be charged for the accommodation of families, may be higher than what officers who have not attained the superior ranks of the service could, for the most part, well afford to pay, and that it may be expedient, on this account, to have some variety in the extent of the accommodation designed for separate families, with correspondent differences in the rates of charge.

6. The Governor in Council concurs with the Principal Collector, in considering it preferable for Government to rent buildings for a limited period, if it can be done on terms at all reasonable, rather than either to purchase or to build them ; but a preference appears to the Governor in Council to be also due to a building, the construction of which might be undertaken upon a plan approved on the part of Government, over a building which has already been erected ; the former, it may be presumed, would be more completely adapted to the purpose in view, and, besides this, it is to be considered that the object of Government to supply the present deficiency of accommodation would not be so much promoted, either by purchasing or renting from a private proprietor a house already built, as by giving occasion to the building of a new house by means of an agreement to purchase it, or to rent it when constructed.

7. With the view of carrying into effect the Principal Collector's suggestions, modified as far as the foregoing considerations require, and as may be proper with reference to the suggestions of the Medical Board, which are entitled to much attention, the Governor in Council desires that Mr. Surgeon Haines, and Captain Underwood, Civil Engineer in the Southern Division, be associated with the Principal Collector, as a committee, for receiving, considering and reporting upon offers, and for framing and proposing detailed plans and arrangements to be submitted for the final orders of Government. The Governor in Council also thinks it proper that those gentlemen should be empowered to associate with themselves, as additional members of the same committee, any gentlemen residing on the Hills, whose assistance would, in their opinion, be useful, and who may be willing to afford it.

8. You will be pleased to make the requisite communication to the Principal Collector, and also to Captain Underwood, who will concert with the Principal Collector the time for his visiting the Hills, and generally the means by which his aid may be most effectually obtained.

9. The Committee will, of course, advert to the Principal Collector's suggestion, of the expediency of opening a fourth pass from the low country to the Neilgherry Hills, a point not taken notice of in your Secretary's letter.

10. The Governor in Council is pleased to authorize the Principal Collector to adopt any preliminary arrangements, such as laying out gardens, digging wells, collecting live stock or plants, and fruits, which the committee may consider advisable towards the early attainment of the objects referred to them.

I have, &c.

(signed) *J. Macleod*,
Secretary to Government.

Fort St. George, 30 September 1825.

EXTRACT Fort St. George Revenue Consultations ; 6 December 1825.

READ the following letter :—

From the Committee for Framing and Proposing Detailed Plans for providing Accommodation for Invalids on the Neilgherry Hills, to Mr. Secretary *Macleod*.

Sir,

MR. SULLIVAN has communicated to us your letter to the Board of Revenue of the 30th September last, which directed that Mr. Surgeon Haines and Captain Underwood, Civil Engineer, should be associated with him " as a committee for receiving, considering and reporting upon offers for erecting or renting houses for the accommodation of invalids resorting to the Neilgherries, and for framing and passing detailed plans and arrangements for the same, to be submitted for the final orders of Government, and that those gentlemen should be empowered to

associate with themselves, as members of the same committee, any other gentlemen residing on the Hills, whose assistance might be considered useful." Mr. Sullivan at the same time informed us, that it would be necessary for him to leave the Hills in the early part of next month; and we ascertained that Captain Underwood would be deterred by his official duties in the low country from visiting the Hills before February next.

2. Adverting to the great and increasing demand which exists for houses, and that every building on the Hills is fully occupied, and likely to remain so for many months, it appeared desirable that a report should be immediately submitted on the offer made by Captain Dun, of his house, in order that the final orders of Government might be received upon it before the commencement of the fine season, when if rejected it would be necessary to begin building. Captain Macpherson, who has been resident on the Hills for many years, was therefore requested to afford to us his assistance, and the committee so constituted proceeded to report on Captain Dun's offer.

3. The Government consider that it would be more advantageous to build, or rent a building upon a plan previously proposed, than to obtain one already erected. If buildings could be constructed with the same facility here as in the low country, there can be no doubt that it would be advisable to build at and upon an approved plan; but building here is a work of time, and of considerable difficulty. Houses are in great demand, and if new buildings are to be erected, another year must pass before accommodation can be provided for those who want it. It appears also to be an object of importance, that the experiment of bringing invalids here for their health should be made with as little delay as possible. If it answers, Government may be disposed to extend the plan; if it fails, the sooner the failure is made known the better. Under these circumstances, we are inclined to recommend that Captain Dun's house should be taken by Government. The house is built upon a plan which appears to be peculiarly well calculated for the accommodation either of two families or six bachelors, or as an hospital for sick soldiers, of whom it will hold from 30 to 40; and as it is that gentleman's intention to build again for himself upon a more contracted scale, there will eventually be almost as much accommodation on the Hills as if Government was to build anew.

4. Captain Dun proposes to rent his house when finished for 150 rupees a month, during the continuation of the charter. He calculates that it has already cost him 7,000 rupees, and that it will take a considerable sum to complete it. He proposes, also, that Government should pay him the full cost of the house, in the event of its being destroyed by fire.

5. His second proposal is, that he should furnish the house with everything requisite for the accommodation of six bachelors, plate excepted; that he should take the risk of fire himself, and that Government should pay him a monthly rent of 250 rupees during the continuance of the charter.

6. The rent of 150 rupees a month for nine years, the period which the charter has to run, would be 16,200 rupees. Taking the value of the house when completed upon the present plan at 8,000 rupees, the Government would, in about $4\frac{1}{2}$ years or less, have paid in rent its full value. In the event of its destruction after this period, the Government would be liable to pay the full cost of the building, and during the period of the lease the Government would have to keep the house in repair.

7. The acceptance of the second offer would involve the outlay of a sum of upwards of 27,000 rupees as rent. We are of opinion that the object proposed to be attained by it may be had upon more economical terms by the purchase of the house at its present estimated value; viz.

We calculate that it may be completed for	-	-	-	-	Rs. 7,000
And completely furnished with every requisite for	-	-	-	-	1,000
	-	-	-	-	2,000

Total Outlay - Rs. 10,000

The annual expense of an establishment of servants would be about	Rs. 1,200
Interest at 12 per cent. upon 10,000 rupees	-
	-
	-
	1,200

Total - Rs. 2,400

Rent, at 35 rupees for six invalids, would be, per annum - Rs. 2,520

8. Considering that invalids would have the benefit not only of a furnished house, but of an establishment of servants and of every convenience requisite for housekeeping, this scale of payment for accommodation in the public quarters appears to be in every respect reasonable.

9. It appears to be highly desirable that board, as well as lodging, should be provided for the inhabitants of the building. In the course of time there can be little doubt that people will be found willing to enter into speculations of this kind without assistance from Government; but in the infancy of the establishment it may be necessary to make an advance of from 1,000 to 2,000 rupees, on good security, to the person who may undertake to supply the public table.

10. By an arrangement of this kind, officers from distant stations, and invalids from all the Presidencies, will be enabled to avail themselves of the climate of the Neilgherries at much less expense, and with much less trouble than it now costs to make a voyage to the Cape, or to other places beyond sea which are now resorted to for health; and for whatever money Government may lay out in affording such accommodation to the public, they will derive a reasonable interest in the shape of rent. Should the experiment answer, the plan may be extended, so as to meet every demand that may be made for accommodation on the Hills.

We have, &c.

(signed) J. Sullivan.
W. Haines.
E. Macpherson.

Neilgherries, 21 November 1825.

(No. 726.)

From J. M. Macleod, Esq. Secretary to Government, to J. Sullivan, Esq.,
Principal Collector of Coimbatore.

Sir,

I AM directed by the Honourable the Governor in Council to acknowledge the receipt of the letter from yourself, Mr. Surgeon Haines and Captain Macpherson, dated the 21st ultimo, and to state, that the representation contained in it has satisfied Government of the expediency of the arrangement proposed in the 7th paragraph.

2. You are therefore authorized to purchase Captain Dun's house, on account of Government, at the price of 7,000 rupees, to expend 1,000 rupees more in completing it, and 2,000 rupees in furnishing it for the accommodation of invalids, and to entertain an establishment of servants for it at an annual expense not exceeding 1,200 rupees.

3. With respect to the supply of a table for the inhabitants of the building, it would be objectionable to undertake it on the part of Government; and you are authorized to advance a sum not exceeding 2,000 rupees, in any way which you may be satisfied will be secure for the purpose of promoting this object.

4. You will be pleased to communicate this letter to Mr. Haines and Captain Macpherson as the reply of Government to the satisfactory report of which it acknowledges the receipt.

I have, &c.

(signed) J. M. Macleod,
Secretary to Government.

Fort St. George, 6 December 1825.

EXTRACT Proceedings of the Board of Revenue at Fort St. George;
2 January 1826.

READ the following letter (extract):—

From J. Sullivan, Esq., Principal Collector of Coimbatore, to the President and Members of the Board of Revenue; dated 6 December 1825.

Gentlemen,

WITH reference to the correspondence enclosed in Mr. Dent's letter of the 28th ultimo, I have the honour to state my opinion, that as the European invalids therein mentioned have expressed an anxiety to remove to the Neilgherries, and

as they are represented to be men of industrious habits and of fair characters, it will be desirable to permit them to do so.

2. The indulgence recommended to be granted to them by Major Turner appears to be reasonable.

1st. A comfortable hut, with suitable outhouses, should, in the first instance, be provided for each family at the expense of Government.

2d. Means should be provided for their transport to the Hills.

3d. They should be provided with warm clothing and blankets, and these comforts should be conditionally renewed from time to time. They should also be provided with tools, seeds, &c., and with a proportion of live stock.

3. Should any great difference be found to exist between the prices of provisions on the Hills and at Cuddalore (which, I believe, is not the case), the invalids might be allowed, for a certain time, to draw rations, to be paid for at a reduced rate, but assistance of this kind should be dealt out with a sparing hand; the more, indeed, the men are left to their own resources, the better the chance is of their doing well.

4. It would be necessary to subject the invalids to military control, and to ensure the punctual payment of their pensions. I beg leave to suggest, therefore, that they may be placed under the authority of Captain Macpherson, the Superintendent of Roads, who, from his pretty constant residence on the Hills, would be able to exercise a vigilant inspection over them, and guard against any abuse of the bounty of Government.

EXTRACT Fort St. George Revenue Consultations; 24 January 1826.

READ the following letter:—

From *J. Dent*, Esq., Secretary to the Board of Revenue, to Mr. Chief Secretary *Hill*;
dated 12 January 1826.

Sir,

WITH reference to Mr. Secretary Macleod's letter of the 11th November last, transmitting copy of one, with enclosures, from the Assistant Adjutant-general of the Army, and desiring that the Board of Revenue would ascertain and report the sentiments of the Principal Collector of Coimbatore, as to the expediency of permitting the European pensioners therein referred to, to settle on the Neilgherry Hills; and as to the assistance, if that measure were adopted, which it would be necessary to afford to them, I am directed to request you will lay before the Honourable the Governor in Council the accompanying letter from the Principal Collector of Coimbatore.

2. Mr. Sullivan is of opinion, that as the European invalids referred to have expressed an anxiety to remain on the Hills, and as they are represented to be men of industrious habits and of fair characters, it will be advisable to permit them to settle there. He also considers the indulgences recommended by Major Turner to be granted to the invalids to be reasonable; and if any great difference be found to exist between the prices of provisions on the Hills and at Cuddalore (which he believes is not the case), he suggests that they should, for a certain time, be allowed to draw rations, to be paid for at a reduced rate. He is of opinion, however, that assistance of this kind should be dealt out with a sparing hand, and that the more the men are left to their own resources, the better chance there is of their doing well. Mr. Sullivan further suggests, that the pensioners should be subject to military control, and recommends their being placed under the authority of Captain Macpherson, the Superintendent of Roads, whose residence on the Hills is sufficiently regular to enable him to exercise a vigilant inspection over them, and guard against any abuse of the bounty of Government.

RESOLUTION of Government thereon.

It appearing, from the foregoing communication, that the Principal Collector of Coimbatore considers it advisable that the European pensioners, of whom a list was furnished by the officer commanding the depôt at Cuddalore, should be

permitted

permitted to settle on the Neilgherry Hills, the Governor in Council adopts the following resolutions:—

That five European pensioners be removed from the depôt at Cuddalore, and be stationed on the Neilgherry Hills.

That a comfortable dwelling be provided on the Hills for each of the pensioners at the expense of Government.

That means be provided, at the expense of Government, for the transport of the pensioners, with their wives and children, from Cuddalore to the Hills.

That they be provided, at first, with warm clothing and blankets, and with such supplies of tools, seeds and live stock, as shall be considered necessary, at the expense of Government.

That they shall be placed under the orders of Captain Macpherson, the Superintendent of Roads on the Neilgherry Hills.

That the Principal Collector of Coimbatore, and the officer commanding the depôt of pensioners at Cuddalore, be placed in communication with one another, for the purpose of carrying these resolutions into effect.

That the Principal Collector be charged with the duty of providing suitable habitations for the pensioners, as well as the requisite supplies of tools, seeds and live stock, and generally of furnishing what it may be necessary to supply them with after their arrival on the Hills.

That instructions for supplying the means of transport to the Hills, and for providing warm clothing and blankets for the pensioners and their families, be given to the proper military authorities.

EXTRACT Fort St. George Public Consultations; 10 October 1826.

READ the following letter:—

From *J. Sullivan*, Esq., Principal Collector of Coimbatore, to
Mr. Secretary *Macleod*.

Sir,

1. As disputes about the occupation of the public buildings on the Neilgherries are of frequent occurrence, and as there is now no standard by which they can be authoritatively settled, I have taken the liberty of drawing up a few rules on the subject, which, if approved by Government, I would suggest may be published in general orders.

2. I take this opportunity of stating that great inconvenience is felt by travellers, who now frequent the Hills in considerable numbers, for the want of palankeen bearers. It has been suggested to me, that this want might be remedied by stationing a few sets of the dooly bearers near the Hills, to be paid for when used by travellers. Having reason, from inquiry, to believe that such an arrangement might be made without interfering with the public service, I venture to recommend it to the favourable consideration of Government.

I have, &c.

(signed) *J. Sullivan*,
Collector.

Ootacamund, 12 September 1826.

RULES to be observed by those who may wish to occupy Public Buildings on the Neilgherries.

1. PERSONS desirous of being accommodated in the public buildings on the Neilgherries must make application in writing to Captain M'Pherson, the officer in charge of the buildings.

2. That officer will inform the applicant in writing what accommodation he can have, and upon what terms.

3. Applicants are to state the time at which they propose to arrive on the Hills, and failing to keep their engagement, they are to be considered as having forfeited their claim to quarters, which may be given to other candidates on the spot.

4. On taking possession of a public bungalow, Captain M'Pherson will make over whatever furniture may belong to it to the occupant.
5. The occupant is required to pass his receipt for all such furniture, and is to be held responsible, on his quitting the bungalow, to return such furniture in the same state in which he received it.
6. Tenants are to be held responsible for all the damage that may be done during their occupancy to the glass doors and windows of the bungalows, and either to repair the same themselves, or pay for their repair.
7. Tenants are required to give at least one month's notice of their intention to quit.
8. Captain M'Pherson, the superintendent, is required to keep a list of applications for accommodation, and to comply with them according to the order of precedence.

EXTRACT Fort St. George Revenue Consultations ; 17 November 1826.

READ the following letter :—

From the Committee on the Neilgherries to Mr. Acting Secretary *Chamier* ; dated 13 October 1826.

Sir,

WE were directed by Mr. Acting-Secretary Macleod's letter of the 30th September 1825, to consider and report upon the expediency, or otherwise, of opening the Southern Pass of the Neilgherries.

2. This pass leads directly from the Hills into Malabar, and across the Hills to the western districts of Mysore, and considerable traffic is now carried on by Coolies, which would be greatly increased if the road was made practicable for loaded cattle. Both the Hill people and the people of the low country have solicited the Collector to get the work done.

3. In the prospect of a considerable influx of Europeans to the Hills, it appears advisable to open every avenue by which supplies can be furnished.

4. For these reasons we take the liberty of recommending that the repairs of the road may be commenced upon as soon as the season permits. The estimated cost of the work is from 6,000 to 7,000 rupees.

From Mr. Acting Secretary *Chamier* to the Committee on the Neilgherries ; dated 12 December 1826.

Gentlemen,

WITH reference to para. 2, of my letter of the 17th ultimo, No. 699, I am directed to acquaint you, that Lieutenant Green, Acting Superintending Engineer in Travancore, who has proceeded to the Neilgherries on account of his health, has been directed to place himself in communication with you, for the purpose of affording such professional advice and assistance as you may require, the services of the Superintending Engineer in the Southern Division not being at present available on the Hills without detriment to his other duties.

EXTRACT Fort St. George Public Consultations ; 26 December 1826.

Ordered, That the following letter be despatched :—

From *E. Bannerman*, Esq., Acting Secretary to Government, to the Principal Collector of Coimbatore.

Sir,

WITH reference to your letter of the 12th of last September, I am directed by the Honourable the Governor in Council, to transmit for your consideration, the accompanying copy of a letter from the Commissary-general. With regard to the rules submitted with your letter, I am directed to observe that they seem to be generally unobjectionable ; it may, however, be expedient to express them in terms

terms that may admit of a house being occupied by more than one tenant ; and as sick travellers may be unavoidably prevented from arriving at the end of a journey on the very day intended, and will never unnecessarily delay their arrival, the 3d rule should at least be considerably modified.

I am, &c.

(signed) *E. Bannerman*,
Acting Secretary to Government.

Fort St. George, 26 December 1826.

EXTRACT Fort St. George Revenue Consultations ; 30 January 1827.

READ the following letter :—

From the Committee on the Neilgherries to *H. Chamier*, Esq., Secretary to Government.

Sir,

WE have the honour to forward, for the information and orders of Government, a proposal submitted to us by Captain Dun.

2. Captain Dun proposes that the Government should make advances to him to the extent of 15,000 rupees in the first instance, and eventually to a similar amount, for building bungalows on the Neilgherries, the advances to be repaid by deductions from his allowances at the rate 500 rupees per month, to commence six months after the first advance is made ; a personal bond to be given, and the houses as they are built to be mortgaged as securities for the loan.

3. The advantages contemplated by the proposal are, that the pressing demand which now exists for accommodation will be speedily supplied, and that Government will eventually be released from all further trouble and responsibility with regard to building on the Hills.

4. There can be no doubt but that it would be more desirable for Government to assist individuals with loans for building, than to incur the risk of building themselves. On the other hand, it is obvious that no private capitalist can hope to compete with an individual who receives advances for building from the public treasury without interest ; the proposal, therefore, if acceded to without modifications, will eventually throw a monopoly of building into the hands of Captain Dun.

5. It appears to us, therefore, that, to guard against the danger of monopoly, it would be advisable that the sum asked for as an advance by Captain Dun, should be distributed between any three or four individuals who may be willing to accept of it on the terms proposed by that officer. An advance of 5,000 rupees may (should the Government think it advisable to afford assistance of the kind at all), be made, in the first instance, to Captain Dun, and should no application for a similar indulgence come forward, another loan of equal amount may be advanced to him.

6. It is proper, however, to state, that Captain Dun has, according to a communication received from that gentleman by the committee, already made arrangements which will enable him to complete the number of bungalows contemplated in his proposal, within the present season, provided the funds he has asked for are placed at his disposal before the end of the current month, and that he is willing to bind himself to finish the buildings within that time. We believe that no other individual possesses these advantages, neither is it probable that any other application will be made at present for a loan for similar purposes.

We have, &c.

(signed) *J. Sullivan*,
W. Harris,
E. M'Pherson.

Coimbatore, 15 January 1827.

From Captain *Dun*, 44th Regiment N. I., to *J. Sullivan*, Esq. President of a Committee on the Neilgherries.

Sir,

WITH reference to an intimation made to me by the Private Secretary to the Honourable the Governor, I have the honour to submit, through the channel prescribed by him for the consideration of Government, the following proposals relative to building on these Hills :—

1. That the sum of 15,000 rupees shall be advanced to me for the purpose of building bungalows on these Hills.
2. That the money shall be advanced in such sums as may be required for the monthly expenditure, on a certificate on honour that it is actually required for the purpose stated.
3. That the buildings in progress, and the expenses connected with them, shall be in so far under the cognizances of the committee as may be sufficient to ensure the application of the money to the purposes for which it is granted.
4. That a personal bond and mortgage on the buildings to be erected shall be given by me, to be held as securities until the whole of the money advanced by Government be repaid by me.
5. That 300 rupees shall be monthly deducted from my abstracts (commencing six months after the first advance is ready) until the whole amount advanced is refunded.

The reasons which induce me to make the above propositions were stated in a letter to the Private Secretary to the Governor; it may, however, be advisable that they should again be mentioned here.

“The numerous applications for houses from persons wishing to visit the Hills on account of ill-health, and the very limited accommodation there is for them, as well as the difficulty that may be experienced in providing it to the extent that may be required.”

These circumstances may, perhaps, induce Government to afford the assistance now applied for, which would, to a certain, though limited extent, and at an early period (say five or six months), obviate the difficulties now experienced, and would probably, should the undertaking prove successful, be an inducement to others to follow up the speculations, and relieve Government from the burthen of providing for individual accommodation.

If Government is inclined to afford assistance to a greater extent than what I have mentioned (under similar restrictions and securities), I will undertake to make such arrangements this season as would enable me to have such additional accommodation ready early in the next, as a further sum of 15,000 rupees would afford.

The buildings both advances would enable me to complete would be five or six bungalows, calculated for families, and the same number which would each accommodate two single persons. These, with what already exist, would probably be found sufficient for the present, or until such time as the Hills may be more generally resorted to by invalids.

The risk of ultimate loss to Government can scarcely be contemplated under the securities offered, and the restrictions proposed for ensuring the proper application of the money.

In conclusion, I beg the favour of an early reply to this application. The season for building on the Neilgherries being so very limited (from the middle of December to the end of May), and delay would prevent the buildings being commenced in time to ensure their completion before the commencement of the ensuing south-west monsoon.

I have, &c.

(signed) *C. D. Dun*,
Captain, 44th Regt. N. I.

Neilgherries, 23 December 1826.

Ordered,

Ordered, That the following reply be despatched :—

From *H. Chamier*, Esq., Acting Secretary to Government, to the Committee on the Neilgherries.

Gentlemen,

I AM directed to acknowledge the receipt of your letter of the 15th instant.

2. with the view of promoting the convenience of the public, the Honourable the Governor in Council is disposed to assist individuals with loans to a moderate extent, to enable them to erect bungalows for the accommodation of invalids resorting to the Hills, and authorizes the Principal Collector to make advances, not exceeding 15,000 rupees, in the manner proposed in the 5th para. of your letter, to Captain *Dun* and to such others as may be willing to accept the terms.

3. It will be the duty of the committee to see that the money is advanced on none but the most effectual securities, and that when advanced, it is immediately applied to the purposes for which it is granted.

4. On an advance being made to Captain *Dun*, the Principal Collector will be pleased to notify to the Accountant-general the date from which the stoppages, at the rate of 300 rupees per mensem from that officer's abstracts, are to commence.

5. The Principal Collector allots to each bungalow to be built as much ground as may be necessary for the main building and the outhouses belonging to it, but no extensive enclosures for compounds or gardens are to be allowed; and the Board of Revenue will be desired, in furnishing applications for grants for land already enclosed, to limit the extent to be allowed in each case to such moderate quantity as, with reference to the confined habitable space on the Hills, and the increased demand for land to build on, may appear to them to be proper.

6. It will also be the special duty of the Principal Collector to take care that the inhabitants are not arbitrarily dispossessed of their lands on this or any other occasion, to make room for European occupants.

I am, &c.

(signed) *H. Chamier*,
Acting Secretary to Government.

Fort St. George, 30 January 1827.

EXTRACT Fort St. George Public Consultations; 1 June 1827.

READ the following letter :—

From *J. Sullivan*, Esq., to *E. Bannerman*, Esq., Acting Secretary to Government.

Sir,

THE public having been disappointed of the accommodation which was preparing for them on the Neilgherries, by the destruction of almost all the bungalows that were building with the advances authorized by Government to be made to individuals, I beg leave, with reference to my letter of the 9th March, to tender my house to Government as a place of public accommodation.

2. Should the Government think proper to accept the offer, rent will be charged to the individuals who may occupy it at the same rate that is now paid for other buildings, and the Government, in all probability, be fully reimbursed for what may be paid to me.

I have, &c.

Ootacamund, 22 May 1827.

(signed) *J. Sullivan*.

Read also the following :—

MINUTE by the President.

THE Board having already refused the offer made by Mr. Sullivan of his house on the Neilgherries, as an hospital for European soldiers, in consequence of the report made by the Medical Board of its not being adapted for that purpose; but though I am satisfied that it is unfit for an hospital, I think that it might be of great use in furnishing accommodation for sick officers.

Even if we had a good hospital on the Hills, the want of supplies and the difficulty of bringing them from below, would render it almost impossible to provide, in a suitable manner, for the wants of sick soldiers. This can never be done, even for the most limited number, until supplies become easily procurable, by its becoming an object for private dealers to provide them. The most likely way to attain this end would be, by giving every facility to officers of the civil and military service, to visit the Hills for the recovery of their health. They require no assistance from the public but shelter from the weather. They can find their own supplies; and the constant residence of a certain number in succession would gradually encourage bazaar-men in the low country to make it their business to supply all their wants.

As the building of houses on the Hills is, from the want of materials and workmen of every kind, attended with much difficulty and delay, I propose that we should rent Mr. Sullivan's house for two or three years; it is better built than any house that is likely to be erected on the Hills for some time, and would furnish accommodation for eight or ten officers.

The rent is 140 pagodas monthly, the whole or the greater part of which would probably be repaid by the tenants; but, even if nothing were recovered, the charge would be fully counterbalanced by the probable effects of the measure in saving life, and in saving the expense of a voyage to the Cape or to England. The reports of medical men on the climate of the Hills which we have hitherto received, are highly favourable to its healthfulness, especially in restoring constitutions enfeebled by climate rather than broken down by disease. It is highly probable, therefore, that many young men would be saved by a year's residence on the Hills who would otherwise be inevitably lost, and that many civil and military servants, whose constitutions have suffered from a residence of some years in the country, would, by a residence of some months on the Hills, obviate the necessity of going home.

The number of subaltern officers of the King's and Company's service who have proceeded on sick certificate to Europe, and who have in consequence received passage-money in the last three years is as follows:

1824	-	-	King's, 31	-	-	Company's, 40
1825	-	-	„ 15	-	-	„ 43
1826	-	-	„ 16	-	-	„ 56
			62			139
						62
						201

which, at 1,500 rupees each, is 3,01,500 rupees, or about a lac of rupees annually. If only a very small proportion of these officers could be restored to health by a temporary residence on the Hills, instead of a voyage to Europe, the charge incurred by Government would be amply repaid. We have not obtained all the information regarding the climate of the Hills that might have been expected, because the medical officers in charge have been hitherto very young men, and their residence but of short duration. It would probably require a long-continued course of medical and scientific observation, conducted by a competent person, with the assistance of an adequate establishment of servants, and the proper meteorological apparatus, to determine fully on the capabilities of the climate of the Neilgherries. It seems therefore advisable that we should station permanently on the Hills a medical officer, qualified to make the necessary observations on this climate. I propose that Mr. Haines be selected for this purpose, and be appointed to the medical charge of the Neilgherries, with a salary of 350 rupees and the usual palankeen allowance, and rupees for servants and medicine.

(signed) *Thomas Munro.*

28 May 1827.

Ordered,

Ordered, That the following letter be despatched, and a copy furnished to the Civil Auditor and the Principal Collector of Coimbatore respectively:—

(No. 462.)

From *E. Bannerman*, Esq., Acting Secretary to Government, to
J. Sullivan, Esq.

Sir,

With reference to your letter under date the 22d ultimo, I am directed to state, that the Government has determined on renting, at 140 pagodas per mensem for a period of two years and a half, your house situated on the Neilgherry Hills, and to request that the delivery of the property may be arranged with the Principal Collector of Coimbatore, who is authorized to pay the above rent from the date of his receiving charge thereof.

I am, &c.

(signed) *E. Bannerman*,
Acting Secretary to Government.

Fort St. George, 1 June 1827.

Ordered also, That the following letter be despatched, and a copy furnished to the Military Department, and the Civil Auditor respectively:—

(No. 463.)

From *E. Bannerman*, Esq., Acting Secretary to Government, to
Mr. Surgeon *W. Haines*.

Sir,

It being considered very desirable that the capability of the climate of the Neilgherries should be determined on by a medical officer of sufficient experience to qualify him for that purpose, I am directed to inform you, that the Honourable the Governor in Council has, with a view to the above object, appointed you to the medical charge of the Neilgherries, with a salary of 350 rupees, and the usual palankeen allowance, and allowance for servants and medicine.

I am, &c.

(signed) *E. Bannerman*,
Acting Secretary to Government.

Fort St. George, 1 June 1827.

EXTRACT Fort St. George Public Consultations; 24 July 1827.

READ the following letter:—

From Mr. Chief Secretary *Lushington* (Bengal), to Mr. Chief Secretary *Hill*
(Fort St. George).

Sir,

REPEATED reports which have reached this Government of the salubrity of the climate of the Neilgherry Hills in the district of Coimbatore, confirmed by intelligence, that, under the protection and encouragement of the Government of Fort St. George, many bungalows or houses suitably furnished and fitted up, have already been constructed on the table land of those Hills, which can be hired on reasonable terms by any public officers on the Madras establishment who may proceed thither on sick certificate, have induced the Right Honourable the Vice-President in Council to take into consideration the best mode of procuring similar accommodation for civil and military officers on this establishment, whose health may require renovation by a change of climate.

2. I have been instructed therefore, by his Lordship in Council, to request that the Honourable the Governor in Council of Fort St. George will cause to be procured and forwarded to this Government a full report, 1st, on the climate of the Neilgherry Hills, especially as it affects European invalids; 2d, on the best mode of reaching those Hills from Bengal at different seasons of

the year ; 3d, on the measures adopted by the Government of Fort St. George towards providing accommodation for the public officers on that establishment proceeding to the Neilgherries for the recovery of their health.

3. It will be convenient that the report in question be drawn up in such a form as may admit of its being circulated for general information at this Presidency, and that it should be accompanied with a map of the Neilgherry Hills, and of the country adjacent, and with plans of the building already erected. It is scarcely necessary to remark, that all other practical and local information likely to be useful to invalids who may hereafter propose to visit the Neilgherries from this Presidency, will be very acceptable.

I have, &c.

(signed) *C. Lushington,*
Chief Secretary to Government.

Fort William, 5 July 1827.

Ordered, That the following letter be despatched :—

(No. 614).

From Mr. Chief Secretary *Hill* to the Medical Board.

Gentlemen,

I AM directed by the Honourable the Governor in Council to transmit to you the accompanying copy of a letter from the Chief Secretary to Government at Fort William, and to desire that you will state whether any information regarding the climate of the Neilgherry Hills beyond what has already been laid before Government in the reports of Mr. Superintending Surgeon Wyse and Mr. Surgeon Haines be in your possession, and to desire that in that case it may be submitted to Government. It occurs to the Governor in Council, that additional information might probably be procured, or that already received might be digested and enlarged by Mr. Assistant-surgeon Young, who has recently returned from the Hills.

I have &c.

(signed) *D. Hill,*
Chief Secretary.

Fort St. George, 24 July 1827.

(No. 615.)

From Mr. Chief Secretary *Hill* to *John Sullivan*, Esq., Principal Collector and Magistrate, Coimbatore.

Sir,

I AM directed to transmit to you the accompanying copy of a letter from the Chief Secretary to Government at Fort William, applying for full information respecting the Neilgherry Hills as a place of resort for invalids. It is believed that the medical statements with regard to the climate of those Hills are sufficiently complete, and any deficiency in that respect can be supplied through the means at the command of the Medical Board. But the Governor in Council is of opinion, that a report of the nature of that desired by the Government at Fort William would be better prepared by you than by any other person. You have had long and perfect experience of the Neilgherry Hills, and have had occasion to turn your attention to all the points noticed in the accompanying letter ; and it is not a professional, but a popular practical report which is required. The Governor in Council wishes therefore, that at your earliest convenience such a report should be prepared for transmission to the Government at Fort William. You will of course avail yourself of the assistance of Mr. Surgeon Haines, or any other individuals within your reach, in drawing it up.

I have, &c.

(signed) *D. Hill,*
Chief Secretary to Government.

Fort St. George, 24 July 1827.

EXTRACT Fort St. George Public Consultations ; 16 October 1827. 96

READ the following letter :—

From the Committee on the Neilgherries to Mr. Chief Secretary *Hill*.

Sir,

WITH reference to Mr. Secretary Bannerman's letter of the 1st June, which directs us to report the arrangement under which it may be advisable to let the house on the Neilgherries lately taken by Government from Mr. Sullivan as a house of accommodation for sick officers, we take the liberty of remarking, that a great saving is effected to the public from the number of officers who resort to the Neilgherries for the recovery of their health, instead of making a voyage to England in search of it, the expense of which, in a considerable degree, falls upon Government in the shape of passage-money. We understand from good authority that not less than 600,000 rupees was disbursed on this account in the year 1826.

2. We believe it would not be difficult to prove that the saving already effected from this cause is equal to the expense which Government has been put to in providing buildings here for the accommodation of the sick. Another decided advantage which the Neilgherries possesses as a sick station is, that convalescent officers are within call in cases of emergency. This was proved during the late war, when several officers, then residing on the Neilgherries, joined their regiments, proceeding on foreign service at a short notice.

3. It would appear, therefore, to be an object to hold out decided encouragement to sick officers to resort to the Neilgherries, and in this view of the subject we beg leave to suggest, that officers who may by their rank be entitled to passage-money in the event of their going home, shall be allowed to occupy public quarters on the Neilgherries without being subject to deductions from their established house-rent.

4. The accommodation now provided on the Hills, allowing each unmarried officer one private room and the use of a public room, and each married officer three rooms, is sufficient for 12 bachelors and three families ; the house, however, purchased three years ago from Captain Dun, which was reported to be in a state of decay, is not likely to stand much longer, and as the engineer has reported it incapable of repair, it will be necessary to dispose of it without delay. We are happy in being able to state, that about one-third of the purchase-money has been recovered in the shape of rent, and it is expected that the sale of the materials will produce a moiety of what remains, so that the ultimate loss to Government will be trifling.

5. The loss of the bungalow will, however, materially diminish the accommodation which had been provided for married officers. If the view which we have taken of the subject be correct, and if a very considerable saving is likely to be effected to the public by the resort of sick officers to the Neilgherries, it may be considered expedient not only to replace the accommodation that will be lost by the sale of the house in question, but also to extend it, so that at least 20 unmarried and six married officers may constantly find public quarters in the Hills.

6. In this arrangement we have in contemplation merely officers of junior rank in the army, who are entitled to draw passage-money when sent to England for their health, leaving officers of higher rank and other branches of the services to find accommodation in private houses, of which Government are aware some have been built, and others are building with advances made to different gentlemen from the public treasury.

7. It may be proper, however, to remark, that the rent of all private houses is extremely high, and that they cannot be had for a less term than six months. This fact would seem to show the expediency of providing some public accommodation for the junior ranks of the civil service.

8. Both with reference to the business of supply and medical attendance, in every view of the subject indeed it is of importance that the society on the Neilgherries should, as far as may be practicable, be drawn to one station ; and as all the public buildings and a large majority of the private houses are situated at Ootacamund, as roads have been made round the settlement, which enables invalids to take exercise without difficulty, as the preference both in situation and climate has been given to Ootacamund by professional men, and as it is the resi-

dence of the medical officer, Ootacamund must of necessity be that station, and it appears to us that it should be authoritatively notified as such.

9. Should the suggestions that we have taken the liberty to offer be approved, we should beg leave to recommend, that the intentions of Government with respect to accommodation for sick officers on the Hills, and the rules under which it is to be occupied, should be notified in a general order something to the following effect :—

1st. The Honourable the Governor in Council, with a view to encourage the resort of sick officers to the Neilgherries, has ordered accommodation to be provided for a certain number, at the public expense.

2d. Unmarried officers, who, from their ranks, may be entitled to receive passage-money on returning to England for their health, shall be allowed one private room and the use of the public room, and married officers three rooms, without any deduction being made from the established house-rent of their rank.

3d. Officers desirous of being accommodated in the public buildings are to make application in writing to Captain Macpherson, the officer in charge of the public buildings.

4th. That officer will keep a register of applications, and comply with them according to the order of precedence. He will inform the applicant whether his application can be complied with or not.

5th. Applicants are to state the time at which they propose to arrive on the Hills, and failing to keep their engagements at the expiration of a month from the time fixed for their arrival, they are to be considered as having lost their claim to quarters in the order of precedence. The quarters will be given to the next candidate, and those who have forfeited will be placed at the bottom of the list.

6th. Captain Macpherson will make over the furniture belonging to the quarters to their respective occupants, who are required to pass their receipts for the same, and are to be held responsible for all damage done to it, as well as to the glass of the windows, which are to be paid for at a fixed price.

7th. Officers are, if possible, to give one month's notice of their intention to quit.

8th. As much difficulty is experienced in procuring carriage at the bases of the different passes leading to the Neilgherries, it is expected that officers will make arrangements for the conveyance of their baggage from their respective stations to Ootacamund.

9th. Ootacamund being the chief station on the Neilgherries, and the place of residence of the medical officers, officers who may require medical aid are expected to reside there, and it is only where quarters cannot be obtained at that station, that the medical officer is expected to attend them elsewhere.

We have, &c.

(signed) *J. Sullivan.*
W. Haines.
E. Macpherson.

Neilgherries, 28 September 1827.

Ordered, That the following reply be despatched :—

(No. 871.)

FROM *E. Bannerman*, Esq. Acting Secretary to Government, to the Committee on the Neilgherries.

Gentlemen,

I AM directed to acknowledge the receipt of your letter, dated the 28th ultimo, and to state that the Honourable the Governor in Council approves of the arrangements under which you recommend that the public accommodation on the Neilgherries may be appropriated to sick officers; there is a misapprehension, however, in the grounds on which you have recommended that sick officers entitled to passage-money to Europe should be allowed to occupy that accommodation free of expense, as the difference between Indian and English pay and allowances far exceeds the amount of passage-money granted by Government. The Governor in Council, therefore, does not accede to that part of your recommendation, and

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on grounds of a general nature, as well as with a view to the permanent establishment of the health of invalids, would not consider it desirable to encourage a resort to the Neilgherries in preference to Europe.

I have, &c.

(signed) *E. Bannerman*,
Acting Secretary to Government.

Fort St. George, 18 October 1827.

PRESIDENT'S MINUTE.

IN my minute of the 4th instant, I stated my intention of offering to the Board some detailed observations upon the best mode of rendering the Neilgherries more generally beneficial.

Before I left England I had read several descriptions of the climate and country of those Hills, and was aware of the anxious desire of the Honourable Court of Directors to avail themselves of every possible means for the preservation of the public health. That I might judge whether it would be reasonable to incur any further expense in encouraging a resort to the Neilgherries, I have endeavoured, since my arrival, to ascertain the truth of the very favourable representations regarding them, and to which my attention has been more especially directed by the recent correspondence with the Supreme Government.

I have read all that has been recorded upon the subject in the proceedings of this Government, all the medical reports, and I have called upon those who have visited those Hills who are now within our reach, to state to me the effect produced upon their own health by their residence, and to offer any suggestions that might occur to them for the comfort and benefit of others; copies or extracts of this mass of information will be found in the Appendix to this Minute, and the whole have impressed upon my mind a deep sense of the importance of this subject to the interests of the East India Company, and of the whole of the European population of India.

The great destruction of European health and life occasioned by the continual heat of the Indian climate is notorious; in every settlement in India it is continually depriving the public of the services of many valuable officers, civil and military, and blighting the prospects of many deserving persons.

Hitherto there has been no place in India to which the invalid might look for recruiting his shattered constitution; he has been compelled either to await in despondency the fatal progress of his disease, or if more fortunate in possessing the means of proceeding to the Cape or to Europe, he has still had many sacrifices to make, many hardships to endure in accomplishing the passage, although the recent liberality of the Court of Directors has done much to soften those hardships, yet they still exist in a considerable degree; and I grieve to find a general impression prevailing among medical men, that the climate of India, far from becoming more favourable as our experience of its nature has increased, has of late years grown more prejudicial to the constitution.

Thus impaired in his strength, the European has in latter years been exposed to the deadly attacks of the cholera, of the causes or cure of which all the medical knowledge of India has as yet made no satisfactory discovery. Although most afflicting and extensive in its effects upon the soldiery, and upon the sepoys, and upon the lowest classes of the natives, yet the hardiest and the youngest European frames, the most careful and most experienced residents, are alike swept off by its sudden and dreadful power, as we have had too recent and melancholy experience in the venerated head of this Government. Unhappily for himself and for the country, no personal considerations, no friendly remonstrances could dissuade Sir Thomas Munro from the intense pursuit of what he deemed a duty to the Company and to the people, and though warned that the cholera was spreading in the Ceded Districts, he went on without fear to the very scene where it was making its greatest ravages, declining to take even a temporary refuge in the Neilgherries, where, as in token of the Divine mercy to mitigate its evils, this pestilence has never yet been known, besides being unusually free from all other maladies, and efficacious in curing such as have been contracted in the lower countries of India. We are assured by three medical officers, that the Neilgherries

have never been visited by cholera; while this disease has been desolating the plains below, the inhabitants of this favoured clime, secure from its attacks, looked down upon them without fear or anxiety.

It was about the year 1819 that trial of the climate of the Neilgherries appears to have been first made; from that time to 1827 several medical men and officers, civil and military, have visited them. From the united testimony of those who have watched its temperature, the mean heat is established to be about 63, that very temperature which was declared by the late learned Dr. Baillie to be "most favourable to the prolonged existence of man as an animal." In conformity to this opinion is the experience of all those who have been under the influence of this climate; they unite in representing it as peculiarly adapted to the European constitution, to the renovation of a frame broken down by that debility and languor consequent upon a long residence in the plains of India, producing a "general excitement of the whole system, an immediate return of appetite, accession of strength, improved digestion, uninterrupted slumber, and the natural attendant of this improved state,—an increased flow of animal spirits."

It will accordingly be seen, on reference to the Appendix, that there are living instances of effectual cures of most of the diseases to which Europeans are liable; indeed the earnest, animated and grateful tone in which these narratives are written, has tended more deeply to convince me, that in incurring those reasonable expenses which are required to afford to the whole European community of our settlements who may be afflicted with sickness, convenient means of living temporarily at those Hills, we shall be in the discharge of one of our highest functions of protecting the health and lives of those who are under the Company's Government.

Amongst the general descriptions of the Neilgherries which I have perused, and added in the Appendix, I have met with none more forcible and none to which more weight will be justly attached for its accuracy, than that given by the late Sir T. Munro in October 1826: far from discrediting other accounts which have been given of the climate and the scenery, it confirms them in the most minute particulars; but still it is written under feelings of discomfort and disappointment, from the want of accommodation and due protection from the cold; Sir T. Munro, in October 1826, writes as follows:—

"Nothing surprises me more on these Hills than the effect of the cold; it is now 2 o'clock, the thermometer 62; I am writing in my great-coat, and my fingers can hardly hold the pen; I am almost afraid to go to bed, it is so cold; the first night I came up the Hills I did not sleep at all; I am therefore glad that this is to be the last night."

This account concurs with every other in demonstrating, that without adequate protection and shelter to the invalid from the moment of his arrival on the Hills, more injury than benefit will be done to him: in addition to the means of a rapid transit from the bottom to the top of the Hills, he should find a warm house and good supplies of food after he reaches Ootacamund, taking care to carry with him a sufficient supply of warm clothing. The best mode of accomplishing these objects is now to be considered.

In the present scanty state of house accommodation, I believe that the dooly bearers already stationed are sufficient for the conveyance of the probable number of visitors and their baggage; but for the convenience of travellers, as well as for the carriage of building materials, it is highly necessary that the road from the top of the Mysore Pass be as soon as possible practicable for bandies and draught bullocks, and that bungalows be erected at proper intervals. The distance is only nine miles, and I therefore propose that two companies of pioneers be immediately employed upon this service; that travellers' bungalows be constructed at Vallacull, the top of the Mysore Ghaut; a choultry or bungalow at the bottom, near Segoor; a choultry or bungalow on the banks of the Myam Tuppoogaddah; and a bungalow at Doody, in the Mysore territory; this last place is sufficiently near to the borders of the forest to enable travellers to reach the top of the pass on the same day, without being exposed to any danger of fever in passing through the jungle.

Until these shall have been completed, I think it will be better not to commence upon any new building on the other passes; but so soon as these have been finished in a durable manner, it will be desirable to construct similar bungalows and choultries at convenient places on the Coimbatore and Wynaud Passes.

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The houses to be erected at Ootacamund require immediate consideration; the last report from the committee now before us, shows how meagre and inadequate is the present accommodation, compared with the pressing wants of the community. These will appear in a much more urgent shape so soon as the real nature of the climate upon these Hills shall be more generally known; with this view I have directed the Civil Engineer to prepare plans of the buildings which appear to him best suited to the wants of those who are to be accommodated, and he seems to have accomplished this object very satisfactorily in those which are now submitted.

For a barrack for invalid soldiers that will contain 40 patients, and the verandah of which, being inclosed, might contain 15 or 20 more, the cost 10,500 rupees.

For 10 bungalows, each of which will accommodate four officers or two families, the cost of each 6,800 rupees.

These buildings are to be so durably and well constructed, that a story might be added, if necessary.

For the bungalows, I propose that the Company should receive from the parties occupying them, a rent equal to 12 per cent. upon the capital expended.

The whole of the timber, doors and windows for the roofs of these buildings, I propose to have made by the Company's artificers at Seringapatam or Neugeerhe, under the direction of Major Cullen, from the materials now there, and in the forests, of which there is an abundant supply already prepared, and that the pioneers shall assist in the construction of the houses, as well as in the making of the roads. By this arrangement there will be a great present saving, and the durability of the buildings will be effectually secured.

Captain Sim calculates that all the houses so constructed will not cost more on the Hills than in the plains, and there can be no doubt that "as the demand for accommodation there has been incessant," that individuals will press forward to hire them at a rate very far exceeding any house-rent that may be deemed reasonable to require. At present the meanest mud bungalows are let for 20 pagodas per month, and the demand even for them is greater than can be supplied.

In the construction of houses of a better description, I therefore anticipate no pecuniary loss.

It will be in the building of depôts for the soldiers that there will be, at first, any considerable outlay; but after examining the returns of the soldiers who have come to this country, and of the sick who have gone home for some time past at the Company's expense; after looking at the number of men who are annually worn out from mere debility and organic affection, which we have the fullest authority to believe that this great and salutary change of climate would cure, I have the fullest confidence that the measures which I have now recommended are demanded, not only by every feeling of that humanity and enlightened policy which distinguish the paternal government of the Company, but that they will ultimately prove to be measures of true economy, by preserving the services and lives of many of our civil and military servants and soldiers to the state for a much longer period. For the present I would propose to confine our expenditure to our barrack estimates at 10,500 rupees, to be extended hereafter as circumstances may require.

In order that the present season for building may not be lost, the measures now proposed should be prosecuted with as much vigour and despatch as possible, and will require much more attention than the Collector could give to them without interfering with his other important duties. I think it will be, therefore, advisable to employ an officer specially for this purpose, and that the whole of the public works and men engaged on behalf of the Company should be placed under his authority, and that he be specially interdicted from any personal concern in the construction, hiring or selling of any private dwellings there.

I accordingly recommend that Major Kelso be appointed, and from his experience on the Hills and known activity, I anticipate the complete execution of this service. I do not think it necessary that he should have any other than the pay and allowances which he would receive if in command of his corps on service. He should be instructed to report weekly the progress of the works, and as often as may be otherwise necessary.

The Resident of Mysore, and the Collectors of Coimbatore, Malabar, Canara and Salem, should be instructed to attend to his requests, as far as may be in their

their power, for the furtherance of the service entrusted to him, by facilitating the procuring and arrival of such workmen and supplies as may be required.

6 December 1827.

(signed) *J. R. Lushington.*

EXTRACT Public Letter to Fort St. George; dated 3 September 1828.

14 and 2 of Revenue Letter, dated 6th July 1827; also Public Letter from, dated 8 February 1828. Arrangements made and projected for the accommodation of invalids visiting the Neilgherry Hills.

28. THE information which you now possess respecting the climate of these Hills, affords ground for sanguine hopes that a residence there will alleviate the sufferings and restore the health of many of our servants, whose lives and constitutions would otherwise have no chance of preservation except by a voyage to the Cape of Good Hope or to Europe. What is at present wanting to render the Neilgherry Hills a desirable place of resort for invalids, is facility of access to them, and good accommodation when there. The first you have taken measures to afford by improving the roads and establishing bungalows and choultries at proper intervals; the second would no doubt have been in time provided by individual enterprise; but we nevertheless approve of your having facilitated this desirable object, by making advances of money without interest to several individuals for the erection of buildings, to be liquidated from the rent.

EXTRACT Military Letter from Fort St. George; dated 17 June 1828.

5. Your Honourable Court have been informed by a letter from the Public Department, under date the 8th February last, of the measures in progress for rendering the salubrious climate of the Neilgherry Hills more generally available to invalids. It therefore only remains for us to report in this department the appointment of Major Kelso, of the 26th Regiment of Native Infantry, to be commanding officer on the Hills, with a salary of 400 rupees per mensem; that two companies of the second battalion of Pioneers have been ordered to the Hills, to aid in the formation of roads and other works in progress there, their place being supplied by 200 Coolies; and that in consideration of the additional labour thrown on the Superintending Engineer in the Southern Division by these arrangements, we have placed him on the same footing in point of allowances as the Superintending Engineer on the Western Coast.

EXTRACT Fort St. George, Military Consultations; 11 December 1827.

THE following Extract from the Minutes of Consultation in the Public Department is ordered to be recorded:—

PUBLIC DEPARTMENT.

EXTRACT from the Minutes of Consultation, under date 11 December 1827.

FROM the united testimony of those who have watched the temperature of the Neilgherry Hills, the mean heat is established to be about 63; that very temperature which was declared by the late learned Dr. Baillie to be "most favourable to the prolonged existence of man as an animal." In conformity to this opinion is the experience of all those who have been under the influence of the climate. They unite in representing it as peculiarly adapted to the European constitution, to the renovation of a frame broken down by that debility and languor consequent upon a long residence in the plains of India, producing a general excitement of the whole system, an immediate return of appetite, accession of strength, improved digestion, uninterrupted slumber, and the natural attendant of this improved state,—an increased flow of animal spirits."

In order to reap the benefit of this climate, it appears from every account to be essentially necessary that the invalid, from the moment of his arrival on the Hills, should obtain adequate protection and shelter. In addition to the means of speedy conveyance from the bottom to the top of the Hills, he should find a

comfortable house and good supplies of food, after he reaches Ootacamund, taking care to carry with him a sufficient supply of warm clothing.

With the present scanty accommodations, the dooly bearers already stationed on the Hills are sufficient for the conveyance of the probable number of visitors and their baggage; but for the conveyance of travellers, as well as for the carriage of building materials, it is highly necessary that the road from the top of the Mysore Pass be made, as soon as possible, practicable for bandies and draught bullocks, and that bungalows be erected at proper intervals. The distance is only nine miles, and it is proposed that two companies of pioneers be immediately employed upon this service. That a traveller's bungalow be constructed at Vellacull, the top of the Mysore Ghaut; a choultry or bungalow at the bottom, near Segoor; a choultry or bungalow on the banks of the Myaur, at Tuppooggadda; and a bungalow at Doudy, in the Mysore territory. This last place is sufficiently near to the borders of the forest to enable travellers to reach the top of the pass on the same day, without being exposed to any danger of fever in passing through the jungle.

Until these shall have been completed, it will be better not to commence upon any new building on the other passes; but as soon as these have been finished in a durable manner, it will be desirable to construct similar bungalows and choultries at convenient places on the Coimbatore and Wynaad Passes.

The houses to be erected at Ootacamund require immediate consideration. The last report from the committee shows how meagre and inadequate is the present accommodation, compared with the pressing wants of the community. These will appear in a much more urgent shape so soon as the real nature of the climate upon these Hills shall be more generally known. Plans of the buildings which appear best suited to the wants of those who are to be accommodated, have been prepared, which are as follow; viz.

1. For an hospital for invalid soldiers that will contain 40 patients, the verandahs of which being enclosed, might accommodate 15 or 20 men. The cost estimated at 10,500 rupees.
2. For 10 bungalows, each of which will accommodate four officers or two families, the estimated cost of each 6,800 rupees.

These buildings are to be so durable and well constructed, that a story may be added, if necessary.

For the bungalows it is proposed that the Company should receive, from the parties occupying them, a rent equal to 12 per cent. upon the capital expended.

The Resident of Mysore will be instructed to request the Rajah to cause the bungalow at Doudy to be built. For the other buildings the requisite instructions will be sent to the Military Board. The Commissary-general has already been desired to cause a supply of chunam and sand to be conveyed to the Neilgherries. He will now put himself in communication with the Military Board, and be guided by their suggestions.

It is intended that the whole of the timber for the buildings, including doors, windows, joists and boarded floors, as well as tables and cots, should be prepared by the artificers of the gun-carriage manufactory, under the direction of Major Cullen, with whom the Military Board will communicate for the purpose. It is also intended that the pioneers shall assist, as far as they are able, in the construction of the buildings, as well as in the making of the roads. A great saving of expense will be effected by these means; and in the result it is expected that the expense of building on the Hills will not exceed what it would be in the plains.

As the season for building is at hand, and as it lasts only for six months, the Military Board will be instructed to cause the most vigorous exertions to be used in carrying the resolutions of Government into effect.

The Resident at Mysore, and the Collectors of Coimbatore, Malabar, Salem and Canara, will be instructed to attend to all requisitions addressed to them for workmen or materials, and generally to afford every facility in their power to the public officers more immediately concerned in the service explained in these proceedings.

The duty connected with the Neilgherry Hills, which has hitherto devolved upon the Committee of Public Officers, or upon the Principal Collector of Coimbatore, will hereafter be sufficiently burdensome to constitute a separate charge.

It is resolved accordingly to appoint a commanding officer on the Neilgherries, and to place all public buildings there, all public works and workmen, or establishments, under his authority. He will exercise control over all military persons of inferior rank to his own, who may proceed thither. All arrangements for the construction, purchase, sale or renting of public property there, will be made through him; and he is specially interdicted from any personal concern or interest in such dealings; all applications for quarters on the Hills, or for the use of the public establishments, must be made to him; and he will offer all suggestions calculated in his judgment to further the views of Government expressed in these proceedings. In particular, he will submit a weekly report of the progress of the works now authorized.

The Governor in Council has been pleased to appoint Major William Kelso, of the 26th N. I., to be commanding officer on the Neilgherry Hills, with an allowance of four hundred (400) rupees per mensem.

EXTRACT Fort St. George Military Consultations; 11 December 1827.

Ordered, That the following letter be despatched:—

To his Excellency Lieutenant-General Sir *George Townshend Walker*, G.C.B.,
K. C. T. & S., Commander-in-Chief.

Sir,

I AM directed by the Right Honourable the Governor in Council to request that two companies of the Second Battalion of Pioneers may be immediately moved towards the Neilgherry Hills; they will be replaced by 200 Coolies, to be provided by the Commissary-general.

I have, &c.

(signed) *M. Clive*,
Secretary to Government.

Fort St. George, 11 December 1827.

Ordered also, That copies of the foregoing letter be transmitted to the Commissary-general, the Military Auditor-general, and the Accountant-general, for their information and guidance respectively.

EXTRACT Fort St. George General Orders.

G. O. by Government.

Fort St. George, 8 January 1830.

THE building which the Government caused to be erected on the Neilgherry Hills for the accommodation of European invalids of his Majesty's and the Honourable Company's service, having been reported fit for the reception of 56 men; the Right honourable the Governor in Council is pleased to direct that it shall be appropriated, without loss of time, for the benefit of men enervated by a long residence in a hot climate, or debilitated by disease, who, by a change of air, food and exercise, might, in the opinion of medical officers be kept from the invalid and pension lists, and be eventually restored to their regiments as useful and effective soldiers.

Should any space in the building remain unoccupied, after providing for the cases above-noticed, it may be temporarily allotted to pensioned soldiers of good character, who may have followed some trade in their youth, which they are willing to resume on the Neilgherries for their own advantage, and for the convenience of the public.

A piece of land with gardening tools will be apportioned to each inmate of the quarter for invalids, and they will be allowed to dispose of the produce of their labours for their individual benefit.

The

The Commander-in-Chief is requested to adopt the necessary measures for giving effect to this order.

By order of the Right honourable the Governor in Council,

(signed) *Robert Clerk*,
Secretary to Government.

EXTRACT Military Letter from Fort St. George; dated 21 October 1831.

Para. 45. We beg leave to refer your Honourable Court to our President's Minute of the 23d of November 1830, for the reasons which induced us, on promotion of Mr. Surgeon Haynes to the rank of Superintending Surgeon, to make an entirely new arrangement for the medical staff on the Neilgherries, which is well calculated, in our opinion, to secure to the Company and to the public all the promised advantages from the establishment of a Sanitarium at that station.

46. Your Honourable Court will perceive, that the revised establishment consists of a Superintending Medical Officer on a staff salary of 500 rupees, two Assistants on staff salaries of 300 rupees each, and an Apothecary on a salary of 50 rupees. In fixing these allowances, we were actuated by a wish to make the appointments not only objects of emulation, but of continued possession, without the desire of change, to the best qualified young men in the service, who will both give their unremitting attention to the sick entrusted to their care, and employ themselves in a vigilant observation of the peculiarities of the climate, from a minute knowledge of which, skilfully applied, so many benefits might be expected to be derived by many classes of invalids, who had hitherto only imperfectly shared in them. For the purpose of more effectually ensuring this attention to their duties, we strictly prohibited the medical officers appointed to the Neilgherries from engaging in building houses for the purpose of lease, or entering into any other speculations.

EXTRACT Fort St. George Military Consultation of 14 January 1831.

The President records the following Minute:—

PRESIDENT'S MINUTE.

Fort St. George, 23 November 1830.

MUCH reflection upon the best means of securing to the Company and to the public all the promised advantages of establishing a Sanitarium on the Neilgherries, has convinced me that the character and success of the establishment, by which alone the desirable objects in view can be attained, mainly depend upon the efficiency of the medical officers; and viewing the additional labour, which, owing to the increased and increasing numbers of sick both of His Majesty's and the Honourable Company's regiments, as well as of the higher class of invalids, and to the continued illness of the Surgeon, Mr. Haynes, and his consequent inability to perform his duties, has fallen upon the Assistant-surgeon and his subordinates, I have modelled an entirely new arrangement for the medical staff, which I now beg to submit to the Board.

The best qualified men in the service should be employed in these duties, which should be made not only objects of emulation, but of continued possession, without the desire of change. The officers appointed should be active and energetic men, who will not only give their unremitting attention to the sick entrusted to their care, but employ themselves in a vigilant observation of the peculiarities of the climate, from a minute knowledge of which, skilfully applied, so many benefits may be expected to be derived by many classes of invalids who have hitherto only imperfectly shared in them.

The contemplation of ulterior objects of interest and gain unsettles men's minds, and renders it impossible for them to perform the duties of their stations with zeal or effect; and few men will work zealously if inadequately paid for their exertions.

The medical officers must, therefore, not only be so well paid as to ensure their zealous attention to their duties, and their desire of continuing in their

situations, but they must be strictly prohibited from engaging in building houses for the purposes of lease, or entering into other speculations which interfere with the due discharge of their duties. On these principles it is, I think, essential that their allowances should be equal, if not superior, to those of any situation they could hold in the usual course of service; and it is very satisfactory to me to perceive that this efficiency may, in the present state of the medical service, be attained with a due regard to that economy which ought never to be lost sight of.

An active and intelligent officer who has been long enough in the service to acquire a perfect knowledge of the nature and treatment of intertropical diseases, yet who is young and ambitious to establish a character, possessing at the same time zeal and physical power to perform his duties with alacrity, should be placed at the head of the establishment at Ootacamund. Under him a junior Assistant-surgeon should be placed as permanent assistant, and another Assistant-surgeon should be placed at Kotagherry, in separate charge of the sick at that station, but under the general superintendence of the Superintending Assistant-surgeon.

The present monthly expense of the medical establishment on the Hills is as follows:

Mr. Haines	-	-	-	-	-	-	Rs. 803
Mr. Chippendall	-	-	-	-	-	-	319
Mr. Prendergast	-	-	-	-	-	-	224
TOTAL							1,346

The appointment of Dr. Baikie to Kotagherry, together with an increase of about 181 rupees per mensem, which I should have found it necessary to recommend should be made to Mr. Chippendall's allowances, in remuneration for his laborious and responsible duties at Ootacamund during Mr. Haines' former absence and present illness, would have raised the expense of the establishment to 1,803 rupees per month.

The arrangement which I now propose to substitute is, that one well-qualified medical officer at the head of the establishment should have a fixed salary of 500 rupees a month, in addition to his regimental pay and allowances, and that there should be two Assistant-surgeons under him with fixed salaries of 300 rupees per mensem, in addition to their regimental pay and allowances. The establishment will then stand as follows:

Superintending Medical Officer	-	-	-	-	-	Rs. 722
Second Assistant	-	-	-	-	-	524
Third Assistant	-	-	-	-	-	524
TOTAL	-	-	-	-	-	1,770

I recommend Dr. Baikie, whose talents, experience, and active disposition peculiarly qualify him for the duty, for the highest appointment; Mr. Chippendall, who has already displayed so much zeal and assiduity, and given great satisfaction to the residents in the discharge of his heavy duties, for the second; and Dr. M'Dougall for the third, to be stationed at Kotagherry.

This arrangement, which should take effect from the 21st proximo, the date on which Mr. Surgeon Haines will be advanced to the situation of Superintending Surgeon, I feel persuaded will secure an ample and efficient establishment of medical officers, remove all anxiety on their part on the score of allowances, and enable them to devote both mind and time to their duties.

(signed) *S. R. Lushington.*

EXTRACT Fort St. George Military Consultation of 4 February 1831.

THE President records the following Minute:—

PRESIDENT'S MINUTE.

8 January 1831.

WE have already agreed to remodel the Medical Department on the Neilgherries, with a view, by its increased efficiency, of securing all the advantages which have been anticipated from this establishment.

On further inquiry, I find that the subordinate medical functionaries are not adequate to the performance of the duties required from them, and that an apothecary is much wanted; and as this measure will involve a very small additional expense, while it will complete the efficiency and public utility of the establishment, I propose that it be carried into effect. A small staff-allowance of 50 rupees per mensem should be granted, in consideration of the extra expenses of the station, and the arduous nature of the duties. But as the success of the measure will depend a good deal upon the qualifications of the person appointed, I have made inquiries with this view, and I recommend that Mr. Hogg, now Cantonment Apothecary at the Mount, who, I have reason to believe, is peculiarly fitted both by his professional knowledge and the steadiness of his character for the situation, be appointed Apothecary on the Neilgherries, with orders to join by the end of this month.

(signed) *S. R. Lushington.*

EXTRACT Military Letter from Fort St. George; dated 13 April 1832.

Para. 45. For reasons adduced by our President in a minute recorded in our consultation of the 2d December 1831, we authorized the appointment of a medical officer to the separate charge of the convalescent depôt on the Neilgherries, and requested his Excellency the Commander in Chief to select an Assistant-surgeon for that peculiar duty, either from the King's or Company's service, as he might deem best.

46. This measure was suggested in a report submitted to us by the Medical Board from their third member. Mr. Annesley's report contained other suggestions relative to the depôt, which we propose to take into consideration at a future period.

EXTRACT Fort St. George Military Consultation of 2 December 1831.

READ the following proceedings received through the Commander in Chief's Military Secretary:—

Medical Board, 7 November 1831.

THE Medical Board have the honour to submit, for the consideration of his Excellency the Commander-in-Chief and Government, a minute by their third member, suggesting certain arrangements relative to the convalescent depôt on the Neilgherry Hills; and they beg to state, that the subject appears to them to be of great importance, and that they fully concur in the general views of the third member, who has the special advantage of a personal knowledge of the climate and localities of the Neilgherries.

(signed)	Thomas Owen,	} Medical Board.
	First Member,	
	John Hay,	
	Second Member,	
	J. Annesley,	
	Third Member,	

MINUTE by the Third Member.

THE fitness of the Neilgherry Hills for a Sanitarium having been completely established, and all doubts regarding their salubrity having been removed, it becomes a matter of much importance that their advantages should be made more available to the public, and that by a well-regulated system of conveyance through the jungle, and other preparatory measures, their approach be rendered less dangerous and more easy.

Having already had the honour of submitting a report to Government upon the climate and general capabilities of the Neilgherry Hills, I now beg permission to bring the subject under the consideration of the Medical Board for ultimate submission to Government, in the fullest confidence of their entire concurrence and support of the objects in view.

Without further preface, I shall arrange my remarks and suggestions under the following heads :—

1. Route from the different Divisions of the Army.
2. Length of daily march, and accommodation required by the Soldier at the end of each.
3. Preparations required to be in readiness for the Sick on their arrival at the point of rendezvous at the foot of the Mountain, and upon their ascending it, as well as for their quick transit through the Jungle
4. Necessity for an additional building as a Barrack for Convalescents, and of certain outhouses, &c., at the Hospital for the Sick.
5. Regulations for the Hospital.
6. Site for a Convalescent Barrack, its general arrangement, and regulations for exercise and conduct of convalescents.
7. Arrangements previous to convalescents leaving the Hills.
8. Arrangements for the march, after having left the Hills, to join their regiments.
9. General arrangements for Medical Attendance upon the Hills.

1. Route from the different Divisions of the Army to the Hills.

The stations usually occupied by European troops are as follows ; viz. Madras, Trichinopoly, Bangalore, Bellary, Hyderabad, Nagpore, Cannanore, and Masulipatam. Mattiapollam, in the Coimbatore country, within six or eight miles of the Coonoor Pass, being completely out of the reach of jungle and fever, I consider the most eligible point of rendezvous.

At this point the approach is easy, the distance through the jungle not exceeding five or six miles, while the advantages upon that line of road are so superior, and the risk of fever so much diminished, that the increased distance is more than compensated by convenience and comfort.

I would recommend, therefore, that Mattiapollam be the general point of rendezvous from every station in the army except Cannanore, on the western coast.

Bellary, Hyderabad, Nagpore and Bangalore.

Convalescents from Bellary, Hyderabad and Nagpore should, in the first instance, rendezvous at Bangalore; and the route hence to the Neilgherries should be *viâ* Oosoor, Ryacottah, Darampoory, Tapoor, Salem, Sankarahdroog and Errode, to Mattiapollam.

Upon this line there is every possible accommodation; the marches can be well regulated, and the jungle through which they have to pass to the Neilgherries is not more than five or six miles; on the other hand, it will be found that the route *viâ* Mysore, Gundalpet, to Goodooler, though a shorter distance by about 67 miles, has many disadvantages, the chief of which is an unwholesome jungle of 30 miles.

It is quite impossible that any number of sick men could be carried through that jungle in one day without involving a very heavy expense, and if permitted to halt in the jungle, they are liable to fever. It is equally impossible that recovered men could march the distance in one day, without risk of relapse; and, upon these grounds, I recommend that the Goodaloor route shall be abandoned by all troops except those from Cannanore.

Madras and Masulipatam.

If a sea conveyance could be calculated upon from Masulipatam, the sick from Hyderabad and Nagpore might assemble there, and be landed at Negapatam, which would shorten the land distance greatly; but this is quite impracticable as a general arrangement, without involving expense that would never be contemplated,

plated, and consequently is quite out of the question. The sick, therefore, from Masulipatam must proceed upon the usual route, *viâ* Madras and Salem, to the general point of rendezvous.

The route from Trichinopoly to Mattiapollam is *viâ* Caroon, and, from Cannanore, through Wynaad, to the Goodaloor Pass. Trichinopoly
Cannanore.

According to this arrangement the distance from each station, for European troops, to the Hills, will stand thus :

From Trichinopoly to the Hills	-	-	-	-	-	120 miles.
„ Madras to the Hills <i>viâ</i> Salem	-	-	-	-	-	329 „
„ Masulipatam to Madras	-	-	-	-	265	} 594 „
„ Madras to the Hills	-	-	-	-	329	
„ Bangalore to the Hills <i>viâ</i> Avanashey	-	-	-	-	-	242 „
„ Hyderabad to Bangalore	-	-	-	-	361	} 603 „
„ Bangalore to the Hills	-	-	-	-	242	
„ Bellary to Bangalore	-	-	-	-	188	} 430 „
„ Bangalore to the Hills	-	-	-	-	242	
„ Nagpore to Hyderabad	-	-	-	-	310	} 913 „
„ Hyderabad to Bangalore	-	-	-	-	361	
„ Bangalore to the Hills	-	-	-	-	242	} 1,093 „
„ Cannanore to the Hills	-	-	-	-	-	128 „
„ Nagpore to Masulipatam	-	-	-	-	499	} 1,093 „
„ Masulipatam to Madras	-	-	-	-	265	
„ Madras to the Hills	-	-	-	-	329	

A saving of 180 miles by the route of Hyderabad.

2. Regulating the daily Distance of March, and the Accommodation required by the Soldier at the end of each March.

The march of the sick to the Hills, and the sick carriage necessary, will be regulated according to the established rules of the service; but I would urge, in the strongest manner, that the distance should never exceed seven or eight miles a day at the utmost; at this rate the time it would take to reach the Hills from the following stations would be—

From Nagpore to the Neilgherries	-	-	-	-	-	4 months.
„ Hyderabad	-	„	-	-	-	2½ „
„ Bellary	-	„	-	-	-	2 „
„ Masulipatam	-	„	-	-	-	2½ „
„ Bangalore	-	„	-	-	-	1 „
„ Madras	-	„	-	-	-	1½ „
„ Cannanore	-	„	-	-	-	18 days.
„ Trichinopoly	-	„	-	-	-	17 „

On an average of Seven miles a day.

And the period of departure from each station should be regulated in the following order; viz.

From Nagpore they should march in November or early in December, arrive at Hyderabad in January, at Bangalore in March, and on the Neilgherries in April.

From Bellary they should move at the end of January or beginning of February.

From Masulipatam in December, from Madras in February, and from Trichinopoly and Cannanore early in February, in order to be out of the way of the sick from Bangalore and Madras.

Whenever a detachment has taken its departure from any point direct to the Hills, for instance, from Bangalore, Madras, Trichinopoly and Cannanore, the progress of march should be regularly reported to the officer commanding upon the Hills; and the state of the sick should, in like manner, be regularly reported to the medical officer in charge of the depôt, to enable the commanding officer to make the necessary arrangements for their reception at the point of rendezvous, and the medical officer to be in readiness to receive them into the depôt, or to afford assistance if required.

No argument is necessary to prove the importance and necessity of affording to the sick soldier comfortable accommodation after a march. This is a subject in which we have all had experience, and can readily enter into its necessity.

The sheds which have already been built for the accommodation of European soldiers, travelling in small detachments through the country, are generally from 12 to 15 miles apart, a distance too great for sick men to march; some other arrangement, therefore, would appear to be advisable, and it has occurred to me, that sheds made with the common materials of the country might be erected annually, at short distances of six or eight miles, for the accommodation of small parties proceeding to the Neilgherries; a measure of this kind would prove a great convenience to the sick, and could not involve any heavy expense upon Government, while, by rendering tents altogether unnecessary, it might produce a considerable public saving in tents, bullocks, lascars, &c. A privy should be attached to each of these sheds, as the want of them in those already built has often proved a serious inconvenience to soldiers and their families. By having the sheds built annually, they will always be clean and comfortable, answer infinitely better, and prove less expensive than the more durable sheds now built for the same purpose.

3. Preparations required to be in readiness for the Sick on their arrival at the point of rendezvous at the foot of the Mountain, and upon their ascending it, as well as for their quick transit through the Jungle.

As the point of rendezvous is free from jungle, or the risk of fever, it would be desirable that convalescents should halt for a day, for the purpose of making arrangements for their transit through the jungle, and to avoid all unnecessary hurry and subsequent confusion, by which means the march may be accomplished without inconvenience or difficulty.

Doolies should be in readiness for those who require them, and quiet bullocks, with pads, should be required for such as are capable of riding. None of the sick should be permitted to walk through the jungle, even if able to do so, but they should be carried at once, and without delay, from the point of rendezvous to Coonoor, at the top of the pass, which may be effected in about two or three hours. The march should commence about five or six in the morning, in order that the parties may reach Coonoor before eight o'clock. If this arrangement is well executed, it will prevent straggling, and the usual confusion of a night march, and the dooly bearers, from having the previous day's rest, will be able to perform their work without difficulty. The arrangement is simple and easy of accomplishment, and bullocks with pads will be found an admirable conveyance, which soldiers have no objection to on occasions of this kind. They are procurable in every village, and form the cheapest, quickest and readiest mode of conveyance that can possibly be devised.

Having arrived at the top of the pass, breakfast should be provided for the sick, and warm clothing should be in readiness; there should also be a medical officer upon the spot to give assistance, and to accompany them to the depôt, the march to which, may be regulated according to circumstances, or convenience of the sick.

4. Necessity of an additional Building as a Barrack for Convalescents, and of certain Outhouses, &c., at the Hospital for the Sick.

The original intention of the institution on the Neilgherries was a convalescent depôt, and under this impression one building would have been ample; but from the number of sick which have been sent to the Hills within the last two years, its objects have in some measure been changed, and sick and well have been mixed together in the same ward.

It is obviously an injudicious measure to place those who require medical treatment in the same apartment with men who only require change of climate; and on this account it appears to me that an additional building should be erected, as a barrack for convalescents, and for men sufficiently recovered to perform military duty, appropriating the present Sanitarium exclusively to the sick.

I am aware that the surgery, dispensary and bath-rooms are complete, and conveniently situated within the present building, and as the hospital has been in use for the last two years, it may be fairly presumed, that every convenience of outhouses have been built; but it will not be out of place to observe, that the following are absolutely necessary; viz. cooking-houses, shed for drying linen, store-room for hospital equipments, store-room for hospital provisions. A dead-house

house or inspection-room, and it would add much to the efficiency of the establishment if comfortable accommodation was provided for the resident medical officer and principal attendants.

5. Regulations for the Hospital.

The arms and accoutrements of soldiers should be totally unconnected with the hospital, and deposited in store when men are sent there. The sick, if possible, should be arranged regimentally, under their respective non-commissioned officers, which will secure regularity, and perhaps form an *esprit de corps*, raise a spirit of emulation to good conduct, which may be attended with the best consequences.

The beds should be at regular distances, and the frames should be of iron; the bedding should be a palliass or mattress, an under and upper blanket, and a rug and bolster, and each patient to be provided with a complete hospital dress, consisting of a pair of wollen or flannel socks or stockings, a flannel waistcoat, and a flannel shirt.

The only regimental articles allowed in hospital are shoes, stock, suspenders, comb, sponge and shoe-brushes, with a havresack to contain them.

The usual dockets to be at the head of each patient.

The hospital to be lighted with lamps suspended from the roof.

A table for messing, to be in the south-east verandah, with forms attached.

Round towels, brackets and rollers to be in different parts of the ward, and in the surgery; a close-stool, a chamber and spitting pot should be attached to each cot.

The closeness of the wards upon the Neilgherries, as in Europe, renders free ventilation essential, and as health depends very much upon this and cleanliness, the attention of the medical officer in charge should be particularly directed to these points, and the temperature of the ward should be regulated by a thermometer.

The wards should be kept dry and thoroughly clean; stoves might be used with advantage at particular seasons; all offensive smells should be removed whenever they occur, night or day; and great benefit would arise by occasionally sprinkling the wards with the chlorurets of lime and soda, for which purpose a quantity of this article should be supplied.

When the weather permits, the bedding of all patients able to sit up, should be freely exposed to the open air, and every article should be well shaken before it is returned into hospital; and personal cleanliness both amongst the patients who can sit up, and those who are confined to bed, should be strictly enforced.

All fragments of victuals to be removed at once, and all articles not immediately required for use, to be removed from the hospital; care should be taken that no filthy or straggling articles are concealed under the bed or pillows; as the soldiers' combs, brushes, looking-glass, sponge, &c., should be kept in the havresack, suspended over the head of the bed, and examined every morning.

Night chairs should be emptied immediately after use, unless when the medical officer is desirous of examining the alvine discharges, in which case the chlorurets of lime and soda may be used with the greatest advantage.

Dead men to be removed at once from the ward, and the hospital clothing and bedding should be sent to wash; the cot should also be removed into the open air, and the place where it stood should be sprinkled with the chlorurets, and afterwards well scrubbed. If there should be any straw in the palliass, or pillows or bolsters, it should be burnt at once.

The exercise to be regulated by the medical officer, and no persons to have intercourse with the patients in hospital, but by his order.

The diet of the men while under medical treatment to be strictly in conformity with the established regulations of the service, copy of which to be hung up in the hospital.

6. Site for a Convalescent Barrack, its general Arrangement, and Regulations for exercise and conduct of Convalescents.

The site of this building should be elevated, but not on the top of a hill. It should be sufficiently low on the brow of the hill to receive protection from the S. W. monsoon, and its aspect should be to the northward and eastward, a principle adopted by the natives of the country.

It should be at a distance from the bazaar, removed from access to intoxicating liquors, and close to one of those beautiful woods with a running stream of water, which are to be found in all parts of the Hills.

The building should be arranged so as to admit in separate divisions such convalescents as may not require immediate medical treatment, but who are not able to perform military duty, or to take active exercise, and such men as have recovered and are capable of regimental duty.

When a soldier is discharged from the hospital, he will receive his clothing, pack and necessities in a proper state, but he will not receive his arms until he is able to perform military duty, when he may be considered fit to join his corps. As a precautionary measure, however, he should be exercised for a month or more with his arms, before he is allowed to quit the dépôt.

Convalescents, on being discharged from hospital, are to exercise without arms, under a steady non-commissioned officer; the exercise to be regulated by the medical officer, according to the capability and general state of health of the individual, and when he is fit to carry arms, the circumstance to be reported to the commanding officer of the dépôt, that they may be supplied.

Economy in these institutions being an object of the first importance, it would be desirable that no person should be discharged from hospital to the convalescent barrack who is not capable of taking his usual rations of diet; the diet being regulated as nearly as possible to that usually established for the use of men in health. No extras should be allowed, except while under medical treatment, unless in peculiar circumstances, and under the special authority of the medical officers, who will be expected to explain fully the necessity of such deviation to the Medical Board.

7. Arrangements previous to Convalescents leaving the Hills.

Recovered men should leave the Hills in November or early in December, to enable them to join the most distant station before the hot weather sets in; and when men are sufficiently recovered to join their regiments, it is important that they be gradually accustomed to the same kind of fatigue they will have to undergo when they leave the dépôt; for this purpose, the distance of march, and the extent of exercise, should be daily increased for some weeks previous to leaving the Hills.

There should be a daily inspection of the convalescents in barracks, and if any men are found to be ailing, or not to recover in the degree that might fairly be expected, they should be returned to the hospital, unless the cause is manifest, and that there is no hope of perfect recovery, in which case, they should be sent to the dépôt at Poonamallee, to appear before the Invaliding Committee, as there can be no object in keeping such men in India.

After men have gone through the probationary exercise, and are considered sufficiently recovered to join their regiments, they should make slow marches to the top of the pass at Coonoor, where every arrangement should be made for their future progress. Although the men may be able to march the distance from Coonoor to Matiapollam, they should not be permitted to do so, as it is important they should pass through the jungle without fatigue; for this purpose doolies and bullocks should be provided; they may be permitted to march to the foot of the pass, to diminish the labour of the dooly-bearer, but they must be carried through the jungle, and set down at Matiapollam without fatigue.

The march from Coonoor should be commenced after daylight in the morning, and completed before eight o'clock A.M., and breakfast should be ready for them on arrival at their post, in the same manner as has been already recommended in ascending the Hill.

8th. Arrangements for the march after having left the Hills to join their Regiments.

Being out of the range of fever or jungle, a halt should be permitted for a day or two, that the equipment may be complete; and as the first march is generally attended with inconvenience, it should not be more than five or six miles, by which means the soldier will have time to supply himself with what he may require; the baggage will be fairly started, and the future march rendered easy.

One or two doolies, in proportion to numbers, should be allowed to every detachment of convalescents proceeding to join their corps or stations in the

event of any man being taken ill on the road and requiring dooly carriage, in addition to which a country cart or hackery, or a few bullocks, should also accompany them; and as this kind of conveyance is procurable in every village at a moderate expense, and will answer fully as well as the more expensive carriage, it may prove a considerable saving to Government, while it will be far more agreeable to the soldier; it can be commanded at all times, and may be increased or diminished according to circumstances, and without difficulty.

A medical officer should accompany the detachment to the rendezvous beyond the jungle, in order to see that the arrangements have been strictly attended to; and he should be required to make an especial report upon every minute circumstance connected with the march from Ootacamund to Matiapollam, that any omission or neglect of the arrangement may be corrected; and he should further report, that the necessary sick carriage accompanied the detachment on their march from Matiapollam to join their corps or stations.

9. General Arrangements for Medical Attendance upon the Hills.

The military dépôt upon the Neilgherry Hills must always be considered a primary object, and although the number of men seldom exceeds 50, the duties are paramount, and should be specially provided for; nor is it less necessary that provision should be made for sick officers and families.

Experience has proved that the medical duties upon the Hills have of late become extremely laborious, from the great number of sick officers and families from Bengal, Bombay and Madras, who have now recourse to them for health, in addition to which may be added the number of natives, public and private, who apply for medical aid when it is required, and from whom it could not, in justice, be withheld; all these circumstances combined add much to the labour and expense of the Hills, but, under existing circumstances, it is impossible to be avoided.

The statement in the margin,* exhibiting an average for the last six months of the

* Numerical Return of the Number of Europeans and Natives supplied with Medicines from the Dépôt Stores at Ootacamund and Kotagherry (averaged for the last Six Months).

EUROPEANS.											
PRESIDENCIES.	Staff.	Wives of Residents.	Sick Officers. Civil and Military.	Wives of Officers.	Non-commissioned Officers, &c.	Wives of ditto.	Artificers.	Wives of ditto.	Convalescent Hospital.	Miscellaneous.	TOTAL.
Bengal - -	-	- -	1	1	- -	- -	- -	- -	- -	- -	2
Madras - -	8	4	36	15	13	9	20	10	46	10	171
Bombay -	1	- -	20	10	- -	- -	- -	- -	- -	-	31
											204

Including the youths with Church Mission School, Schoolmaster and Missionary.

NATIVES.											
Detachment 32d Regt. N. I.	Detachment Pioneers.	Coolies employed with ditto.	Dooly Bearers.	Tent Lascars.	Commissariat Department.	Peons and Convicts.	Officers command- ing Departments.	Lock Hospital.	Hospital Servants.	Public Coolies.	TOTAL.
98	206	100	188	96	39	35	50	7	16	66	901

the number of persons who receive medical aid upon the Hills, is deserving of attention. It is not, however, the number which causes the excessive labour to the medical officers, but the peculiar localities and great distance of the houses at Ootacamund, and therefore it becomes desirable, in every point of view, that these labours should be rendered less distressing to medical men, that they may perform their duties with more ease, and consequently with more efficiency to the public.

The present medical establishment on the Hills is three Assistant-surgeons; one at Kotagherry, two at Ootacamund. The duties of the former are exclusively confined to the attendance of sick officers and families, which are extensive, from the fact of his being obliged to attend the sick at Coonoor; the latter are employed at Ootacamund, where the duties are still more extensive, including the depôt, sick officers and families, and every class of persons who resort to the Hills.

In order, therefore, to diminish the labour at Ootacamund, and to make the duties more equal, I would suggest that a medical officer be exclusively appointed to the depôt, that one should be appointed to sick officers, and that the superintending medical officer should be considered to have the charge of families and followers. Thus, by giving each medical officer upon the Hills a specific duty, the whole will be more regularly performed, and this being clearly and distinctly understood, whatever deviation takes place, will, of course, be with the general concurrence of the whole, keeping in view the good of the public service and respectability of the profession.

If this measure be approved, it will make an addition of one Assistant-surgeon, but it will not necessarily make any considerable increase of expense; and as the duties on the Hills partake of military and private practice, the qualifications of medical officers should be appropriated to their specific objects.

A medical officer who has had experience in regimental and general military duties, would be the person best suited for the depôt, and as he will not be liable, like others, to the expense of keeping up conveyances for the purpose of visiting sick officers or families at distant parts of the Hills, the allowance granted to Assistant-surgeons in charge of corps would be ample; and as this duty will occupy the undivided attention of whoever may be placed in charge, so will the undivided attention of the present superintendent and his assistant be applied to sick officers and families.

Returns for the Medical Board will be made through the superintending medical officer, and commissariat supplies will be controlled by him; a measure more likely to prove efficient than the present system, which places the executive and controlling power in the hands of the same person.

The medical stores to be under the superintending medical officer, and the depôt to be supplied separately upon indent. The subordinate medical establishment, which is at present equal to every purpose, will be regulated by the Medical Board, giving to the depôt a separate proportion, suited to the present extent of duty, and reserving to the superintending medical officer what may be required for the dispensary, attendance upon sick officers and families, and for keeping records and writing returns, &c. &c. &c.

Thus the expenditure will come under two heads; viz. the depôt and establishment of servants will be exclusively within itself, the officer in charge being responsible for the superintending medical officer. The expenditure for sick officers and families will also be distinct, under the superintending medical officer or his assistant, whichever may be considered most conducive to the public good.

Regulations for the military conduct of all persons upon the Neilgherry Hills are absolutely necessary, but this does not come within the scope of the Medical Board.

(signed) *J. Annesley,*

Third Member Medical Board.

3 November 1831.

The President records the following Minute:—

PRESIDENT'S MINUTE.

30 November 1831.

In the proceedings of the Medical Board of the 16th instant, forwarded by his Excellency the Commander-in-Chief, I observe, that amongst the recommendations

tions which will require further inquiry and consideration, there is one which I deem of very material importance to be immediately adopted. Mr. Surgeon Annesley, who has minute local knowledge of the Hills, proposes "that a medical officer be exclusively appointed to the depôt, that one should be appointed to sick officers, and that the superintending medical officer should be considered to have charge of families and followers. Thus, by giving each medical officer upon the Hills a specific duty, the whole will be more regularly performed, and this being clearly and distinctly understood, whatever deviation takes place, will of course be with the general concurrence of the whole, keeping in view the good of the public service and respectability of the profession.

"If this measure be approved, it will make an addition of one Assistant-surgeon, but it will not necessarily make any considerable increase of expense; and as the duties on the Hills partake of military and private practice, the qualifications of medical officers should be appropriated to their specific objects.

"A medical officer who has had experience in regimental and general military duties, would be the person best suited for the depôt, and as he will not be liable, like others, to the expense of keeping conveyances for the purpose of visiting sick officers or families at distant parts of the Hills, the allowance granted to Assistant-surgeons in charge of corps would be ample; and as this duty will occupy the undivided attention of whoever may be placed in charge, so will the undivided attention of the present superintendent and his assistant be applied to sick officers and families.

"Returns for the Medical Board will be made through the superintending medical officer, and commissariat supplies will be controlled by him, a measure more likely to prove efficient than the present system, which places the executive and controlling power in the hands of the same person.

"The medical stores to be under the superintending medical officer, and the depôt to be supplied separately upon indent. The subordinate medical establishment, which is at present equal to every purpose, will be regulated by the Medical Board giving to the depôt a separate proportion, suited to the present extent of duty, and reserving to the superintending medical officer what may be required for the dispensary, attendance upon sick officers and families, and for keeping records and writing returns, &c. &c. &c.

"Thus the expenditure will come under two heads; viz. the depôt and establishment of servants will be exclusively within itself, the officer in charge being responsible to the superintending medical officer; the expenditure for sick officers and families will also be distinct, under the superintending medical officer or his assistant, whichever may be considered most conducive to the public good."

Concurring, as I do, entirely in the reasoning by which this suggestion is supported by Mr. Surgeon Annesley, I beg to recommend that his Excellency the Commander-in-Chief be requested to select a proper Assistant-surgeon for this peculiar duty, either from his Majesty's or the Company's service, as his Excellency may deem best.

(signed) *S. R. Lushington.*

EXTRACT Military Letter from Madras; dated 8 January 1833 (No. 2).

67. WE have the honour to bring to your Honourable Court's notice a minute of our late President, Mr. Lushington, dated the 16th August last, and recorded, in consultation of the 21st of that month, regarding the progress made in the measures ordered by Government on the Neilgherry Hills, and expressing his approbation of the zeal, diligence and success with which all the officers employed there had executed the duties entrusted to them. On the suggestion therein contained, Major Crewe's appointment of Assistant Commissary-general was discontinued, and he was nominated to the military command of the Neilgherries, in the room of Captain Eastment, who has been otherwise provided for; and Lieutenant Le Hardy was appointed a Sub-assistant Commissary-general and assistant to the officer commanding the Hills, by which arrangement, Mr. Lushington observed, the general superintendence of the works on the Hills would be under Major Crewe.

PRESIDENT'S MINUTE.

Fort St. George, 16 August 1832.

HAVING now personally seen the progress made in all the measures directed by the Government for rendering these Hills available to the public for the restoration of health, it is a great gratification to me before I leave India, to express warm approbation of the zeal, diligence and success with which all the officers employed have executed the important duties entrusted to them; little more is now required to render the access from the low country by Coonoor scarcely more fatiguing or difficult than double the distance in the low lands, and what has been already accomplished on the Koondas, gives a fair promise of equal success on the western side.

The supplies in the bazaar are better than in many low lands, particularly of European articles, and the competition created by an open market is sufficiently attested, by a petition which I have recently received from the Parsees, requesting that a limit may be put upon the shops, with which I see no reason to interfere.

To Major Crewe, who has had the watching over and bringing the commissariat and agricultural arrangements to their present state, we are indebted for this satisfactory result; and I entirely concur with the committee of officers, who have recently inspected the state of the public buildings and other improvements on the Hills, in the commendation with which they have noticed his unceasing and successful exertions.

In this state of advancement towards all the purposes contemplated in forming a settlement on the Neilgherry Hills, I think that we can now dispense with the expense of an Assistant Commissary-general, provided we are able to secure the continuance of Major Crewe's presence and services by a more economical arrangement. I propose, therefore, that Major Crewe be placed in the general military command of the Neilgherries, in the room of Captain Eastment, who I propose to employ in the command of the Sibbendy Battalion, in Ganjam; and that Lieutenant Le Hardy be appointed a Sub-assistant Commissary-general, to reside on the Hills; by this arrangement, the general superintendence of the works on the Hills will be under Major Crewe, and he cannot have a more intelligent assistant in all his duties than Lieutenant Le Hardy.

I accordingly propose that Major Crewe's appointment of Assistant Commissary-general be discontinued, and that he be appointed commanding officer on the Neilgherries, that Captain Eastment be appointed to the command of the Sibbendy Battalion in Ganjam, and that Lieutenant Le Hardy be appointed Sub-assistant Commissary-general and Assistant under Major Crewe.

(signed) *S. R. Lushington.*

I cordially concur in this opinion and appointments.

(signed) *R. W. O'Callaghan.*

MILITARY Letter to Fort St. George; dated 28 March 1832 (No. 21).

Para. 1. HAVING had under our consideration the reports in the several departments of works undertaken by you on the Neilgherry Hills, and being desirous of obtaining a more connected account of these proceedings, as well as of possessing more definite information than has yet been given of the advantages which have attended the occupation of the Hills, we desire to be furnished at your earliest convenience with the following statements:—

The Number and Description of Public Buildings on the Hills, specifying whether purchased or built, their original cost, and the amount since laid out thereon, whether in additions or repairs.

Name of the Occupier of each Building, and whether rent-free or otherwise; the amount of Rent, where rent is payable, and the aggregate received on that account.

Amount expended in Labour, and for what purposes, other than buildings and repairs; together with a list of Coolies and Lascars in permanent employ, who are employed on the Hills.

Nature

Nature and cost of the Furniture supplied, and for whose use, with any other particulars tending to show the past and present annual expense of the establishment.

List of Public Officers stationed on the Hills, with their salaries and allowances.

A Report on the benefit derived by European Invalid Soldiers, who have been sent to the Hills, as well as, so far as it can be procured, of the benefit derived by our servants and others who have visited the Hills on account of their health, showing the permanency or otherwise of that benefit.

An Annual Report to the same effect as the last we have enumerated, to be sent to us in this department.

2. We further desire that all correspondence relating to the Neilgherry Hills may in future be sent to us in this department, so that the benefit derived from the station, and the cost at which such benefit is derived, may be seen at one view.

EXTRACT Military Letter from Madras; dated 1 March 1833 (No. 9).

5. Much of the information desired in this paragraph was communicated by our despatch in this department of the 23d October

Letter to, dated 28 March 1832 (No. 21).
1. The Court desire to be furnished with certain statements, with a view of obtaining a connected account of works undertaken by the Government on the Neilgherries, and of possessing more definite information than has yet been given of the advantages which have attended the occupation of those Hills.
last, No. 32, and we have now the honour to transmit a list of the public officers stationed on the Neilgherries, with their salaries and allowances; and also a report by the Medical Board on the benefit derived by European invalids by a residence on the Neilgherries.

EXTRACT Military Letter from Fort St. George; dated 24 May 1833 (No. 13).

20. WITH reference to a despatch from your Honourable Court of the 28th March, No. 21, para. 1, and to our letter of 1 March last, para. 5, we have the honour to forward a report from the Inspector of His Majesty's Hospitals, on the benefit derived by invalids of His Majesty's service who have been residing on the Neilgherry Hills.

21. We also forward, with reference to the same despatch from your Honourable Court, statements showing the several establishments, &c., kept up at the Neilgherries.

To the Right Honourable Sir *Frederick Adam*, Governor in Council, &c. &c. &c.
Fort St. George.

Sir,

WITH reference to our letter of the 27th September, No. 150, we now proceed to submit the information required by the Honourable the Court of Directors in their letter of 28th March last, No. 21, respecting the extent and permanence of the benefit derived by European soldiers and public officers from a resort to the climate of the Neilgherry Hills.

2. The convalescent depôt at Ootacamund was announced to be ready for the reception of European invalids, in General Orders by Government, dated 8th January 1830, and the first detachment of convalescents arrived at that station in May following. The accompanying Tabular Statements, Nos. 1 and 2, exhibit separately the number of European soldiers of His Majesty's and of the Honourable Company's services, who have been admitted into the depôt, from its establishment to the end of October 1832; the diseases on account of which a trial of the Neilgherry climate was recommended; and the degree of success with which

the measure has been attended. The general results afforded by these statements will be at once observed in the following Abstract :

	ADMITTED:			Total Admitted.	DISCHARGED:				Died.	Remaining 1 Nov. 1832.
	In 1830.	In 1831.	In 1832.		Cured.	Improved, but not Cured.	As Incurable on the Neilgherries.	TOTAL.		
Of His Majesty's Service - - -	35	30	10	75	42	8	3	53	6	16
Of the Honourable Company's - -	18	30	15	63	33	3	11	47	4	12
TOTAL - - -	53	60	25	138	75	11	14	100	10	28

3. It is thus seen, that of 138 men of both services received in the depôt, 75 have been restored to good health, and sent to rejoin their respective corps; 11, though not cured, have been so much benefited as to be considered fit to return to duty; 14 have been discharged from the depôt as incurable in the climate of the Neilgherries; 10 have died; and 28, of whom the majority had recently joined, continued under treatment on the 1st November 1832. The average period of detention in the depôt of those reported cured or improved, was 10 months and 4 days, and of those discharged as incurable 12 months and 11 days.

4. As the benefit to be derived from the climate of the Neilgherries may be supposed to be materially influenced by the age and duration of residence in India of the persons resorting to it, it appears desirable to introduce in this place statements affording information on these points in regard to the European soldiers who have been received into the depôt.

STATEMENT showing the Ages of the European Convalescents sent to the Depôt on the Neilgherries, and the Results of their Cases.

A G E S.	Number received into the Depôt.	DISCHARGED :				Died.	Remaining 1 November 1832.
		Cured.	Improved, but not Cured.	As Incurable on the Neilgherries.	TOTAL.		
His Majesty's Troops :							
Not above 20 years - -	5	4	- -	- -	4	- -	1
From 20 to 25 " - -	35	20	4	2	26	2	7
" 25 to 30 " - -	19	11	2	1	14	- -	5
" 30 to 35 " - -	12	6	1	- -	7	2	3
Above 35 " - -	4	1	1	- -	2	2	-
TOTAL - - -	75	42	8	3	53	6	16
Honourable Company's Troops :							
Not above 20 years - -	3	3	- -	- -	3	-	-
From 20 to 25 " - -	25	12	1	7	20	1	4
" 25 to 30 " - -	28	15	2	4	21	2	5
" 30 to 35 " - -	2	1	- -	- -	1	- -	1
Above 35 " - -	5	2	- -	- -	2	1	2
TOTAL - - -	63	33	3	11	47	4	12
GRAND TOTAL - -	138	75	11	14	100	6	28

STATEMENT

STATEMENT showing the Period of Residence in India of the European Convalescents sent to the Depôt on the Neilgherries, and the Results of their Cases.

Period of Residence in India.	Number received into the Depôt.	DISCHARGED :				Died.	Remaining 1 November 1832.
		Cured.	Improved, but not Cured.	As Incurable on the Neilgherries.	TOTAL.		
His Majesty's Troops :							
Under 2 years - - -	8	4	- -	1	5	- -	3
From 2 to 5 years - -	36	22	4	- -	26	2	8
„ 5 to 10 „ - - -	18	8	3	2	13	1	4
„ 10 to 15 „ - - -	7	2	1	- -	3	3	1
Above 15 „ - - -	-	-	-	-	-	-	-
Unknown - - -	6	6	- -	- -	6	-	-
TOTAL - - -	75	42	8	3	53	6	16
Honourable Company's Troops :							
Under 2 years - - -	16	9	- -	6	15	1	-
From 2 to 5 years - -	19	8	1	5	14	1	4
„ 5 to 10 „ - - -	14	8	2	- -	10	1	3
„ 10 to 15 „ - - -	6	2	- -	- -	2	- -	4
Above 15 „ - - -	2	1	- -	- -	1	- -	1
Unknown - - -	6	5	- -	- -	5	1	-
TOTAL - - -	63	33	3	11	47	4	12
GRAND TOTAL - -	138	75	11	14	100	10	28

5. It will be observed from these statements, that the majority of the convalescents were young men not long resident in India, and the accompanying copy of the circular instructions by which medical officers were required to be guided in selecting patients for the Hills, will show that it has been an object of particular solicitude to avoid sending thither any severe cases of chronic disease.

6. Having thus stated the general condition of the soldiers sent to the depôt, and having shown the extent of the immediate benefit derived by them, the next subject of inquiry is the permanence of that benefit in the case of men of the Honourable Company's service, respecting whom alone our office possesses the requisite information.

7. The number of men of this service who left the depôt cured, was 33, and improved, 3; of these 36, the following is the subsequent history:

25 have rejoined their respective corps.

9 are *en route* to join.

1 died 25 days after leaving the depôt.

1 was "transferred to Kaitee."

36

Of the 25 men who thus rejoined,

16 were in good health.

4 were in improved, but not good health.

5 were in bad health.

25

Of these 25 men,

16 have derived permanent benefit.

3 have not been permanently benefited.

1 has but very lately rejoined in improved, but not good health.

5 have been discharged from the service invalided or pensioned.

25

8. The 11 men reported as incurable in the climate of the Neilgherries, were only discharged from the depôt in the course of September and October last, and their cases have not been further disposed of. The oldest of them was not quite 30 years of age, and those longest in the service had been only four years in India when sent to the depôt.

On an average their age was - - - - - 24½ years.
 „ the duration of residence in India - 2 years nearly.
 „ the period of residence on the Hills - 1 year 2 months.

9. It is sufficiently obvious therefore, from the preceding statements, that the benefit to the public service as yet derived from the convalescent depôt has not been of extensive importance, but it must be admitted that the establishment has hitherto laboured under great disadvantages. Placed in an elevated and unsheltered situation, without a surrounding wall, the building was fully exposed to the south-west monsoon, while its vicinity to the bazaar afforded ready access to spirituous liquors, of which it was found impossible, with the means of restraint at command, to prevent the patients from frequently availing themselves; and its extent was too limited to admit of the desirable measure of completely separating the convalescent and recovered men from those under hospital treatment. A much more extensive and eligible building having, however, been recently appropriated for the purposes of a convalescent depôt, there is every reason to expect that the more important disadvantages hitherto experienced will now be removed, and that a more satisfactory trial than it has hitherto been possible to give it will thus be afforded to the renovating influence of the climate.

10. But although the benefit hitherto derived from the convalescent depôt cannot, under these circumstances, be considered as indicating in a perfectly satisfactory manner, the probable extent of the utility of a matured and well-regulated establishment of that nature, we think it proper, on the present occasion, to state, that, from the information before us, we see no grounds for anticipating from such an establishment any results of much importance in a financial or political point of view, if indeed its maintenance should not be attended with positive loss. When the distance of the greater number of stations occupied by European troops from the Neilgherry Hills is considered, it will be obvious that a resort to them cannot be available for the cure of acute diseases, except in cases of tedious and imperfect convalescence, which do not appear to have been numerous for some years past, and the medical reports received from the Hills, while they generally represent the climate in the most favourable point of view, tend to show that it is not well adapted for the cure of those chronic diseases attributable to a tropical climate, which chiefly lead to inefficiency, and consequently to discharge from the service, or transfer to the invalid or pension establishment.

11. On examination of the returns of men of His Majesty's Regiments serving under this Presidency who were invalided from 1826 to 1829 inclusively, the four years preceding the establishment of the depôt on the Neilgherries, it appears that the average number annually invalided on account of diseases attributable to a tropical climate, and likely to be cured or materially benefited by a return to Europe was 122, the diseases affording this aggregate being in the following proportions:—

Fever - - - - -	8	Of these, the principal diseases were,—	
Hepatitis - - - - -	42½		
Rheumatism - - - - -	38		
Dysentery - - - - -	16½		
Diarrhœa - - - - -	10¾		
Dropsy - - - - -	4	Hepatitis - - - - - 42½ Rheumatism - - - - - 38 Bowel complaint - - - - - 27¼	
Headache - - - - -	2¼		
			107¾
	122	Or nearly 9-10ths of the 122.	

12. It thus appears that hepatitis, rheumatism and bowel complaints, all of long duration, constitute nearly 9-10ths of the whole number of cases in which a change of climate affords a prospect of recovery: now it will be seen, from

from the reports* of the medical officers on the spot, that the climate of the Neilgherries is not considered favourable for recovery from these diseases, and it consequently follows, that there is but a small proportion of cases of confirmed tropical disease in which it can be expected to effect a cure. As already noticed, it promises to be chiefly useful in cases of tedious convalescence from acute diseases, and in persons who, without any marked disease, are prematurely debilitated by service in India, it may often effect such an improvement of health as will enable them to continue at their duty for some time longer.

13. Having now submitted such information as appeared requisite respecting European invalid soldiers, we proceed to the consideration of the benefit derived by the Officers of Government, Civil and Military, who have visited the Neilgherries on account of their health. As the number of these visitors prior to the commencement of 1826 was not considerable, and as they did not in many instances apply to the medical officer stationed on the Hills, no regular account of them can be given before that period. The following abstract of the more detailed statement herewith transmitted, exhibits the number who have annually resorted to the Hills from the beginning of 1826 to the 1st October last, and the results of the cases.

ABSTRACT Return of Sick Officers, Civil and Military, treated on the Neilgherries, from 1 January 1826 to 30 September 1832.

YEARS.	Remained 1 January 1826.	Admitted.	Total.	DISCHARGED:						Died.	Remaining 1 October 1832.
				Cured.	Improved, but not Cured.	No better.	By transfer to another Surgeon.	On Sick Certificate to Europe.	Total.		
1826 -	7	9	16	6	4	1	-	-	11	-	-
1827 -	-	29	29	9	5	4	-	2	20	-	-
1828 -	-	35	35	8	16	-	-	-	24	1	-
1829 -	-	43	43	31	-	-	12	2	45	3	-
1830 -	-	42	42	24	6	-	4	7	41	2	-
1831 -	-	40	40	22	10	-	-	9	41	3	-
1832 -	-	33	33	19	4	1	-	2	26	2	19
TOTAL -	7	231	238	119	45	6	16	22	208	11	19
Officers of the Bombay Establishment :											
1830 -	-	14	14	-	-	-	-	-	-	-	-
1831 -	-	13	13	7	3	-	-	3	13	1	-
1832 -	-	24	24	10	6	-	-	-	16	-	21
TOTAL -	-	51	51	17	9	-	-	3	29	1	21
GRAND TOTAL -	7	282	289	136	54	6	16	25	237*	12	40

14. The

* Copies of these Reports are herewith submitted. But it may be proper in this place shortly to quote the sentiments expressed by Dr. Stephenson, the medical officer in charge of the depôt, in his half-yearly Report, dated 11 July last:—

“Rheumatism.—This is another disease to which the climate of the Hills is not so well adapted, being too cold and windy for similar affections.

“Hepatic Disease.—No chronic case of hepatitis should, therefore, in my opinion, ever be sent to this station.

“Diarrhœa and Dysentery.—I must here observe, that I do not consider this climate well adapted to this disease, especially in chronic form, or where combined with hepatic affections, as they are constantly subject to relapses from congestions within, or exposure to the cold atmosphere of the Hills.”

14. The officers of the Bombay Presidency have for some time been placed under the care of a medical officer of that establishment; but as a return of them has on the present occasion been spontaneously furnished to us, we have thought it proper to introduce it, in order to render the information as complete as possible; we have no accounts respecting Europeans not in the public service who may have visited the Neilgherries, but have reason to believe that their number cannot have been considerable.

15. From the preceding abstract it appears, that during the period of six years and nine months which it embraces, 289 public officers resorted to the Neilgherries on account of their health; of these,

- 136 are reported to have been cured.
- 54 improved, but not cured.
- 6 derived no benefit.
- 16 were transferred to the care of another medical officer.
- 25 proceeded on sick certificate to Europe.
- 12 died on the Hills; and
- 40 remained under treatment on 1 October last.

289

16. The average duration of residence on the Hills of those reported cured was 7 months, of those improved but not cured $7\frac{1}{2}$ months, and of those who proceeded thence to Europe on sick certificate $6\frac{3}{4}$ months.

17. With respect to the permanence of the benefit, there are no means for affording such precise information in the cure of public officers as in that of European soldiers; but the following statements contain the whole information on this head of inquiry, respecting the officers treated by surgeons of this establishment, which could be collected from all available sources. Of the 119 exhibited in the first part of the Abstract given in paragraph 13, as having been cured,

- 13 proceeded to Europe within one year.
- 4 proceeded to Europe within the second year.
- 8 proceeded to Europe within the third year.

25

Of the 45 reported as relieved or improved,

- 13 proceeded to Europe within one year.
- 2 proceeded to Europe within the second year.
- 2 proceeded to Europe within the third year.

17

The 42 who thus appear to have proceeded to Europe being deducted from 164, the whole number who derived benefit from the climate, 122 remain to be accounted for; of these, the following is the subsequent history:

- 75 have derived permanent benefit.
- 23 have not been permanently benefited.
- 2 died within a few months after leaving the Hills.
- 22 being officers of other Presidencies, there are no means of tracing their subsequent history.

122

18. The medical topography of the Neilgherries having been discussed in several Reports submitted to Government, and all the information on the subject afforded

afforded by our records having been digested in the Report which accompanied our letter* of the 13th March 1828, we have thought it unnecessary to advert to it on the present occasion, more especially as we conceive the object of the Honourable Court's requisition to be to obtain precise statements of actual results, in preference to general descriptions or speculative opinions. Since that period, some additional Reports on the Climate of the Hills, and its effects on the European constitution, have been furnished to us; and, in order that the fullest information on the subject may be available to the Honourable Court, we have deemed it advisable to submit the accompanying copies† of them.

* Not received by the Court of Directors.

† Nos. 6 and 7.

We have, &c.

(signed) Thomas Owen,
First Member,
M. Davies,
Second Member,
J. Hay,
Third Member,

Medical Board.

Fort St. George, Medical Board Office,
24 December 1832.

No. 1.

1830, 1831 and 1832.

Convalescent Dépôt on the Neilgherry Hills.
RETURN of European Soldiers of His Majesty's Service.

	Remained 1 January 1830.	Admitted in 1830.	Admitted in 1831.	Admitted in 1832.	Total.	DISCHARGED.				Died.	Remaining 1 November 1832.
						Cured.	Improved, but not Cured.	As Incurable on the Neilgherries.	Total.		
Atrophy -	-	1	-	-	1	1	-	-	1	-	-
Catarrh -	-	-	-	1	1	-	-	-	-	-	1
Diarrhœa -	-	3	3	3	9	5	-	1	6	-	3
Dysentery -	-	10	8	4	22	12	3	1	16	1	5
Epilepsy -	-	1	-	-	1	1	-	-	1	-	-
Fever, Continued -	-	3	-	-	3	1	2	-	3	-	-
„ Intermittent -	-	3	-	-	3	3	-	-	3	-	-
„ Remittent -	-	-	5	-	5	3	-	-	3	-	2
Headache -	-	3	1	-	4	2	1	-	3	-	1
Hepatic disease -	-	6	4	1	11	6	1	-	7	1	3
Indigestion -	-	2	-	-	2	1	-	-	1	1	-
Inflammation, Abdominal -	-	-	2	-	2	1	-	-	1	1	-
„ of Spleen -	-	-	1	-	1	-	-	-	-	1	-
Ophthalmia -	-	1	-	-	1	1	-	-	1	-	-
Palpitation of Heart -	-	1	-	-	1	1	-	-	1	-	-
Palsy -	-	-	2	-	2	-	1	-	1	1	-
Piles -	-	-	2	1	3	3	-	-	3	-	-
Rheumatism -	-	-	1	-	1	-	-	-	-	-	1
Scurvy -	-	1	1	-	2	1	-	1	2	-	-
TOTAL -	-	35	30	10	75	42	8	3	53	6	6

Fort St. George, Medical Board Office,
24 December 1832.

(signed) H. S. Flemming,
Secretary Medical Board.

No. 2.

1830, 1831 and 1832.

Convalescent Dépôt on the Neilgherry Hills.

RETURN of Soldiers of the Honourable Company's Service.

	Remained 1 January 1830.	Admitted in 1830.	Admitted in 1831.	Admitted in 1832.	Total.	DISCHARGED.				Died.	Remaining, 1 November 1832.
						Cured.	Improved, but not Cured.	As Incurable on the Neilgherries.	Total.		
Abscess, Lumbar - - -	-	-	1	-	1	1	-	-	1	-	-
Atrophy - - - - -	-	-	4	1	5	4	-	1	5	-	-
Diarrhœa - - - - -	-	1	2	-	3	2	-	1	3	-	-
Dropsy - - - - -	-	2	-	1	3	1	-	-	1	1	1
Dysentery - - - - -	-	2	4	2	8	3	-	3	6	-	2
Fever, Continued - -	-	-	2	-	2	2	-	-	2	-	-
„ Intermittent - - -	-	1	-	-	1	1	-	-	1	-	-
Headache - - - - -	-	1	-	-	1	1	-	-	1	-	-
Hepatic disease - - -	-	6	10	5	21	11	2	5	18	1	2
Indigestion - - - - -	-	-	-	2	2	-	-	-	-	-	2
Inflammation, Abdominal -	-	-	-	1	1	-	-	-	-	-	1
„ Cephalic - - - - -	-	-	1	-	1	-	-	-	-	1	-
„ of Bladder - - - - -	-	-	-	1	1	-	-	-	-	-	1
Injury of Spine - - -	-	1	-	-	1	1	-	-	1	-	-
Palpitation of Heart - -	-	1	-	-	1	1	-	-	1	-	-
Palsy - - - - -	-	1	-	-	1	-	1	-	1	-	-
Rheumatism - - - - -	-	2	6	-	8	5	-	1	6	1	1
Sarcomatous - - - - -	-	-	-	1	1	-	-	-	-	-	1
Wounds and accidents - -	-	-	-	1	1	-	-	-	-	-	1
TOTAL - - - - -	-	18	30	15	63	33	3	11	47	4	12

Fort St. George, Medical Board Office,
24 December 1832.(signed) *H. S. Flemming,*
Secretary Medical Board.

No. 3.

CIRCULAR.

To Superintending and Staff Surgeons.

Sir,

1. CONSIDERING it highly important that the soldiers who may be transferred under the G. O. G., No. 9, dated 8th January 1830, to the convalescent dépôt on the Neilgherries, should be judiciously selected, the Medical Board deem it proper to point out, for the guidance of medical officers in charge of European sick of the Honourable Company's army, the cases in which a resort to that climate promises to be most beneficial. These may be arranged under the following heads:—

1st. Convalescents from fever and dysentery, whose constitutions are so debilitated as to render it improbable that they would recover perfectly under the ordinary circumstances of a soldier's life in this country. These persons should be somewhat advanced in convalescence, should require but little medical treatment, and should be in general able to march without much assistance in the way of sick carriage.

2d. Persons

2d. Persons debilitated from long residence in India, whether unaffected with any marked disease, or suffering from dyspepsia, irregular action of the bowels, or other symptoms of functional derangement of some of the viscera.

3d. Young men of weakly constitutions, having no actual disease, but, from debility and exhaustion, unfit for military duty.

2. It is, however, to be understood, that men of bad character are not on any occasion to be selected for the transfer.

I have, &c.

(signed) *H. S. Flemming,*
Secretary Medical Board.Fort St. George, Medical Board Office,
27 December 1830.

CIRCULAR.

To Superintending and Staff Surgeons.

Sir,

1. As the instructions contained in Circular No. 1,182, dated 27th December 1830, although in their principle obviously applicable to Europeans generally, were not expressly directed to be applied to the cases of commissioned officers, the Medical Board deem it advisable, with the sanction of his Excellency the Commander-in-Chief, again to point out, for the guidance of executive and superintending medical officers, in granting and countersigning medical certificates, the cases which are likely to derive full benefit from the climate of the Neilgherries, and those in which either a voyage to sea or a return to Europe holds out the only reasonable prospect of a complete restoration of health.

2. The cases adapted for transfer to the Neilgherries are comprehended under the three following heads:—

1st. Convalescents from fever, dysentery and acute hepatitis, who are free from structural disease, but so debilitated as to render it improbable that they would recover perfectly, under ordinary circumstances, in India. These persons should be somewhat advanced in convalescence, and should require but little medical treatment.

2d. Persons debilitated from protracted residence in India, whether unaffected with any marked disease, or suffering from dyspepsia, irregular action of the bowels, or other symptoms of functional derangement of some of the viscera.

3d. Young men of weakly constitutions, having no actual disease, but from debility and exhaustion unfit for military duty.

3. A voyage to sea, in preference to a resort to the Neilgherries, is to be recommended in the following cases:—

1st. To persons who have been long subject to returns of intermittent, or who have repeatedly suffered from attacks of remittent fever.

2d. To those who have either experienced repeated attacks of acute hepatitis, or have long suffered from chronic, hepatic or dysenteric affections.

3d. To those labouring under rheumatism, syphilitic or pseudo syphilitic affections.

4. In the more severe cases of the three last classes, a return to Europe will generally be requisite. In less aggravated cases, a voyage of considerable duration must be considered essential; and leave either to sea or the Cape of Good Hope, or to places to the eastward of it, or to the Cape and eventually to Europe, according to circumstances, should be recommended.

5. The season of the year, and stations on the Neilgherries to which patients are recommended to proceed, should be carefully considered, and the precautions in regard to clothing and exposure, necessary for obviating the bad effects which might arise from sudden reduction of temperature on ascending the Hills, should be particularly inculcated. Patients who are much enfeebled, and consequently most liable to suffer from such a transition, should, in the first place, proceed to the lower and more temperate stations of Kotagherry and the Katali Valley, especially during the monsoon months of June, July and August.

6. With reference to the 6th paragraph of the G.O.C.C., dated 2d March 1827, it is directed that the statement of the cases of sick officers, to whom certificates have been granted, shall on all occasions be forwarded by superintending surgeons to the Medical Board.

7. The strictest attention is required to the instructions now issued.

I have, &c.

(signed) *H. S. Flemming,*
Secretary, Medical Board.

Fort St. George, Medical Board Office,
4 July 1831.

No. 4.

STATEMENT showing the Diseases on account of which MEN of His Majesty's Regiments serving under the Presidency of Fort St. George were invalided during the Years 1826, 1827, 1828 and 1829.

		Principal Diseases attributable to a Tropical Climate, and likely to be cured, or materially benefited, by a return to Europe.							Chronic Diseases, not likely to be cured in any Climate.														GENERAL TOTAL.		
		Fever.	Hepatitis.	Rheumatism.	Dysentery.	Diarrhoea.	Dropsy.	Headache.	TOTAL.	Pulmonic Affections.	Palsy.	Epilepsy.	Insanity.	Scrophula.	Deafness.	Contractions.	Hernia.	Stricture.	Wounds and Accidents.	Ulcers.	Affections of the Eye.	Affections of the Skin.		Other Complaints.	TOTAL.
1826	-	6	31	23	13	29	4	2	108	4	5	3	2	3	1	-	8	-	4	5	17	1	27	80	188
1827	-	7	36	63	21	9	8	4	148	9	6	2	2	6	4	4	5	1	8	7	15	-	8	77	225
1828	-	13	44	43	18	4	4	2	128	13	2	4	2	2	4	2	7	1	10	6	2	-	12	67	195
1829	-	6	59	23	14	1	-	1	104	11	2	-	4	-	-	2	4	2	2	1	9	2	23	62	166
TOTAL		32	170	152	66	43	16	9	488	37	15	9	10	11	9	8	24	4	24	19	43	3	70	286	774
Annual Average		8	42½	38	16½	10¾	4	2½	122	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	193½

Fort St. George,
Medical Board Office.

(signed) *H. S. Flemming,*
Secretary Medical Board.

No. 5.

1826, 1827, 1828, 1829, 1830, 1831 and 1832.

Neilgherry Hills.

ABSTRACT RETURN of Sick OFFICERS, Civil and Military.

DISEASES.	Remained 1 January 1826.	Admitted in 1826.	Admitted in 1827.	Admitted in 1828.	Admitted in 1829.	Admitted in 1830.	Admitted in 1831.	Admitted in 1832.	TOTAL.	DISCHARGED:						Died.	Remaining 1 October 1832.
										Cured.	Improved, but not Cured.	No better.	By transfer to another Surgeon.	On Sick Certificate, to Europe.	TOTAL.		
Abscess	-	-	-	-	-	1	-	-	1	1	-	-	-	-	1	-	-
Affection of the Trachea	-	-	-	-	-	1	-	-	1	1	-	-	-	-	1	-	-
Boils	-	-	1	-	-	-	-	-	1	1	-	-	-	-	1	-	-
Constipation	-	-	-	-	1	-	-	-	1	-	-	-	-	1	1	-	-
Debility	-	1	1	-	-	-	-	3	6	3	1	-	-	-	4	-	1
Diarrhœa	-	1	-	1	-	1	-	1	4	3	-	1	-	-	4	-	1
Dropsy	-	-	-	-	-	1	-	-	1	1	-	-	-	-	1	-	-
Dysentery	1	-	1	2	3	1	5	2	15	8	1	1	3	-	13	1	1
Dyspepsia	1	1	3	6	12	16	7	4	50	29	7	-	3	5	44	3	3
Fever, Ephemeral	-	-	-	-	-	-	1	2	3	1	-	-	-	-	1	-	-
„ Intermittent	-	1	3	5	9	2	3	-	23	10	7	-	4	1	22	1	2
„ Remittent	-	-	-	1	1	-	-	1	3	1	-	-	-	-	3	-	-
Fracture	-	-	-	-	1	-	-	-	1	1	-	-	-	1	1	-	-
Gonorrhœa	-	-	-	-	-	1	-	-	1	1	-	-	-	-	1	-	-
Gout	-	-	-	1	-	-	-	-	1	-	-	-	-	-	1	-	-
Gunshot wound	-	-	-	-	-	-	1	-	1	1	-	-	1	-	1	-	-
Headache	-	-	-	-	-	-	1	1	2	2	-	-	-	-	2	-	-
Hepatitis	3	1	10	15	11	12	13	12	77	33	18	1	3	10	65	5	7
Herpes	-	-	-	1	-	-	-	-	1	-	1	-	-	-	1	-	-
Hydrocele	-	-	-	-	1	-	-	-	1	1	-	-	-	-	1	-	-
Hypochondriasis	-	-	1	-	-	2	-	-	3	1	1	1	-	-	3	-	-
Injury of the Head	-	-	-	-	-	-	1	-	1	1	-	-	-	-	1	-	-
Insanity	-	-	-	-	1	-	-	-	1	1	-	-	-	-	1	-	-
Melancholy	-	-	-	-	-	-	1	-	1	-	1	-	-	-	1	-	-
Mercurial Rheumatism	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	1
Ophthalmia	1	1	-	-	1	-	-	-	3	1	1	1	-	-	3	-	-
Palsy	1	-	2	1	-	-	-	2	6	1	2	1	1	-	5	1	-
Phymosis	-	-	-	-	-	-	2	-	2	2	-	-	-	-	2	-	-
Piles	-	-	1	-	-	-	1	-	2	1	1	1	-	-	2	-	-
Pneumonia	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	1
Pseudo-Syphilis	-	-	1	-	-	1	-	-	2	2	-	-	-	-	2	-	-
Pulmonic Disease	-	-	1	-	-	-	-	-	1	1	-	-	-	-	1	-	-
Pyrosis	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
Rheumatism	-	1	1	1	-	1	-	-	4	2	1	-	-	1	4	-	-
Scrophula	-	-	-	-	-	-	1	-	1	1	-	-	-	-	1	-	-
Splenitis	-	-	1	-	-	-	-	-	1	-	-	-	-	1	1	-	-
Small Pox	-	-	-	-	1	-	-	-	1	1	-	-	-	-	1	-	-
Sprain	-	-	-	-	-	-	1	-	1	1	-	-	-	-	1	-	-
Stricture	-	1	-	-	-	-	-	1	2	1	-	-	-	-	1	-	1
Syphilis	-	-	-	-	-	1	-	-	1	-	-	-	-	1	1	-	-
Tumor	-	-	-	-	-	-	1	-	1	1	-	-	-	-	1	-	-
Ulcer of the Cornea	-	-	-	-	-	-	-	1	1	1	-	-	-	-	1	-	-
Ulcers	-	1	1	-	1	1	-	-	4	2	1	-	-	1	4	-	-
Visceral Disease	-	-	-	1	-	-	-	-	1	1	-	-	-	-	1	-	-
Wounds and Accidents	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	1
Not known	-	-	1	-	-	-	-	-	1	-	1	-	-	-	1	-	-
TOTAL	7	9	29	35	43	42	40	33	238	119	45	6	16	22	208	11	19

Fort St. George, Medical Board Office,
24 December 1832.

(signed) *H. S. Flemming,*
Secretary Medical Board.

Section 1.—*Observations on the Climate of the Neilgherries.*

1. THE annexed register of the weather is compiled from a series of observations, averaging three daily, made with a very beautiful and accurate portable mountain barometer, by Carey; a large thermometer, by Dollond; and a differential thermometer, by Carey. I regret my not being in possession of a Daniel's hygrometer, or an electrometer of any description, without which observations must, to say the least, be incomplete. The observations were made at first at irregular periods, as permitted by professional avocations; but on obtaining a copy of Daniel's Meteorological Essays, they were made in conformity with his recommendation, at 9 A.M., noon, and 3 P.M., as being hours when the maximum, medium and minimum height of the barometer may be ascertained all over the world. The proper corrections for moisture and temperature have not been made, partly from want of a proper hygrometer, and partly from my not having access to the requisite Tables, those in Daniel's book only applying to points lying near the level of the sea.

2. It may not be irrelevant to remind my readers, that the Neilgherry range is situated between $76^{\circ} 30'$ and 77° east longitude, and between $11^{\circ} 10'$ and $11^{\circ} 30'$ north latitude; the greatest extent of the range from E.N.E. to S.S.W. may be taken at about 40 miles, and its main breadth at about 15. The height of Ootacamund above the level of the sea, as calculated during the Great Trigonometrical Survey, is 7,197 feet, and that of Dodabet, the highest summit of the Neilgherry range, is 8,428 feet (measurements which are generally supposed to be rather below than above the truth), consequently the station is of the same altitude nearly as the convent of the Great St. Bernard's, on the Alps, and the city of Quito on the Andes; but, as will be seen, enjoys a very different and far superior climate to either.

3. The annual range of the barometer appears from the register to be 0.560, viz. between 23.290 and 22.730, which is much more considerable than at any point in the low country of India, and nearly double that assigned by Mr. Dalmahoy, as quoted in Dr. Annesley's Report. The barometer in general appeared to be but slightly affected by variations in the humidity of the atmosphere, and its usual daily range is very trifling, rarely exceeding 0.25 of an inch. The only indication of approaching rain that I could detect, was a flattening of the upper surface of the mercury, which was particularly evident before thunder-storms. The direction of the wind appeared to influence it in some degree, the mercury generally falling on a change from N.E. to S.W., and *vice versa*, accompanied by a corresponding variation of temperature.

4. The extreme range of the thermometer in the shade appears to be 31° , viz. from 73° to 42° ; the latter, however, can hardly be taken as the minimum temperature of the year, the register not including January and February, the two coldest months; when in sheltered situations, at least, it frequently freezes. It must also be observed, that the temperature varies at almost every house in the cantonment, to the extent during the dry season of perhaps six or eight degrees, the higher and more exposed spots having the most equable range, a fact which may be accounted for by the increased evaporation, the greater radiation of cold, and the greater stillness of the air in the hollows. The frost seldom mounts higher than half-way up the Hills, while in the vallies it freezes at least every second or third night for three months, from the middle of December to the middle of March, the sun being proportionably hotter in the middle of the day. This fact is of some importance to invalids in choosing a residence, and equally to horticulturists.

5. The diurnal range of the thermometer may be taken at 21° for the maximum, but it does not often exceed 11° or 13° , and in a room without a fire, is often not greater than 2° or 3° for several months together, the range also being betwixt 40° and 70° , which has always been considered the portion of the scale most favourable to the European constitution. It is almost constantly cool, if not cold, in the shade, and during the dry months the wind blows strongly from N.E.; so that it is seldom, if ever, disagreeably warm, even if exposed to the sun. I made a few observations, with a view to ascertain the power of the sun's rays, and never found a thermometer exposed to them (if suspended at a sufficient distance from the ground to prevent the influence of radiation), rise higher

than 86° . The quantity of rain stated as having fallen during the period included by the register, and which may be taken as an average of the whole year (very little usually falling in January, February and March), is $4\frac{1}{4}$ square inches. The last was considered by the older residents as an unusually rainy season, notwithstanding which there were only 19 days of heavy rain, or days in which it was difficult to find an interval for exercise, those marked showery being only very partially so, and there were not above three or four instances of its beginning to rain before noon. In other respects the monsoon months were by far the most pleasant part of the year, the weather being cloudy and cool, and the temperature very equable; while in the dry months the sun for two or three hours in the middle of the day is occasionally so powerful as to be unpleasant, while the mornings and evenings are proportionably cold.

6. Very few thunder-storms, and these not violent, occurred last year, principally at the beginning and close of the monsoons. One or two of these were attended with heavy showers of hail, and in one which occurred in the month of May, the steeple of the church was struck by lightning, without, however, being seriously injured.

7. The S.W. monsoon sets in generally about the end of May or beginning of June, and lasts, but with frequent intermissions, till the end of August, the whole of September and part of October being usually very fine. The N.E. monsoon begins towards the end of October, and is accompanied generally by a strong easterly wind, during which the stations at the N.E. angle of the range have very heavy rain, or drizzling, unpleasant weather. Ootacamund, being comparatively sheltered by the high range to the eastward, suffers less; but after the termination of the rains in the end of November, the N.E. wind assumes for a short time a cold, bleak character, very trying to the weaker classes of convalescents.

8. In December the weather clears up, and the atmosphere becomes dry, clear and cold, continuing so during the succeeding months of January, February and March; it then freezes very frequently, and ice is often found in the vallies half an inch or more in thickness. In April the weather becomes milder, and there are occasional showers, with thunder and lightning. The commencement of May is usually cloudy, and the atmosphere highly electrical. I should be inclined to select April as the best season for an invalid to make his ascent (when the possibility of a choice of season exists), as he is thus enabled to recover his strength during the mild weather which succeeds, and is gradually prepared to encounter the dry and bracing atmosphere of the cold months.

9. I am unable to give any account of the meteorological phenomena at Kotagherry or Coonoor, the medical officers at those stations not being furnished with the requisite instruments. It may, however, be stated, that the temperature at both averages from 5° to 9° higher than at Ootacamund, the weather also being milder, and the daily range less; so that Kotagherry, at least, will probably be found to be better suited to certain classes of invalids, on their first arrival, than Ootacamund, as being less apt to repel the blood from the surface, and produce internal congestion. This, however, is a point which requires further investigation.

10. Upon the whole it may be confidently asserted, that the climate is one of the finest and most equable in the world, being for the greater part of the year dry, bracing and exhilarating; that it is subject to no variations which can injure the sound European constitution, while its general condition is highly favourable to it; and that we are justified in concluding *a priori*, that it will be found eminently beneficial in restoring to health and strength those who have suffered from the high temperature and moist atmosphere of the low country.

We shall now proceed to examine these last positions in detail, taking experience for our guide.

Section 2.—*General Effects of the Climate on Healthy Individuals.*

1. The effects of the climate on residents, and particularly on children, are precisely those of the fine and most temperate parts of Europe. Children thrive in a remarkable degree, having all that rosy complexion and healthy, lively appearance which are seldom seen except in the country parts of Great Britain. They are subject to very few infantile complaints, and these, when they do occur, are much modified by the climate, being less violent in their access, of shorter duration.

duration, the convalescence more rapid, and the sequel less to be dreaded than even in Europe.

2. On first ascending the Hills many people experience a difficulty of respiration, much increased on exertion, and only gradually disappearing on becoming habituated to the climate. This may be safely attributed to the tenuity of the atmosphere, being analogous to what is always experienced, though in a greater degree, in ascending lofty mountains, and is probably increased by the augmented quantity of blood thrown on the internal organs by the great and sudden change of temperature. The difference of temperature between any point, even in Mysore, and that of the first station on the Hills, can hardly be calculated at less than 35° or 40°. The thermometer at Goodooloor, at the foot of the Hills on the Mysore side, being seldom below 82° or 85°; in ascending from the Coimbatore side, the range is probably greater.

It is not unusual also for persons, on their first arrival, to complain of slight headache and sleeplessness, resulting, probably, from the same cause—internal congestion. The digestion also does not always keep pace with the increase of appetite, produced by the sharp air and additional exercise, particularly if the new comer is seduced by the tempting array of vegetables usually placed before him. These trifling inconveniences, however, soon disappear, and, with the most moderate degree of circumspection, a healthy European becomes, in the course of one or two months, perfectly equal to almost any degree of fatigue or exposure, exertion of either body or mind being attended with none of that depressing languor and exhaustion so universal in the low country, but producing, on the contrary, that feeling of exhilaration and serenity which is so justly considered as one of the choicest blessings of a temperate climate.

A most important conclusion appears naturally to arise from the consideration of these facts; namely, the advantages to the cause, both of humanity and policy, that would result from the location on the Hills of European regiments newly arrived in India, whose services are not immediately required in the low country, and who, while thus rescued from that decimation to which they are so notoriously exposed on their first arrival, by the combined effects of climate and irregular habits, might be preserved in the highest state of discipline and efficiency, ready, at a day's warning, to march in any direction when required. This will be the more obvious, when we state that cholera (the great scourge of newly arrived European troops) is as yet unknown as a primary disease on the Hills, and that, even if it should be imported, the analogy of other diseases entitles us to conclude that it would be modified and rendered infinitely less fatal by the influence of the climate. The same observation applies, but with greater force, to the case of European recruits sent out for the artillery and other European corps of the Honourable Company's army. Independent of the ordinary fertile causes of disease to which they are exposed in common with all others, this class of individuals, mostly raw lads with unformed constitutions, has to undergo a very severe course of drilling, at a station where the climate, though comparatively healthy, is decidedly one of the hottest in India. The consequence may be easily foreseen; scarcely a single recruit gets through his drill without being admitted once or oftener into hospital, and generally lays the foundation of some obstinate chronic disease, which, in the course of a few years, if it does not terminate his existence, renders the unfortunate subject of it utterly inefficient for all active duties. If these recruits were at once transferred to the healthy and congenial climate of the Hills, under strict control as regards all necessary points of discipline and regimen, but allowed every reasonable license in other respects, made to go through their drill under circumstances where it would seem more an agreeable exercise than a harassing duty, and when perfectly prepared for their various departments, transferred to the low country, at a more matured age, with well formed constitutions and habits, it might be hoped, much better than they could possibly have acquired, if exposed, yet inexperienced, to the temptations of a low country bazaar. Are we not justified in forming the most sanguine anticipations of the result?

Fortunately, these considerations have not escaped the attention of the intelligent and talented individual at the head of the Government, and there is every reason to hope that his representations will finally induce the Court of Directors to sanction the establishment of a general dépôt on the Hills for all recruits, with corresponding accommodation for one or more European regiments on their first arrival.

Section

Section 3.—*General Effects of the Climate on Individuals who have suffered from the Climate of the Low Country.*

This most important branch of my subject will, perhaps, be better understood, if the effects of the climate on some of the more important Indian diseases are considered separately.

1. For the sake of brevity, I shall not discuss the cases of officers and convalescents in hospital separately. The number of officers at any one period under treatment, or in a state of convalescence, varied from 30 to 40; that of convalescents in hospital, from 45 to 52. The latter were selected by the Medical Board from the various European regiments (King's and Company's), serving under this Presidency, and had frequently to make marches of 300, 400 or 500 miles, to reach the Hills. The building allotted as an hospital, besides being so small as to preclude the separation of the convalescents, or recovered men, from those actually under treatment, stands in a very exposed situation close to the bazaar, with scarcely a possibility of excluding improper articles of diet, liquor, &c. These glaring defects will, at no very distant period, be, doubtless, corrected, and I only mention them to show that the treatment of the cases was carried on under by no means favourable circumstances, and that the results may rationally be expected to be more satisfactory under different and better regulated arrangements.

2. To begin with *Dysentery*.—According to the returns, 29 cases of dysentery came under treatment during the last 10 months; of these, one was complicated with epilepsy, and the fatal result was evidently attributable to the latter disease, under which the subject had laboured from an early age, the immediate exciting cause being a trip to the low country, during which he was much exposed to the sun, and lived irregularly. Another case had no symptoms of dysentery, but suffered from symptoms of congestion and determination to the head, which were relieved by appropriate treatment, and he left the Hills from motives of private convenience, much relieved, if not cured. One of the cases which died in hospital, was that of a man 13 years resident in India, completely worn out, and who, on examination after death, was found to have an abscess of the left lung, and whose intestines presented extensive traces of long standing disease. The other had originally been sent up with ascites, which was completely cured; but being re-admitted into hospital with venereal sores, he caught cold while under the influence of mercury, which brought on an attack of dysentery, under which he finally sank.

Four of the cases reported were, when I first took charge of them, of the worst possible description; they were passing blood, pus, and portions of the lining membrane of the intestines, attended with violent termina and tenesmus, being, moreover, in the last stage of debility. One of them had been 18 months in hospital below, suffering from chronic dysentery, and, to all appearance, had not one hour to live on his arrival. The mode of treatment adopted was, the administration of large doses of calomel alone at bed-time, leeches applied to the transverse arch of the colon, and to the arms, which always relieved the tenesmus. Anodyne injections and frictions, the strength being supported by light and nutritious diet, and by repeated small doses of quinine and opium and ipecacuanha, a combination which, it appears to me, has not met with due attention in similar cases. For the latter remedy, sulphate of zinc (also combined with opium and ipecacuanha) was occasionally substituted, and perfectly maintained its reputation of healing up ulcerated portions of the intestines. I am indebted to my friend Dr. Auchinleck, of the corps of pioneers, for suggesting the use of large doses of balsam of copaiba in severe cases of dysentery, attended with purulent and membranous discharges; it was given in each of these cases, usually in doses ʒiij or ʒss, with an equal quantity of oil ricin. and always with marked benefit. They all recovered, notwithstanding some trifling relapses, in consequence of imprudence in eating vegetables (which it was difficult to control, under the peculiar circumstances of the situation and construction of the hospital), and their convalescence was equally rapid and perfect, as a proof of which, I may mention, that one of them, originally a carpenter by trade, having been allowed to go out for work on his recovery, fell accidentally on a chisel, which penetrated his chest, wounding the pleura costalis, and necessitating the abstraction of a large quantity of blood; notwithstanding which, and rigid adherence to antiphlogistic

antiphlogistic regimen for three weeks, he left the Hills in two months to join his corps in robust health.

The remaining cases were comparatively mild, and (with the exception of one or two complicated with chronic liver) recovered with comparative facility.

Since meeting with Mr. Twining's valuable papers on the use of ipecacuanha, in the transactions of the Calcutta Medical and Physical Society, I have nearly abandoned the exclusive use of calomel, and resorted to five-grain doses of ipecacuanha, in combination with gentian and blue pill, repeated twice or thrice a day, assisted by leeches to the abdomen and arms, and occasional purgatives, with complete success; a week's perseverance generally sufficing to overcome the most obstinate attacks, the more distressing symptoms being generally at once relieved by the second dose. It was, however, in three or four instances, necessary to have recourse to an occasional dose of calomel, with a view to excite action in the torpid liver; but immediately on this effect being produced, it was omitted, and the ipecacuanha substituted. The convalescence, in all these cases, was, as might have been expected, much more rapid than when the mercurial system alone was adopted.

The same remedy proved completely efficacious in a very obstinate case, classed in this Report under dysentery, but which was more properly hepatic diarrhoea: the subject (a private in His Majesty's 54th Regt.) was sent up in consequence of repeated attacks of dysentery. On his arrival, he suffered from constant purging, of a yellowish frothy substance, occasionally greenish, but more often clayey, resembling gypsum mixed with water, extending in quantity to one or two gallons daily, unattended however with griping, straining or tenesmus; he had also some fulness in the region of the liver, and an occasional sense of weight on the right shoulder; leeches and blisters were applied to the side; he took mercury in various forms, warm bath, frictions, &c. &c., which removed the hepatic symptoms, but left the diarrhoea unabated, his general health, however, continuing to improve slowly, but steadily. Almost every astringent in the *Materia Medica*, rhubarb, cinchona, kino, opium, acetate of lead, iron, and the other metallic preparations of this class, decoction of simarouba, catechu, pomegranate, &c. &c., were tried, and generally, with temporary success, but, in the course of a few days, he invariably relapsed, any unusual cessation of the diarrhoea being attended with the alarming symptoms of a dropsical swelling of the abdomen and ankles, and suppression of urine, which disappeared on the re-establishment of the discharge from the bowels. When nearly in despair, I had recourse to the ipecacuanha, blue pill and gentian, at first, indeed, with little success, the blue pill appearing to produce irritation; on omitting it, however, a manifest change for the better took place; in the course of 10 days the purging stopped, and he has now, for more than six weeks, been free from complaint, while his general health and appearance are those of a healthy and robust man.

During convalescence from dysentery, I am generally in the habit of prescribing nitric acid as a tonic, with small doses of an infusion of cinchona, cascarilla and columba, great attention being paid to the state of the bowels, and abstinence from indigestible articles of food, particularly vegetables, being strictly enjoined.

In simple *Diarrhoea*, unattended with symptoms of hepatic derangement, little or no difficulty was experienced in checking the symptoms, by cleaning out offending matters, exciting the action of the skin, and restoring the tone of the bowels by mild tonics and astringents, exercise and moderate exposure being most useful adjuvants.

Dyspepsia, as an idiopathic disease, independent of hepatic affection, I have not met with; should such cases occur, however, I should anticipate complete success from the tonic and invigorating effects of the climate in the more complicated cases where it appeared as a symptom.

In *Fever*, *Remittent* and *Continued*, the effects of the climate have, perhaps, been more decidedly and speedily beneficial than in any other disease, little or no treatment being found requisite beyond a mild mercurial purge, some diaphoretic mixture, and a few doses of quinine. The number of cases treated was much greater than appears in the Returns, where the original disease only is entered; exposure or irregularity in convalescents, from dysentery or hepatitis, often producing a slight attack of fever, in which cases it appeared to be substituted for the original and severer form of disease, and yielded readily, as above stated, to the mildest remedies. One case of continued fever died the day of his arrival, having

having previously suffered for many months; his spleen and liver were found highly diseased, almost disorganised.

Cases of *Intermittent Fever* were attended with more difficulty; one of them (an officer) had suffered from Seringapatam fever for four years, and had been recommended to return to Europe; at first he appeared to recover rapidly, the attacks became less frequent and less violent, and his general health was much improved; having, however, imprudently exposed himself considerably to cold and wet during the monsoon season, in the course of attendance on a sick friend, he had a severe relapse, attended with great determination of blood to the head, for the removal of which, it was necessary to employ copious venesection, and depletion in its various forms; the least attempt at checking the paroxysms by administering tonics, being followed, notwithstanding every precaution, by an alarming return of the headache; as a last resource, he was sent to Europe, in hopes of deriving benefit from the sea voyage; the result is the less to be wondered at when we recollect, that a majority of cases of Seringapatam fever continue to suffer from attacks of it in England, even after the preparation of the sea voyage, and frequently relapse on their return to this country. Another case (in hospital) suffered repeated relapses from intemperance, and was returned to his regiment as incorrigible. A third is still under treatment, the disease having proved remarkably obstinate, resisting every remedy but arsenic, which always checks the paroxysms, but as uniformly produces congestion of the liver, and pain at the pit of the stomach; quinine and the other febrifuges have long lost their power on the disease in this case. Notwithstanding the obstinacy of the disease, and the discipline he has undergone (having been under treatment for the last six months), his general health is pretty good, and he has decidedly gained both in strength and flesh. Should he have another relapse while under my care, I shall certainly have recourse to bleeding in the cold stage, as originally recommended by Dr. Macintosh, and so powerfully enforced by Mr. Twining in his valuable papers on that subject, which I much regret not having met with at an earlier period.

The other cases yielded pretty readily to the following treatment, but showed a disposition to relapse for some time after recovery, evidently connected (as is now, I believe, pretty generally admitted) with the phases of the moon. If there was decidedly congestion of any of the viscera, depletion was employed generally and locally, the application of leeches to the region of the liver frequently cutting short a paroxysm; the bowels were well cleared out at first by a smart mercurial purge, afterwards by purgative enemata during the hot stage; diaphoretic mixture, or solution of tartarized antimony, and, in the intervals, quinine in various doses, generally combined with camphor, were administered; in the more obstinate cases, I generally succeeded in cutting short the paroxysms by administering five grains of quinine three hours before the usual period of attack, and three grains more one hour previously; as before observed, I was not at that time fully aware of the advantage of blood-letting in the cold stage, otherwise I would certainly have employed it.

During convalescence I have frequently employed the sulphate of zinc as a general tonic, and with the best effect, it having apparently less tendency to excite or increase congestion of the viscera than quinine, or the other preparations of cinchona.

Independent of the influence of the moon in determining relapses, as before observed, it appeared to me that the more obstinate cases were peculiarly liable to returns of the disease when the atmosphere was more than usually charged with electricity, which condition of the air, indeed, produced uneasy feelings in almost all convalescents from other diseases, but in general without any ulterior bad effect.

Several cases were treated, chiefly among the non-commissioned and artificers at Kaita, which do not appear in the Returns, all of them successfully; in every case the disease could clearly be traced as originating in the low country, not a single instance having occurred, to my knowledge, of this or any other form of fever, being idiopathic or indigenous on the Hills. This is the more decisive of the utter absence of all malaria, or indeed of the power of the atmosphere to generate it, as the whole surface of the table land abounds in swamps, there being at least eight or ten in the very heart of the cantonment. From the facility of obtaining a difference of level, these might easily be drained; but so general is the conviction of their being perfectly harmless, that this has not once

been had recourse to, and the water which flows through them is used for most purposes, by all classes, with perfect impunity.

From the nature of the country surrounding the base of the Hills, covered as it is with a dense jungle, varying in breadth from five to twenty miles, we might anticipate the occasional occurrence of intermittent, under its worst and most dreaded form of *Jungle Fever*.

Of this formidable disease, eight cases came under my care during the last ten months; three European (officers) and five country born (these last do not appear on the Returns). In all of them the disease originated in sleeping in the jungle, and its accession took place from 10 to 14 days after exposure to the exciting cause, generally on the 11th day. The accession was marked with all the more violent symptoms usually attendant on it, great determination to the head, chest, or liver, rapid oppressed pulse, delirium, prostration of strength, brown furred tongue, black, pitchy, and intolerably fœtid dejections, &c. The most prompt and active measures were adopted, and fortunately in every instance with success, assisted as they were beyond a doubt by the modifying and restorative powers of the climate. The patients (with one exception, whom I did not see until in an advanced stage) were copiously bled at the outset, the blood being allowed to flow till the symptoms of local determination abated, or deliquism ensued; the venesection was generally repeated in twelve hours, if necessary, leeches being applied over the congested organ in the interval. A strong purgative dose of calomel was then administered, and its action excited by a purgative enema, after the operation of which, without waiting for a complete remission, or, on the other hand, endeavouring to excite mercurial action in the system, both of which I hold to be fatal errors. Quinine was administered in as large and as frequently repeated doses as the stomach would bear; this mode of treatment was persevered in until complete remission of the symptoms, it having been seldom necessary to repeat the application of the leeches after the first day, nor the mercurial purge more than twice or thrice.

One of the officers who had remained exposed to the jungle miasmata for some days after his first attack, had a relapse every full moon for three months, but he eventually recovered perfectly, and has been now for some months actively employed (in a district not remarkably healthy) in a search for gold-mines, but has continued to enjoy excellent health; another individual (an assistant apothecary attached to the establishment) had several relapses, and still suffers from affection of the spleen. The others are in robust health, one of them having shortly after his recovery assisted me in doing the duty of the cantonment, in consequence of the severe illness of the first assistant. It happened to be the monsoon season, and he was unavoidably exposed to much cold and wet, besides no ordinary share of bodily fatigue and mental anxiety, notwithstanding which, he continued to enjoy, and still enjoys perfect health. I consider these cases are most triumphant proofs of the efficacy of the climate; this formidable disease in the low country, even when its victim escapes for the time, seldom failing to inflict a tedious convalescence, and often laying the foundation of some obstinate visceral derangement.

Under the head of *Hepatic Disease* are classed a number of cases, varying in their nature, but all immediately connected with the liver as cause or effect. These cases are by far the most unsatisfactory part of our practice, having invariably proved extremely obstinate, and in several instances entirely baffling our efforts. The natural tendency of the climate to produce internal congestion, and the violent remedies requisite to remove or prevent this for fear of greater mischief, will probably sufficiently account for this fact, added to which, a great majority of our cases were of long standing, and attended with great general debility, many of the officers having been sent to Europe for previous attacks. The disease generally assumed the form of congestion, seldom that of active inflammation, unless when excited to greater activity by intemperance or great exposure. It frequently approached in such an insidious manner, as to excite but little attention on the part of the patient himself, and in two unfortunate cases (one of which occurred since the date of the Returns), terminated most rapidly in death, notwithstanding the most active treatment. A short detail of these two cases may perhaps be instructive:—The first, a stout active man, of middle age (14 years resident in India, and high up in the civil service), having left his lady on the Hills, travelled on horseback to his station (Calicut), and was exposed in the course of the journey to wet, and afterwards to the sun;

sun; while at Calicut, he had a smart attack of bowel complaint, on recovering from which, he set off on horseback to return to the Hills, and was again much exposed, having been completely soaked by the rain, and remaining some time in his wet clothes the day of his arrival; he suffered for some days afterwards from a feeling of chilliness and general uneasiness, disordered bowels, headache and depraved appetite, but continued to move about in all weathers, and could not be prevailed on to apply for assistance for ten days, at the end of which I saw him; he then complained of feeling occasionally chilly, of slight headache and difficulty of respiration, cold feet, irregular bowels and deficient appetite; no pain in the side, and no fullness or tenderness to pressure, and he attributed his feelings entirely to rheumatism, from which he had suffered some years before in a similar manner, and under similar circumstances. Feeling assured that there was some degree of congestion in the liver (though far from being aware of the full extent of the mischief), I was anxious to bleed him, to which however he strongly objected, and was with difficulty prevailed on to submit to the application of 40 leeches to the side, by which he was much relieved, and being followed up by active mercurial purges, he appeared to improve rapidly; on the fifth day, however, finding that the feeling of chilliness still continued, and he now beginning to complain of a sense of weight in his side, with occasional spasms, I requested the attendance of two other medical officers. In consultation, we agreed that there was mischief in the liver, and they appearing to think that depletion had been carried as far as was prudent, we resolved to try to affect the constitution with mercury; large doses of calomel were accordingly administered, assisted by mercurial frictions, warm bath, &c. &c. Under this treatment he improved so much, that on leaving cantonment for a day or two (on the 13th day), I left him still as I thought doing well, but on the 20th day, the action of the mercury suddenly retrograded, he was attacked with cold shivering, and cold perspiration, and gradually sank till the 25th day, when he expired quite exhausted; on examination, we found an enormous abscess, containing at least three pints of matter, occupying the whole of the right lobe of the liver; the left lobe being perfectly sound, and having apparently continued to secrete healthy bile till within a day of his death. The parietes of the abscess were at least an inch thick, and consisted of several separate layers of coagulated lymph, varying in density, and evidently deposited at different and successive periods. The impression left on our mind was, that the abscess had existed for a considerable time, probably before his last arrival on the Hills, and that the train of symptoms which came under our observation, were attributable to inflammation of the coats of the cysts, and hectic fever produced by the absorption of the pus, the remedies applied of course hastening the fatal termination.

The other case was equally unfortunate in its history and termination; the subject of it (Chaplain at the station), also a stout man of middle age, but of rather indolent habits, had been for several years subject to functional derangement of the liver, which however yielded rapidly to ordinary treatment; about six weeks before his death, he undertook a journey on missionary business to Quilon, and during the journey was a good deal exposed, and travelled very rapidly; he complained to his fellow-traveller of pain in the side and disordered bowels, for which he took some opening medicine, and restricted himself to milk diet. The day of his return, after a long ride in the sun, he felt very chilly, had an attack of violent headache, followed by rigors, and bowel complaint. Persuading himself that this was only one of his usual bilious attacks, he continued to do his duty (suffering all the time from these symptoms in a greater or less degree) for ten days, at the end of which, his family becoming alarmed, applied for medical assistance. On first seeing him, I was greatly alarmed at his appearance, his respiration was hurried, countenance sunk, tongue furred brown, skin cold and clammy, no pulse to be felt at the wrist, excessive restlessness and jactitation, voice not above a whisper, no pain in the side, and but very slight tenderness to pressure under the ribs, stomach very irritable, rejecting everything in the shape of food or medicine, dejections scanty, greenish, and without fœculent odour; some leeches were immediately applied to the side, and he was put into a warm bath, it being intended to bleed him should he bear the leeches well, but the debility produced by them was so alarming, that we were obliged to abandon the idea, and trust to the administration of effervescing draughts, stimulants, and large doses of calomel. The latter appeared to improve the dejections, and he rallied a little, but again relapsed and sank on the third day.

On examination, the liver was found highly congested; neither the poribiliarii ducts, nor gall-bladder containing a particle of bile. The gall-bladder and intestines presented some remarkable appearances, which I shall take another opportunity of describing, but there was nothing in the appearance presented to account for the suddenness of the fatal termination, and there is too much reason for believing, that had he applied for assistance a few days earlier, when he had still sufficient strength and nervous energy left to admit of the application of more active remedies, his valuable life might have been spared to his family and the community.

The fatal case which occurred in hospital was no less obscure and insidious; the man had suffered from repeated attacks of liver at St. Thomas's Mount, but on his arrival here appeared free from complaint. About a month afterwards, however, he complained of a slight uneasiness in the side, and other symptoms of deranged liver, for which he was actively treated, and appeared to recover; suffering, however, from rather an unusual degree of debility, and having always a quick irritable pulse, but little or no pain or tenderness in the side. While taking quinine and tonics he had a sudden attack of hectic, and sank in two days. An abscess was formed about the size of a goose's egg in the centre of the right lobe of the liver; the coats of the cyst being exactly of the same nature as those described in the first case.

Warned by fatal experience in the first and last of these cases, all hepatic subjects were carefully watched; and it being comparatively easy to keep those in hospital under surveillance, no time was lost in instituting the most active treatment on the first appearance of untoward symptoms. These were, as before observed, almost always those of congestion, occurring at various periods after their arrival, but generally commencing after exposure or irregularity of diet. The patient complained of feeling chilly, and of cold feet, of a sense of weight in the side, sometimes attended with difficult respiration, pain in the top of the right shoulder, and a burning sensation about the diaphragm; appetite impaired, skin clammy, pulse slow and oppressed, bowels generally costive, dejections generally clayey, occasionally dark green. The mode of treatment pursued was, bleeding, general and local, blisters to the side, strong mercurial purges, warm baths, diaphoretic mixture, &c. &c.; and, on the symptoms being relieved, steady perseverance in some mercurial alterative (usually Plummer's pill, with colocynth), with occasional smart doses of calomel, warm bath, and a seton in the side. Under this treatment a great majority of the cases in hospital improved, but very slowly, and with occasional relapses, several of them having been under treatment for four, five or six months; and their convalescence, after being discharged from the sick list, being neither so rapid nor so certain as in other diseases. Latterly I have been in the habit of putting hepatic cases on their arrival, whether suffering from apparent derangement or not, under an alterative course of blue pill or Plummer's pill, in which last remedy I have great confidence, from its power of determining to the skin as well as exciting the hepatic functions, while its use may be persevered in for a long time without producing salivation; the diet being also much restricted, no liquor allowed, and exercise only permitted when it could be taken without exposure. To these apparently severe precautions I attribute the rapid recovery of those last-mentioned, as well as their freedom from relapses.

In the cases of officers who were neither so much under control nor so carefully watched, we were not so fortunate, several having resisted all means of cure or alleviation, and six having been ultimately sent to Europe. Two or three of the latter suffered from an unfortunate complication, being attacked with severe pains in the bones, when mercury was employed, and relapsing into hepatic disease when this remedy was relinquished, leaving no alternative but a sea voyage and return to Europe. It is but justice to add, that many relapses were occasioned by the imprudence of the parties in exposing themselves too freely to the sun or wet, while only in the first stage of convalescence, control in this particular being difficult to enforce, from the scattered nature of the cantonment, and the tedium of confinement, with the general want of amusement at the station, affording but too strong an excuse for the younger part of the community taking every opportunity of getting into the open air.

Upon the whole, I should be inclined to say that the effects of the climate on hepatic disease, are neither so certain nor so generally beneficial as in other complaints, and that in all cases of long standing, when there is reason to suspect organic disease, or when the constitution has suffered so much as to render it

doubtful if it would resist the effects of sudden internal congestion, and the debilitating operation of active treatment, it would be better to avoid sending such cases to the Hills, unless when circumstances will admit of a sea voyage being premised, when I have no doubt that their convalescence would be as speedy and as permanent as after the long and expensive voyage to England.

Under the head of *Mercurial Rheumatism*, are included all cases of diseased bones, arising from the exhibition of mercury, without reference to its supposed complication with venereal disease. A considerable number of cases were admitted which do not appear in the Returns, these only specifying the original disease with which the patient was sent to the Hills.

With the exception of one case, which terminated fatally from ulcerated sore throat, preventing deglutition, and destroying life by the consequent debility and constitutional irritation, they have all been treated successfully. The grand panacea was sarsaparilla, in the form of infusion in lime-water, as recommended by the celebrated Mr. Brodie, of London; the mezerion contained in the old diet-drink being always left out, and the infusion preferred to the decoction, as less liable to produce disorder of the stomach and bowels. After considerable experience in the use of this invaluable remedy, including its administration as a general tonic and deobstruent in other diseases, particularly when mercury had been administered, I am warranted in saying that I have not met with a single instance of failure, except when the occurrence of constitutional disease from other causes rendered its exhibition inadmissible, or, as happened in one or two cases of hepatic disease, the readministration of mercury became unavoidable. The administration of a pint daily, for a few days (assisted of course by local remedies, such as blisters, setons, if a joint were affected, &c.), was generally sufficient to produce a remission of the symptoms; and if steadily persevered in for a sufficient period, it never failed to give scope for the climate to exert its tonic and invigorating effects, so as to produce a complete cure. When it seemed to lose its effect, or a relapse took place from undue exposure, sudden changes of temperature, or an electrical state of the atmosphere, its use was remitted for a day or two, and solution of tartarized antimony, in nauseatic doses, substituted for it; on again recurring to it, it was uniformly triumphant. So far from disordering the bowels, I have always found it a most powerful tonic, even in dyspepsia, unconnected with the use of mercury; and I am fully convinced that any prejudice which exists against its use has been entirely owing to its being administered in an improper form, or not having been persevered in for a sufficient time. I consider no case of confirmed affection of the bones, or mercurial pains safe, until after at least two months perseverance in the remedy, double that period being often required to secure the patient against relapses.

The following is the form in which I always administer it; and after the experience of more than 100 cases (my own included) in Europe, Persia and India, I can say that there is not a remedy in the *Materia Medica*, which, in my hands at least, has been more uniformly and invariably successful.

Infusio Sarsæ.

R. Rad. Sarsæ. contus. ʒiiss.: Rad. Sassafras incis.: Lign. Guaiaci ras. āā. ʒij.: Rad. Glycyrrhizæ, ʒj.: Liquoris Calcis (recenti pp.) ʒxviij. Macera in vase clauso (præpe ignem posito), per horas 24, et cola. Capiat æger partem tertiam ter in die.

In the very obstinate disease, *Cephalalgia*, when it did not depend on organic derangement, we have succeeded in curing several cases (all of which do not appear in the Returns) by the administration of purgatives in the first instance, the insertion of a seton in the neck, and the occasional use of tartar emetic in nauseating doses, the cure being completed by the climate.

The Returns present no instance of *Pulmonary Disease*, and, with the exception of one or two cases of asthma, complicated with hepatic derangement, none came under treatment. In the more ordinary cases of coryza, catarrh, cough, &c. they presented nothing beyond the usual symptoms, and so far from the great rarity of the atmosphere inducing or aggravating pulmonary determination, these were of rare occurrence and temporary duration. I had an opportunity of seeing one or two cases of pulmonary disease, not under my own care, and could only account for their extreme mildness, by referring it to the diminished quantity of oxygen in the air at this height, by which it is probably rendered less stimulating to the lungs.

Were cases of pulmonary disease to occur, while yet in their first stage great

benefit would doubtless be derived from the facility of regulating the temperature in the apartments occupied by the patient, and of taking exercise only at such times as are most favourable to convalescence, while the general effects of the climate would tend to invigorate and restore the powers of the system.

The remaining diseases on the returns yielded without difficulty to the simplest remedies, the convalescence being proportionally rapid and perfect; one or two cases of local injury did not present a single untoward symptom, though it was at first necessary to employ depletion to an extent that would not have failed, in the low country, to have produced the most alarming debility. I shall not enter on the subject of these effects of the climate on natives of the low country, further than to observe, that they are by no means such as we should be inclined to anticipate, from their general inability to resist sudden changes of temperature, and the debilitating effects of cold and wet; on the contrary, the diseases to which they appear to be subject, vary neither in nature nor degree from those usually occurring in stations in the low country, and considering the degree of exposure necessarily entailed by the nature of their duty (the majority of those entered in the Returns being pioneers), the number admitted is wonderfully small, and the result most satisfactory, 142 cases being returned cured, out of 147 treated, and not a single death being registered; after a very short seasoning, if care is taken to keep them warmly clothed, and to prevent their sleeping on the damp ground, they become perfectly acclimatized, and generally acquire an unusual portion of flesh and muscular vigour, while, as far as regards their personal feelings, they become so perfectly reconciled to the place, as to be not unfrequently unwilling to quit it on the return of their employers to the low country.

From the preceding remarks, I conceive myself justified in concluding—

1st. That the climate of the Neilgherries is perfectly congenial to the sound European constitution in every respect, and as well fitted for the residence of Europeans, young and old, as the mother country.

2d. That in a great majority of complaints contracted in the low country, it at once arrests the progress of the disease, modifies and reduces the violence of the symptoms, assists the operation of all remedies, enabling us to effect a cure by milder and less debilitating means; and finally, that convalescence is incomparably more rapid, more certain, more complete and more permanent, than it ever is in the low country of India.

3d. That even in cases of hepatic derangement, not of long standing, or complicated with absolute organic disease, it seldom fails ultimately to effect a cure, with decidedly less deterioration of constitution than below, and that if circumstances, even in the more confirmed cases, permitted the premisal of a sea voyage of even short duration, there is every reason to believe that the result would be as favourable as if the patient were sent to Europe for three years.

These considerations, coupled with the facility of access, the beauty and variety of the scenery, the extent of the accommodation afforded by the cantonment, even in its present comparatively imperfect state, and the political advantages offered by its situation in the heart of one of the Presidencies, justly entitle it to rank as the first of the convalescent stations in India, and consequently as one of the greatest blessings which it has pleased Providence to bestow on the weary sojourners in a distant land and uncongenial climate.

In the foregoing short and imperfect sketch of the climate of the Neilgherries, and its effects on the sound, and impaired, European constitution, I have been precluded from entering on a variety of collateral but most interesting topics, such as the medical topography of the range; the climate of the various stations on the Hills, and their comparative advantages for convalescents; the soil and productions of the range; its botany, zoology and geology; the peculiarities in the habits, manners and diseases of the aboriginal inhabitants, &c. This has arisen partly from my own imperfect information on those subjects, leaving me nothing to add to what is already before the public, and partly from the want of leisure to embody and classify what data I have been able to collect; but I trust on some future occasion to supply those deficiencies, as far as my opportunities of observation will admit.

(signed) R. Baillie, M.D.,

Superintending Medical Officer,

Neilgherries.

Ootacamund, 29 February 1832.

REPORT of the First Half-year of 1832, by Dr. Baillie.

THE climate during the month of January was dry, cold and bracing, the mornings extremely cold, the middle of the day rather warm, but the wind always cool, and its effects on the skin nearly the same as that of frosty winds in Europe.

During February there was but little variation in the state of the atmosphere. In March the sun acquired rather more power, and in sheltered situations its rays were occasionally as strong as in the south of Europe. The only inconvenience experienced from this, however, is the liability to chills in reascending an eminence, and coming under the influence of the cold N.E. wind. The vegetation on most parts of the Hills experienced the effects of these vicissitudes, aided, probably, by the intense radiation of cold during the night, was completely withered, and of a brown colour. The effect was less sensible on the Koondahs, though their elevation and other circumstances would seem to render them more liable to it.

The month of April strongly resembled the corresponding season in the more temperate regions of Europe and Central Asia, warm, mild, foggy weather, with occasional showers, and bright intervals of sunshine; vegetation most luxuriant, and everything wearing the aspect of spring. Both in this and the succeeding month there were unusually few thunder-storms, and these generally unattended with rain. The effects of electricity on debilitated subjects were also less marked than in the preceding year. The wind continued throughout May in the N. and N.E. quarter, instead of the S.W., from which it usually blows before the termination of the month, bringing with it heavy clouds and masses of vapour from the coast.

The monsoon beginning unusually late on the coast, its commencement was equally protracted here. It did not set in till the 19th of June, and with unusual mildness, the rain, though constant, being very light. This circumstance is, however, apparently more favourable to vegetation than the heavy torrents which occasionally descend, and run off with proportionate rapidity, carrying with them a considerable portion of the upper loose stratum of soil, and with it, of course, a large proportion of the vegetable germina previously deposited there.

My attention having been much attracted to the climate of Dimhutti, as being much milder, and differing in the arrangement and succession of the seasons from Ootacamund, I took every opportunity of ascertaining its peculiarities. During the N.E. monsoon and commencement of the cold weather, it differs but little in temperature or other circumstances from the rest of the range; its deficiency of elevation being compensated for by its exposure to the wind quarter; but in spring, and particularly towards the commencement of the monsoon, the weather is extremely fine, and the temperature milder and more equable than that of the south-west and central portions of the range. This is particularly the case with Dimhutti, which is situated in a slight hollow, perfectly protected on every side, and therefore still less under the disturbing influence of the wind than its neighbour Kotagerry. It is in every respect well suited as an entrepôt for invalids on their first arrival, the change from the low country being less sudden, and the chance of repulsion of the circulation from the surface to the internal organs, already weakened by previous disease, infinitely less than on ascending to Ootacamund. In several instances also, when I had observed a tendency to relapse in individuals resident at the latter station on the occurrence of damp cold weather, a change to Kotagerry or Dimhutti was recommended and adopted with the happiest results. Unfortunately, the accommodation at both these places is so limited as to be only available in a few cases, but the subject has been brought to the notice of the Right honourable the Governor, and I have little doubt will meet with his favourable consideration.

In considering the effects of the climate on the sound European constitution, I have little or nothing to add to the opinion expressed in my former report, except that every day brings additional confirmation to my mind of its perfect salubrity and congeniality to almost every idiosyncrasy; one of its most remarkable peculiarities is the ease with which exercise of every kind, though attended with considerable exposure and exertion in every degree, whether physical or moral, is supported, even by individuals not remarkable for their strength or capability of enduring fatigue under other and apparently equally favourable circumstances. I might adduce a remarkable example in my own person, but the fact is, I trust, too well established to require further illustration. In stating the result of medical treatment, as applied in aid of the sanitary powers of the

climate, during the last half-year, the disease which naturally attracts the most earnest attention is spasmodic cholera, which, up to a late date, had been comparatively unknown on the Hills. The few isolated cases which had previously occurred being so various in their nature and symptoms, and so generally anomalous, as to excite doubts of their being entitled to be classed under the name of the great epidemic.

During the progress of the Governor's camp through Mysore, however, in the month of April last, the camp followers, who had previously been comparatively healthy, having been detained for a day or two at Goodaloor, where the cholera had raged for some weeks, were suddenly attacked with it in an aggravated form, as a proof of which, four out of seven cases died within six hours of their admission at Goodaloor. Every exertion was made, under the active superintendence of Captain Simond, to have them moved up the ghat, and, within 24 hours they were safely established in hospital tents at the top of the pass. The total number of admissions at the latter place was 18, including the three remaining at Goodaloor, and not a single instance of the accession of the disease, after ascending the pass, could be traced; the patients invariably stating that they had been attacked at Goodaloor, or on the way up.

The form assumed by the disease was, without exception, that of collapsed cholera; no spasms were observed, and, generally speaking, there was less oppression at the chest, less anxiety, and the vomiting, purging and thirst were less urgent than is usual in the low country, notwithstanding which, the majority of the patients were without pulse, the countenance much sunk, and apparently moribund. Immediate recourse was had to the usual remedies, calomel in large doses, stimuli, such as warm brandy-and-water, laudanum, spiritus ammonia aromaticus, with hot salt, and rubefacient liniments externally, and, fortunately, with considerable success, only two having sunk under the violence of the first attack, one of whom was admitted at Goodaloor; the other two, who were reported below the pass, rallied considerably, and were, to all appearance, convalescent; but having been unluckily exposed to a heavy shower of rain on their way to and while at Pyakara, one was attacked with dysentery and the other lock jaw, which, in their debilitated state, proved speedily fatal. As before observed, no cases occurred after the whole of the camp followers were fairly established on the Hills, and the convalescence of those remaining in hospital was so rapid and perfect, that in 10 days they were all discharged to their duty.

Though not disposed to acquiesce thoroughly in the idea of epidemic cholera being contagious, I feel sufficient respect for the high authorities who have espoused this side of the most disputed question, to think it prudent to adopt some precautions, when practicable, and I accordingly recommended that the camp should be halted for some days on the other side of the river, to watch for the occurrence of new cases, and the sick were disposed of in the bungalow at Pyakara, under the care of the first Assistant, Dr. Macdougall. At the expiration of eight days, no new cases having occurred, and the sick, with the exception of the casualties above-mentioned being all convalescent, the restrictions were removed, and the camp proceeded into Ootacamund.

For some time afterwards, I felt exceedingly anxious lest the disease should make its appearance in the cantonment; and this anxiety was not diminished by the appearance of 304 cases in the bazaar, bearing a strong resemblance to cholera, though, on minute examination, they proved to be bilious diarrhoea, dependent on previous congestion and torpor of the liver, and which was perfectly manageable under ordinary remedies.

Two cases, however, occurred among the European portion of the inhabitants, which it would be difficult to deny had but too much right to be classed under the denomination of cholera. The first was the lady of the Paymaster at the station, who, having imprudently indulged in eating quantities of raw vegetables, cucumbers, &c., was suddenly attacked in the evening with bilious purging, attended with vomiting. When summoned to see her, at 2 A.M., I found her suffering from excessive irritability of the stomach and purging; the matter rejected being clear and watery, but without the congee-like appearance usually observed in cholera. The countenance was much sunk, the skin colder than natural, and she complained of occasional spasms in one leg, as also of considerable thirst; the pulse, however, was full and natural, and she had no oppression at the præcordia. I was obliged to be cautious in the administration of stimuli, the patient being in the seventh month of her pregnancy; but, aided by the natural strength of her constitution, and (beyond a doubt) by the favour-

able influence of the climate, the disease gradually yielded to the remedies employed, and she is now in perfect health, notwithstanding the occurrence of a miscarriage, which took place about ten days after the attack.

The second case had, I regret to say, a less favourable result. The subject of it, a patient of Dr. Glen's, was seized about 11 P.M. with vomiting and purging, at first bilious, latterly watery, unattended however with spasms, and at first producing so little depression, that it was not till towards morning that she became so much alarmed as to summon Dr. Glen. I met him in consultation at 6 A.M., when the disease had apparently ceased, but so great was the degree of debility induced (she having been previously in a very weak state) that all our efforts to rouse the sinking powers of the system were unavailing, and she expired at six that evening, a victim to her own imprudent procrastination.

I am happy to say, that since that time (now upwards of two months ago) not a single case has occurred, either among natives or Europeans, bearing any analogy to cholera.

After an attentive consideration of the circumstances connected with this invasion of the epidemic, and taking into account the rarity of its occurrence on the Hills, though it has repeatedly prevailed in almost every place in the vicinity, the inhabitants of which are in constant communication with those above, I have come to the following conclusions, which I trust will be borne out by future experience:—

1st. That the climate, from whatever peculiarity of its constitution, is unfavourable to the propagation of epidemic cholera.

2d. That where instances of the disease do occur, it is less violent in its symptoms, more manageable by art, and infinitely less fatal in its results than under the most favourable circumstances in the low country; convalescence being also in this, as in most other instances, proportionably more rapid.

The practice in hepatic disease has been, on the whole, more successful than in the preceding year, probably from the majority of cases sent up being in a less advanced stage. A majority of those treated have returned to their regiments cured, or are convalescents, one only having been sent to Europe, in which case the accession of the disease took place on the Hills, and was much aggravated by mental uneasiness, arising from causes beyond the control of his medical attendant.

The treatment pursued was the same in all essential particulars, as stated in the former Report.

In dysentery, the exhibition of ipecacuanha in considerable doses, combined with blue pill and extract of gentian, has been attended with the best results. The only case in which it can be said to have decidedly failed is one complicated with functional derangement of the liver, and affection of the mesenteric glands, for which, of course, a long sea voyage affords the only rational hope of cure.

The case of Assistant-surgeon Mack can hardly be said to belong to a Report on the Hills, having been totally beyond cure before his arrival here.

The other diseases in the Returns offer nothing worthy of remark; the subjects of them have, with scarce an exception, recovered and returned to their regiments, or are now convalescent.

The cases in the Native Hospital do not offer a single object of remark, being in general extremely mild, and principally owing to changes of weather, or other accidental circumstances, and yielding readily to the simplest means.

(signed) R. Baillie, M.D.,
Super^s Medical Officer,
Neilgherries.

(signed) R. Gibbon,
Super^s Surgeon,
Southern Division.

Ootacamund, 25 July 1832.

SUPPLEMENTARY REPORT, dated 20 October 1832, by Dr. Baillie.

I HAVE little to add to the observations contained in former Reports on the effects of this climate on the sound European constitution, except that every day's experience strengthens my opinion of its perfect congeniality and adaptation to European habits and temperaments, and to express my ardent wishes

that some portion of the great and hitherto unavoidable waste of human life in the low country may be obviated, by the transference of as many of the European military to the Hills as political and other circumstances will admit. The advantages of such a proceeding, particularly as regarding regiments on their first arrival, and recruits destined for European corps, while undergoing their preparatory drills and instructions to fit them for their various occupations, appear, to my humble judgment, so obvious, that I cannot avoid expressing my confidence that the matter will speedily come to be viewed in the same light by those with whom rests the power, as well as the capability, of deciding on these important subjects.

The same observation holds good in an equal degree with regard to European officers visiting the Hills on leave, as a change of scene, or as a relief from their more arduous duties, instead of repairing to the Presidency, as they have hitherto done, to the manifest injury to their constitutions, from the round of dissipation in which the junior part at least engage on such occasions, and the no less detriment to their general efficiency and their future comfort, from the pecuniary involvements attendant upon such visits.

My attention having been latterly much directed to the discovery of some means of obviating the effects of the sudden change of climate from the low country to the Hills, experienced in hepatic and other visceral diseases, I took every opportunity which constant occupation allowed, of making myself acquainted with the nature of the temperature and other atmospherical phenomena at Dimhatty, Kotagerry and Coonoor. In the month of July last, a committee, consisting of the Acting Military Auditor-general, Adjutant-general and Quartermaster-general of the Army, and the Commandant of the Station, was appointed by the Right honourable the Governor to examine and report upon the various departments upon the Hills, and to make such suggestions as appeared to them likely to conduce to the great objects of the establishment. Having been called upon by these officers to give my opinion, among other points, on the propriety of subsidiary establishments at either of the above places, as preparatory to or affording a salutary change from a residence in the severer climate of Ootacamund, I had the honour to lay before them a memorandum (of which the annexed is a copy), in the sentiments contained in which they were pleased to express their entire concurrence, and to recommend certain measures, founded on it, to Government, some of which have already been carried into effect, by the appropriation of the Right honourable S. R. Lushington's bungalow at Dimhatty for the reception of sick officers, from which I have no doubt the most salutary effects will result. I am equally sanguine as to the benefit to be derived from the other part of the proposed plan, namely the construction of a cheap and temporary hospital at that place for a certain number of privates, preparatory to their coming into the depôt at Ootacamund, or to which they might be removed in case of their suffering from sudden atmospherical changes during the monsoon season at this station.

The experience of several cases, in which a removal to Dimhatty and Kotagerry at these periods was attended with the most favourable results, justifies us in predicting what is suggested by theory, that a vast proportion of the cases of hepatic disease, dysentery and rheumatism, which are now found to be either absolutely intractable, or at least recover only after tedious treatment, and undergoing numerous relapses, occasioned by the sudden repulsion of the blood from the surface upon organs previously debilitated, and thereby giving rise to obstinate visceral congestion, in the severer climate of Ootacamund, would be at once relieved, and great progress made towards a cure, by a previous residence in the comparatively bland atmosphere of the eastern portion of the range, and that the Returns, instead of exhibiting, as they now do, a melancholy preponderance of cases of this description in the column of incurable, died or sent to Europe, would pronounce as favourably for the restorative effects of our climate in these as in the other numerous complaints produced by a prolonged residence in the hotter parts of India.

I subjoin a few observations on the effects of the climate on Indian diseases generally:—

Hepatic Disease.—The result of our practice in this formidable class of diseases has been more satisfactory during the last six or eight months than previously, partly from a better selection of cases having been made, under the instructions of the Medical Board, and partly, I venture to think, from increased experience, and a consequently more efficient plan of treatment on the part of

the medical officers. The initiatory symptoms of congestion have been carefully watched for, and detected in many instances where they had formerly in similar cases escaped us, and the immediate and persevering employment of depletion, local and general, suited to the strength and other circumstances of the patient, has in most instances led to a successful result. I continue to repose great confidence in the employment of Plummer's pill, in combination with purgatives, as an excellent deobstruent, and in the insertion of a seton in the side, where the pain is diffused, and the repeated application of leeches or the cupping-glass where it was more defined. To these were added the nitro-muriatic acid bath, frictions of mercurial camphorated ointment (much diluted), and, in the milder cases, the application of a large plaster, composed of equal parts of mercurial and galbanum plasters, of such a size as to cover the whole of the hepatic region. On the subsidence of the symptoms of local congestion, as indicated by healthy action of the bowels, removal of all sense of weight in the side, increased appetite, sound sleep, &c., a course of sarsaparilla, with occasional purgatives, and strict attention to diet and regimen, have completed the cure.

In several instances where the climate of the place appeared to have an injurious effect, the result of a temporary removal to Kotagerry was so decidedly beneficial, as to lead me to the conclusion before stated, viz. that if circumstances admitted of our establishing all or most hepatic cases in the first instance at Dimhatty or Kotagerry, or of removing them thither when the nature of the case indicated it, nothing short of organic derangement of the viscus would resist the sanitary influence of the climate generally.

The treatment of *Dysentery* by large doses of ipecacuanha, combined with bitter extract and blue pill, has been uniformly successful, and has been succeeded by fewer relapses than during former periods.

No cases of fever have resisted the continued influence of climate and active treatment, except one or two complicated with organic visceral derangement, in which the cases were nearly hopeless from the commencement.

Diarrhœa, though more obstinate, has not the less been generally removed, and the patients restored to perfect health.

Some instances occurred of officers and others having been accidentally compelled to pass one or more nights in the jungles while on their way up. In these, with one exception, an immediate adoption of precautionary measures sufficed to arrest the dreaded accession of fever, and in the exception alluded to, the disease, though well marked, was cut short in a week, which was the more satisfactory, as we had to contend with the debilitating effects of a 30 years' residence in India. This gentleman has since left the Hills completely cured of his original complaint.

No cases of cholera or of diseases in any way resembling the epidemic, have occurred since the date of my last report.

Rheumatism, as usual, has proved extremely obstinate; but I trust that this remark will not hold good, when we have the means of transferring rheumatic subjects to Dimhatty.

Dyspepsia has furnished us with some striking proofs of the efficacy of the climate; one of the principal obstacles to the successful treatment of this protean disease, as in all parts of the world, consists in the difficulty of keeping up the spirits of the patient, and in persuading him that he is actually gaining ground, when a change in the course of the symptoms, or the occurrence of a former train of uneasy feelings leads him to despair of recovery; nothing but a well-grounded confidence in the power of the climate could have enabled us to persevere in the tedious treatment usually required for the removal of the host of maladies classed under the head of dyspepsia, or hypochondriasis.

But it is in local complaints, whether attended or not with constitutional symptoms, that our efforts have been most decidedly and most rapidly successful; sores of every description, gonorrhœa, phymosis of an aggravated description, with extensive ulcerations of the penis; bruises, cuts, injuries of the head, have at various times come under treatment, and have uniformly yielded as rapidly to the treatment employed, as under the most favourable circumstances in Europe.

In conclusion, I would beg to claim some attention for the prophylactic powers of the climate. It must have occurred to every medical officer of experience in this country, to have witnessed frequent instances of young officers being

attacked, shortly after their arrival in the country, with some of the more ordinary diseases of hot climates, arising partly, no doubt, from natural predisposition, but still more frequently, I fear, from the effects of irregular habits, and undue exposure. In a majority of instances the disease yields readily enough to the usual treatment, but is almost sure to be very shortly followed by severe relapses, which generally terminate in utter loss of health, and consequent inefficiency, or necessitate a speedy return to Europe. If these cases, instead of being allowed to remain at their posts exposed to the influence of the same exciting causes of disease, were transferred for even a short period to a climate so nearly resembling that of their native country as the Neilgherries, I think myself warranted in concluding that the renewed vigour of their constitutions thus acquired would, in a vast majority of instances, obviate the risk of a relapse, and thus materially add to the efficiency of this important portion of the European community. I say nothing of the moral influence of such a change; every one must have noticed the increased activity of mind, the acuteness of perception and capability of mental labour, of whatever description, produced by the most transient change to a congenial and healthy climate. I shall also only advert to the advantages to be anticipated from the premisal of a sea voyage, when practicable, particularly in hepatic and dysenteric diseases. Were this course, where it is indicated, more frequently pursued, I should have little fear as to the result of a comparison between the effects of a sea voyage for two or three months, with a subsequent residence of from six to nine months on the Hills, and those of an infinitely longer and more expensive furlough to Europe.

I have nothing to add to my former observations on the comparatively mild and tractable nature of native diseases on the Hills. I find it difficult to account for the enormous proportion of venereal complaints as exhibited in the annexed Lock Hospital returns, even taking into account the want of cleanliness exhibited by the lower orders of natives in this climate. It would appear from my inquiries on the subject, that females of the lower orders who contracted the disease at Bowamy, Mootapalliam, Coimbatore, and other circumjacent places, are in the habit, from what motives I know not, of retreating to Ootacamund, and are very shortly, from the vigilance exercised, apprehended and transferred to the Lock Hospital, when, fortunately, no difficulty is experienced in effecting a cure by the simplest means.

(signed) R. Baikie, M.D.,
Superintending Medical Officer,
Neilgherries.

Ootacamund, 20 October 1832.

MEMORANDUM on the Climate of *Dimhatty*, submitted to the Committee appointed by the Right honourable the Governor to examine and report on the Establishments on the Neilgherries.

It appears from the register of the thermometer kept at Kotagherry, that the average difference of temperature betwixt that place and Ootacamund is from five to six degrees, a difference not entirely depending on the relative elevation of the two places, which at the assumed rate of 1° per 300 feet, would only give three degrees of difference. Dimhatty being somewhat lower than Kotagherry, situated in a hollow, and less exposed to the wind, it may be assumed that there will be a further difference of 1° or 1° 50' making the total average difference of temperature between Ootacamund and Dimhatty about 8°. The Medical officer at Kotagherry being in possession of no meteorological instruments, except a thermometer, the subjoined observations are necessarily in some degree hypothetical, but being partly founded on my own observation, the Committee will know what weight to give to them.

During the N. E. monsoon, Dimhatty being less exposed than Kotagherry, suffers less from the wind and rain. The temperature, during the cold months, is more equable than at Ootacamund, the thermometer never descending so low, and being completely sheltered by the Mountain of Dodabet and its subordinate ranges, from the S. W. monsoon, the weather remains fine during the greater part of June, July and August, the most wet and stormy months in all the central and north part of the range.

The

The air at Dimhatty is considerably less rare and more moist* than that at Ootacamund, while its distance from the edge of the Hills places it beyond all suspicion of danger from the ascent of malaria from the jungle below, in which respect it has the advantage of Koonoor, Koondah Ghat, Neddiouthem and Bellicul, all of which are situated on the verge of the Hills, and said (though not upon very accurate grounds), to be feverish at certain seasons.

It thus appears that the climate of Dimhatty, while it is less dry, less rare and less bracing; and consequently less fit for Europeans in robust health, as well as for invalids in an advanced stage of convalescence, is much milder, and at certain seasons more equable; that there is, upon the whole, much more dry weather, during some seasons at least, and consequently more facility for taking exercise than at Ootacamund.

The important conclusion to be drawn from these facts is, that Dimhatty is better suited as a residence for invalids on their first arrival than Ootacamund, the change from the low country being less sudden, and the comparatively higher temperature and moist constitution of the air being better calculated to keep up the action of the skin, and prevent the repulsion of the blood from the surface upon the internal organs, already weakened by disease, an evil consequence which the greatest care is now and then insufficient to prevent at Ootacamund, particularly in the numerous cases of hepatic disease and mercurial rheumatism, and which often considerably retards the cure in these and other similar instances. The same considerations apply to cases of asthma and determination of blood to the head, which generally undergo an aggravation (slight, it is true, and transient, but which it would still be desirable if possible to avoid), on first ascending into the dry, cold and highly rarefied atmosphere of Ootacamund.

An important advantage offered by the difference of seasons at the two places, is the facility of transferring from the one to the other cases which suffer from sudden changes of weather, from electricity, or from the want of exercise. On this head I speak with the more confidence, as I have tried the experiment by sending several invalids from Ootacamund to Kotagherry, at the commencement of the S.W. monsoon, with the most beneficial results. I have no hesitation, therefore, in earnestly recommending for the consideration of the Committee, the propriety of obtaining the sanction of Government for the establishment of a subordinate Sanitarium at Dimhatty for European soldiers, to contain from 25 to 35 men, and quarters for sick officers on a similar scale, to which (generally) they should be sent on their first arrival, and retained there until their cure is sufficiently advanced to admit of their bearing with impunity the further change to Ootacamund, or, on the other hand, to which they might be transferred from the latter place, when bad weather or other circumstances render such a change advisable.

With a view to ensure an appropriate selection of cases, they might all be submitted to the superintending medical officer, for him to decide as to the prudence of placing them, in the first instance, at Dimhatty, or bringing them at once into Ootacamund, it being obviously unnecessary that all cases indiscriminately be submitted to that preliminary ordeal.

(signed) R. Baikie, M.D.,
Superintending Medical Officer,
Neilgherries.

Ootacamund, 3 August 1832.

* This must not be understood to mean that it contains more moisture, but that the moisture held in solution by it is more easily rendered sensible.

REGISTER OF THE WEATHER AT Ootacamund, on the Neilgherries, from 1st March 1831 to 31st December 1831, showing the Monthly Results.

MONTHS.	BAROMETER.			Mean of Thermometer attached to Barometer.	THERMOMETER IN SHADE.			Rain, Square Inches.	NUMBER OF DAYS.			Prevailing Winds.	REMARKS.
	Maximum.	Minimum.	Mean.		Maximum.	Minimum.	Mean.		Rain.	Showers.	Fair.		
March	23.290	23.060	23.175	61	72	44	58	none	-	4	34	N.N.E. to N.E.	-- Weather remarkably clear and fine; sun very powerful from 8 to 10, and from 12 to 2; evenings and mornings cold, clear and bracing; frost once or twice.
April	23.210	22.960	23.085	63	73	51	62	2.233	-	-	-	N.E., E., S.E.	-- Weather milder than in March; some light showers, but very partial; two thunder-storms, with very large hail.
May	23.026	22.940	22.983	64½	70	51	60½	5.745	1	-	-	S.W.	-- Weather threatening; several days of frequent showers; one day very heavy rain; atmosphere close; frequent thunder and sheet-lightning at night.
June	22.940	22.880	22.910	63½	68	51	59½	3.880	-	11	10	S.S.W., S.W.	-- Monsoon appeared to set in about the 4th, but the weather cleared up, and was very fine during the greater part of the month; temperature very equable.
July	22.900	22.822	22.861	63	65	51	58	2.170	1	5	21	S.S.W.	-- Usually a rainy month; this year very fine, having only one day heavy rain. Khoonda Hills covered with clouds; upper portion of range clear.
August	22.840	22.800	22.820	61	67	51	59	4.102	3	10	17	S.S.W.	-- Disagreeable weather; occasional heavy rain, and frequent showers, cold and damp to the feelings.
September	23.100	22.730	22.785	60½	60	53	56½	8.900	5	5	11	S.E., S., S.W.	-- Usually a fine month; this year rainy, cold and uncertain; occasional thunder, and much sheet-lightning.
October	23.140	23.012	23.055	60	67	40	53	7.300	4	11	16	N.E.	-- Very variable and uncertain weather, consequent on the change of monsoon; heavy rain at Kotugerry, and frequent partial mists here.
November	23.220	23.000	23.070	59½	66	40	56	7.400	5	3	4	N.N.E., N., N.E.	-- Several days of very heavy and constant rain, but, on the whole, a very fine month; some thunder-storms; air keen.
December	23.220	23.128	23.174	57	63	42	52½	46	-	2	25	N.N.E., E., N.E.	-- a beautiful month; much fog at the beginning; afterwards clear, cold and bracing; occasional hoar-frost in the valleys.

Mean height of the barometer - - - - - In. 22.901 Quantity of rain fallen - - - - - Sq. In. 42.250

" " " " thermometer (attached) - - - - - 61.16° Number of days' heavy rain - - - - - 19

" " " " during the day - - - - - 67.16° " " " " showers - - - - - 80

" " " " during the night - - - - - 48.16° " " " " cloudy - - - - - 28

" " " " day and night - - - - - 57.16° " " " " clear and fine - - - - - 179

Mean daily range - - - - - 15.2°

GENERAL ABSTRACT.

MONTHS.	Barometer corrected to 32° Fahrenheit.			THERMOMETER.				Rain, Square Inches.	Number of Days.		Prevailing Winds.	REMARKS.
	Maximum.	Minimum.	Mean.	Maximum.	Minimum.	Mean.	Greatest Daily Range.		Showers.	Fair.		
January	23.375	23.081	23.228	67	30	53	24	none	-	31	N.E.	- A very fine month, clear, cold and bracing.
February	23.364	23.084	23.224	69	58	53.5	31	.020	1	28	N.E.	- Much the same as the last; hard frosts in the valleys.
March	23.052	23.006	23.029	70	47	58.5	19	1.48	6	25	N.E.	- Milder than the two preceding months. Refreshing showers towards the close; sun occasionally hot.
April	23.060	22.984	23.025	73	53	63	17	2.74	9	21	N.E.	- A mild month; occasionally showers, but very fine in the intervals.
May	23.032	22.900	22.966	76	53	64.5	19	4.24	11	20	N.-	- This month was finer than usual; occasionally hot; a few showers, but with fine intervals.
June	22.970	22.836	22.903	73	52	62.5	16	4.16	17	13	S.W.	- Monsoon later in setting in; not fairly established till the 19th; weather cool and pleasant.

GENERAL RESULTS.

BAROMETER.				THERMOMETER.				RAIN.		NUMBER OF DAYS.	
Mean Maximum	-	-	23.143	Mean Maximum	-	-	71½	Square Inches	-	12.84	Fair
Mean Minimum	-	-	22.901	Mean Minimum	-	-	47°		-	-	Showery
General Mean	-	-	23.067	General Mean	-	-	59½		-	-	-
				Mean Daily Range	-	-	20½				-

Ootacamund, 1 July 1832.

(signed) R. Baile, M.D.,
Superintending Medical Officer,
Neilgherries.

(signed) R. Gibbon,
Superintending Surgeon,
Southern Division.

REPORT for the First Half-year of 1832, by Dr. Stephenson.

DURING the last half-year, many of the sick, both of the King's and the Honourable Company's, have derived essential benefit from the very bracing and salubrious climate of the Hills, though the accommodation for the convalescents, as formerly reported, has been far from good.

Thirteen of both services have, during the above period, been sent from hence to join head-quarters, restored, apparently, to permanent health, and 17 more have been reported as fit to proceed immediately, having likewise quite recovered.

Twelve fresh cases have arrived, the greater proportion of these now making rapid strides towards recovery.

A few cases, however, principally of chronic hepatitis and bowel affection, and two of "syphilitic rheumatism," though resident here upwards of 12 months, have not experienced much relief, and have consequently been recommended to be transferred from this, with a view of being sent to England, as it is not likely they can ever regain health in India. To the latter must be added another case, marked "scorbutus," belonging to his Majesty's 46th Regiment, who has lost the nose, and has, at the same time, deep and extensive ulceration of the face, which, I regret to say, are still progressive, notwithstanding a variety of treatment instituted to arrest its progress.

With regard to the officers of his Majesty's service, three only have repaired here for the recovery of their health, those of the Honourable Company's service being under the surveillance of Dr. Baikie.

One field-officer of his Majesty's 54th Regiment, long subject to severe periodical headaches, apparently allied to neurodynia, consequent on a severe wound he received in Ava, has evidently derived considerable benefit by a five months' residence here, the paroxysms having become milder, much less frequent, and shorter in duration, and his general appearance considerably improved. The treatment consisted in the use of frequent appropriate laxatives, repeated leeching of head, cooling lotions during the paroxysms, and quinine in common proportions, for some days previous to an expected attack.

A subaltern of his Majesty's 48th Regiment arrived here in March last, suffering from great debility and emaciation, the consequence of a severe attack of intermittent fever, acquired on the march with his regiment from Bellary to Cannanore; he had no return of paroxysms here, and got rapidly into health and flesh, and he left this on the 3d of June to rejoin his regiment, in the best possible health.

The third case is Mr. Assistant-surgeon M'Math, who has suffered very long from dyspepsia and general debility, complicated with chronic ulceration of throat, loss of voice, and frequent diarrhoea, from all which, however, he appears to be evidently recovering, as he is now acquiring flesh, and increase of appetite. His voice, too, has partially returned, and I have no doubt that he will eventually get into tolerable health, and fit for regimental duty.

The treatment has consisted in the steady use of mild vegetable tonics, small repeated doses of ipecacuanha, calomel and opium, to correct the bowel affection, together with the application of a strong solution of nitrate of silver to the throat, which quickly removed the irritability, ulceration, and difficulty of deglutition.

The cases of diarrhoea and dysentery have not been very numerous; of both diseases, 12 have been treated; eight have been discharged, and four remain; one of these does not recover; the latter, a gunner in the Honourable Company's service, has been here upwards of 12 months; and as he continues to suffer from the disease, has been recommended to be removed from hence, with a view of being sent to England; the complaint evidently being kept up by organic alterations, which, probably, a sea voyage can only remove.

The disease, however, has been more commonly a recurrence of former affection in chronic form, apparently dependent on morbid secretions from the liver, a hepatarrhea brought on by change of climate, exposure and dissipation, to which, from the open state of the hospital, and want of a proper guard to control them, they are at all times liable.

I must here observe, that I do not consider this climate well adapted to this disease, especially in chronic form, or when combined with hepatic affections, as

they are constantly subject to relapses from congestion within, or exposure to the cold atmosphere of the Hills.

Continued Fever.—Of these, four only have been treated, and in these the disease seemed to have arisen from exposure to cold, more especially at night, when they were on duty as sentries; the hospital being perched on the very apex of a high hill, receives directly every wind that blows in its vicinity, and which, when combined with rain, produces intense cold, giving origin to febrile attacks, catarrhs and bowel complaints.

Intermittents.—These have been more obstinate, and kept up, apparently, by visceral derangement, coming into action on atmospherical and lunar changes.

Headache.—The cases of cephalalgia have all done well, and perfectly recovered; they partook of the character of neurodynia, being very acute and periodical in their attacks.

Hepatic Disease.—Of these, no fewer than 26 have been treated, 16 have been discharged, and 10 remain.

As the cases have been most frequently chronic, and sent from the low country for recovery here, it is not to be wondered that more have not been restored to health; as most of those who appear remaining have organic alterations, to which this climate is far from favourable, the extreme coldness of the atmosphere causing constriction of surface, and consequently much internal congestion, which keeps up and even aggravates the disease, as manifested by constant pain in side, an anxious, pallid and sunken countenance, alternate constipation, or painful diarrhoea, to which is superadded frequent subacute inflammatory attacks, which require constant local depletion, and counter-irritants, to avoid suppuration.

No chronic case of hepatitis should therefore, in my opinion, ever be sent to this station.

Physconia.—This was an old chronic case of dysentery, complicated with splenitis, enlargement of abdomen, and atrophica, belonging to his Majesty's 41st Regiment. He suffered long from the bowel complaint, for which he was treated as above detailed, and eventually with happy results, as he has now quite got rid of the looseness, pain in side, and swelling of abdomen, and is rapidly acquiring strength and flesh.

Rheumatism.—Of these, nine have been treated; six have been discharged, and three remain. This is another disease to which the climate of the Hills is not so well adapted, being too cold and windy for similar affections; the general health, however, gets improved, and the men in general have, with two exceptions, which appear here remaining, received much benefit, four having perfectly recovered, three relieved, and two no better.

The case of *Sarcoma* was confined to left testicle; it was not inveterate, and it is now, if there be any change, smaller in size than natural, and quite void of pain even on pressure; his general health is excellent, and he appears quite fit to rejoin head-quarters.

Scurvy.—This poor fellow belongs to the 46th Regiment, and arrived here with deep ulceration of nostrils, and carious state of ossa nasi, with profuse and offensive discharge. He had been unwell since October 1830, with ulcers on different parts of the body, and general symptoms of scurvy. Was not in Ava, and never had syphilis. Says he has had, many years back, a simple suppurating bubo, but recovered without using mercury. He has taken decoction of sarsaparilla in large quantities, combined with nitric acid, without permanent good; a fair trial has also been given to the solutio arsenicalis, and preparations of cinchona, with generous diet, including vegetables and beer. The local applications have been various, principally diluted citrine, and other stimulating ointments, with detergent lotions of tincture of myrrh, friar's balsam, &c. &c., but the sores are still progressive, and show a frightful chasm in face, resembling one of the worst cases of lupus. He is recommended to be sent to Poonamallee, that he may accompany his regiment to England, being considered as unfit to remain in India.

Swelled Testicle.—This was a very simple affection, apparently from cold, and was quickly reduced by the ordinary antiphlogistic means.

Syphilis.—These four were severe and secondary affections. The man who died belonged to the Horse Artillery, and had been suffering for four years from various forms of the disease and general bad health, which eventually carried him off.

On dissection, extensive ulceration was detected in throat, several of the cervical vertebræ being bare and carious, the lungs were congested, and liver and spleen very much enlarged.

He had used all the common antisypilitic medicines without effect.

Of the two who remain, one is convalescing. He was sent from the Mount, having been long subject to disease resembling syphilitic rheumatism, accompanied with nodes and ulcers on legs, which repeatedly healed and again broke out. He has benefited greatly by his residence on the Hills, and is now convalescing rapidly. He has only used sarsaparilla and nitric acid largely, with frequent warm baths, and generous diet.

The other belongs to the Foot Artillery, and was sent from the Mount in May 1831, labouring under chronic dysentery and general debility, from which he recovered; when in August following he contracted chancres and bubo, which latter terminated in suppuration, and for which he used mercury to ptyalism, when the primary sores healed, but they were shortly afterwards followed by ulcerated sore throat, general pains in joints, enlargement of the left knee, and copper-coloured blotches, which have never completely left him, although he has been treated with a variety of remedies usually prescribed for similar affections, particularly frequent warm baths, sarsaparilla and guaiacum in large quantities, Plummer's pill, &c. &c.

This climate being so inimical to this form of disease, he has been recommended to be removed to the low country, as unlikely ever to recover health on the Hills.

In conclusion, I beg to say, that my unexpected departure from the Hills on duty, requiring other avocations, must plead as an apology for the brevity and imperfection of this Report.

(signed) T. G. Stephenson, M. D.,
Convalescent Depôt Surgeon, Neilgherries.

(signed) R. Baikie, M. D.,
Superintending Medical Officer, Neilgherries.

(signed) R. Gibbon,
Superintending Surgeon, Southern Division.

YEARLY SICK REPORT of Convalescents of His Majesty's Service sent for the recovery of their Health to the Sanitarium on the *Neilgherry Hills*, from 1st January to 31st December 1832.

Remained, 31st December 1831	-	-	-	-	-	24
Since admitted	-	-	-	-	-	10
TOTAL						34
Sent away cured	-	-	-	-	-	25
Sent away improved	-	-	-	-	-	2
Sent away no better	-	-	-	-	-	2
Died	-	-	-	-	-	1
Remaining	-	-	-	-	-	4

The admission of Kings' troops during the last twelve months have been rather limited, and one or two of the cases have been of a description not likely to reap benefit by this climate, arising from causes to be hereafter detailed.

In reference to the letter from the Army Medical Board of date 22d February 1831, requesting a general report on the effects produced on invalids by removal to this climate, as well as a description of the diseases for which beneficial, prejudicial or negative, I beg to reply.

The change from the plains to the Hills is marked by a diminution of the thermometer, amounting to nearly 40 degrees, and in the months of December, January and February, falling during the nights and mornings below the freezing point, causing the lower grounds and sides of the hills to be covered with hoar frost, and fringing the margins of the lake and rivulets with solid ice, especially in

in the declivities, where the stratum of air is specifically heavier and colder than above.

This great and uniform diminution of temperature, together with their high elevation, indicates these Hills to be, during four-fifths of the year, one of the most salubrious and enjoyable climates in the world, especially to those who are in the enjoyment of good health, or only suffering from exhaustion, consequent on a protracted residence in the low country; the effects of a long-continued course of medicine; inanition from blood-letting, or other cases of pure debility; in such instances they are decidedly and eminently beneficial.

The air is elastic, clear and invigorating, and like on all mountainous positions, it has a sensible effect in exhilarating the spirits, and augmenting the disposition for exercise.

On first arrival, a stranger is apt to be affected with slight oppression of breathing, headache and pervigilium, which may arise from tenuity and coldness of the atmosphere, causing temporary congestion; but these soon wear off, and are followed by feelings similar to those enjoyed in the autumnal months of England.

The daily range of the thermometer seldom exceeds 20° standing for the greater part of the year between the points of 40° and 70°, and even in the sun seldom mounting above 86°, provided the instrument be sufficiently elevated from the ground to prevent the influence of reflected heat. In this moderate temperature, one seldom feels inconvenience under unusual exertion, and never that languor and exhaustion experienced in the sultry plains of the low country, so that unless particular affections contraindicate a residence here, I have every reason to suppose that the Neilgherries afford the most salutary retreat, and hold out the best prospects to an invalid for the recovery of his health.

I shall here state the diseases for which the climate of the Hills would appear to be most eligible.

1st, All convalescents from every species of acute disease, where no structural derangement has followed, and especially in such cases where great loss of blood has been necessary for recovery.

2d, In all those cases of weakly young persons sent out prematurely to India, and who are apt to wither under the blighting influence of a tropical sun, and in such cases where a long residence in this country has induced general atony and relaxation, without confirmed visceral disease; to such they are decidedly restorative, and afford a delightful retreat during the hot months below, their convenient propinquity and approach by excellent roads rendering them at all times easily accessible to those desirous of repairing hither. I would here add, that I humbly beg to say, that they would appear to me to be a better station for climatizing newly arrived troops, than the colonies of New South Wales, Van Diemen's Land or the Isle of France, and with this advantage, that they would have an opportunity of becoming acquainted with the manners of the inhabitants and usages of the country, in a climate where drilling might be conducted with impunity during the greater part of the day, and the march to the Hills from the Western coast, where they might be debarked, could be readily accomplished in a few days; this I am convinced would be a great saving to Government, many recruits being lost in the low country during their probationary education, by the fatigues of drill, and the readiness with which they can obtain all kinds of pernicious and intoxicating liquors, which exist here but in a modified degree; the temperature of the Hills preventing the growth of the different varieties of palms, from which the baneful toddy is procured, the source of many fatal diseases.

I shall now point out the ailments which experience proves to be aggravated, or, to say the least, not benefited by sojourning here.

1st, To such invalids as are subject to frequent attacks of intermittent fevers or acute liver complaints, and to all suffering from chronic visceral disease, of whatever character.

2d, They are decidedly inimical to rheumatic affections of every description, whether acute, chronic, mercurial or syphilitic; and these, I think, include all the ailments not likely to derive benefit by a residence here.

In conformity with the wishes of the Board, I transmit along with the yearly return of sick, one in tabular form, showing the number of invalids sent hither in each year, with detail of diseases, deaths, improvements, cures, remaining, and number not likely to be benefited; to which I have added a similar one of officers.

With regard to the medical treatment pursued here, as most of the sick are sent with a view of acquiring health, almost entirely through the influence of climate, and arrive generally more or less in a passive state, I shall not enter into a detail of the practice, which is nearly analogous to that usually followed towards invalids at home. Acute inflammatory action in previous diseased organs, as the lungs, liver and spleen, frequently occurs from the sudden congestion produced by cold, which is most readily subdued by a smart bleeding, free purgation, and the use of antimonials with calomel. Great attention is invariably paid to the state of the bowels and skin; the latter being kept constantly defended from the cold by flannel and other appropriate dresses, at the same time that moderate exercise is enjoined. There are but few diseases indigenous here; a catarrhal febricula is occasionally epidemic, variola but seldom met with, and cholera, save imported, never.

I shall now give a brief account of the topography, natural history and meteorological phenomena, &c. of the Hills.

The range of these Hills, called Neilgherries, *i. e.* Blue Mountains, is between $11^{\circ} 10'$ and $11^{\circ} 30'$ N. latitude, and longitude $76^{\circ} 30'$, and 77° E., partly in the districts of Coimbatore and Malabar, their breadth averaging about 15 miles, and their extreme length, which is from E.N.E. to S.W. about 40, forming an irregular oblong, their whole circumference being nearly 200 miles. The height of the principal station, Ootacamund, above the level of the sea, is 7,200 feet; and one accessible hill in its neighbourhood called Dodabett, rises 8,429 feet. They are bounded on the north by the table land of Mysore, on the S.E. by Coimbatore, on the S.W. by a branch of the river Bowany, separating them from a chain of mountains called the Koondahs, and on the west side by a similar elevated chain of ghauts running towards the north: on their N.W. side is the district of Wynaad.

The extreme annual range of the thermometer in the shade is about 30° , the diurnal from 15° to 20° , but in closed rooms not above 2° , or 3° . As I have previously mentioned, the coldest months are January and February, when it freezes almost every night and morning, the minimum in an open verandah being about 30° , but in the vallies sometimes as low as 16° , especially in the clear moonlight, when radiation is extreme; the maximum heat during the day is then about 63° .

The hottest months are May and June, the thermometer generally reaching at noon to 68° or 69° , but rarely above 70° , which is fully 30° below the temperature of the low country; January, February, March, April and May are clear and dry. The principal rainy season commences about the end of May, and prevails during June and July, being the S.W. monsoon; it rains likewise slightly towards the end of the year; but seldom above 42 square inches fall during the twelve months, the rain being at the periods frequent, but seldom very heavy; clouds and mist are then very dense, and walking and riding disagreeable, if not dangerous, from the saponaceous state of the roads. Both monsoons are ushered in and terminated with thunder and lightning, occasionally loud and vivid.

With regard to the barometer, the mercurial column is but so little influenced by the state of the atmosphere, whether unusually arid or surcharged with moisture, whether positively or negatively electrical, that but little is to be obtained by an observance of its variation. The annual range is about 0.560", *i. e.* between 23.290° and 22.730° , the diurnal about 0.25 of an inch; as a weather gauge it is, therefore, in those regions at least, not very demonstrative.

The general aspect of the Hills is varied, picturesque and beautiful in the extreme, exhibiting a green undulating surface, consisting of a series of pretty mounds and mountains, with intermediate vallies and ravines, where patches of verdant trees everywhere abound, and on the sides of the hills, where natural irrigation and shelter from the winds has been favourable to their growth; the whole forming a landscape seldom to be equalled for beauty, especially in the mornings and evenings, when the rising and setting sun, but particularly the latter, gilds the tops of the mountains with splendid tints, and frequent brilliant irides.

The soil for the most part consists of a bright reddish earth, covered throughout with a rich black crust of various depths, the remains of decomposed vegetable and animal matter, very favourable to the propagation of most plants. The rocks are nearly all of the primitive kind; granite, granitelle, gneiss, siemrite, silix, quartz, and felspar, abound, frequently in a state of decomposition, especially where exposed to the action of air; extensive masses of decomposed felspar, with silix, argilla fullonum, &c., are everywhere observable, and much ferruginous

ferruginous earth forming with granite, latente and other breccias of various colours, easily cut when not long submitted to the action of the air, and becoming afterwards hard petrified, forming an excellent substitute for brick of the best quality, and well adapted for the walls and flooring of houses.

Iron is most abundant, in a state of oxide, peroxide and carbonate, sometimes magnetic, and from which excellent malleable metal is said to be obtained; hematite, brown iron ochre and graphite, are every where to be found in abundance; the latter is coarse, and not apparently well adapted for the composition of pencil leads, but might be employed in the formation of stoves and crucibles.

Gold is said to exist in a pure state, but I have not been able to detect traces of it in any form: neither coal nor lime have been found; the want of the latter is a sad defect; neither are gems known to exist in this range; transparent quartz and brilliant rock crystals of various colours, however, abound, particularly the dark brown (*enfumé*), approaching to what is commonly called morio.

As to the botany of the hills, besides a number of plants common to all ranges of a similar altitude and temperature, there are many indigenous, answering to no class or order hitherto described.

Many of the European productions are everywhere to be met with; honeysuckle; ferns, both common and gigantic; geraniums, heaths, various fragaria or strawberries, brambles, anemones, broom acanthi, arundines, asparagus, agnas castus, balsams, sympathetic berberis, clematis, camelia, cassias, centauries, crotons, costus, crotonia, centauries, convolvuli, cucumbers, daphne, dolichos, ficus, hybiscus, indigo, jasmines, lysemachia, lilies, laurus cinnamomi (not very aromatic), lycopodium, liquina, menthae, mussenda, melastoma, justicia, myrtus, michelia, mimosa, omithogalum, orchidæ, osmunda, passiflora, prunella, psoralea, piper nigrum lustanicum et longum, pollygala, phillyria, plantage, rhododendron rubrum, rosa canina, rumex, rubia, scabiosa, arvensis, scutellariæ sterculæ, salix, solanum scetidum, thalictrum, tussilago, vaccinium, urticæ, violets, viburnum, and many more; besides, there are many large trees, peculiar only to those Hills, well adapted for building and construction of furniture, not difficult to be chiselled, and of which we take advantage.

The water is in general excellent, being clear, light, rather soft, without colour, smell or taste, keeps long sweet, and without deposit. The springs and rivulets running through ferruginous soil is slightly chalybeate.

With reference to the zoology of the Hills, the elk is one of the most prominent species, being large and handsome; the flesh is far from unpleasant, particularly the head, which makes excellent soup, and the marrow of the large bones is deliciously rich; besides these, there is abundance of hog, and a small species of deer, miscalled jungle sheep; porcupine; hares, weighing from eight to nine pounds; snipe, woodcock, of which upwards of 40 brace have been already shot this season; partridges, pea, jungle and spur fowl; quail, blackbirds, thrushes, larks, &c., abound, and the rare species of scolapax magnus, as large as a woodcock.

Tigers, leopards, jackalls, bears, wild dogs, a few foxes; large black monkeys are very common; and bisons and elephants are occasionally met with at the bottom of the range. The domestic buffalo is a large powerful animal, very different from the species found below, being twice as large, and covered with black shaggy hair; the cattle is diminutive, but the meat sweet and good, and the mutton excellent.

There is a very good bazaar, where everything requisite for culinary purposes can be had in abundance, at nearly as cheap a rate as below, and there are three superior Parsees' shops, which contain every luxury required, at very moderate charges.

The number of houses belonging to Europeans on the Hills amount to about 60, and more are being built; there is a very handsome church, and large school for boys, under the surveillance of an excellent pastor.

There are three Government houses for the reception of sick officers of the King's and Company's services, belonging to Madras and Bombay, fit to contain about 24 persons, besides an excellent hospital, formerly the residence of the Governor, now converted into the Sanitarium for the King's and Honourable Company's invalids.

The building is situated on the top of a considerably elevated hill, on the southwest side of the cantonment, having its front towards the north; it is very substantially built of brick and chunam, and has a tiled roof throughout, with the exception of the large building for the convalescents, which is thickly thatched;

its foundation is formed on a very dry, hard, red gravelly soil; the flooring is all wooden, principally teak, except the verandahs, one of which is flagged and the other chunamed; it is abundantly lighted by an adequate number of glass doors and windows, placed in wooden frames, divided into two, and opening vertically, for position and dimensions of which *vide* accompanying plan.

The sick wards are eight in number, placed in the front and west wing of the building, capable of containing, without crowding, about 45 men; five of the wards have fire-places, and the whole open in front to a spacious flagged verandah, and to a passage in the rear.

An equal number of recovered men can be conveniently lodged in the convalescent ward, which is quite isolated from the sick, and very comfortable, with large fire-place.

Besides these, there is ample accommodation for the various departments connected with the hospital, such as, hospital-serjeant's room, dispensary, conicopoly's stores, cook-house, and necessaries, &c.; for position and dimensions of which I refer to the plan.

The height of the walls throughout is about 12 feet, the thickness two feet four inches.

The whole of the building is dry and very comfortable; it is partially sheltered from the N. E. monsoon by a patch of wood and a small hill, but the rear is rather exposed to the S. W.

The privies are at a convenient propinquity to the wards, and the deposits are made in chatties, frequently removed, preventing stercoracious effluvia.

The water is excellent, and well adapted for culinary and other purposes; it is obtained from a clear rivulet, meandering about 300 yards from the building.

There is a large garden in front, and on both wings, planted with flowers and small trees, and a more extensive one of several acres about 200 yards off, towards the S. E., where the convalescents have had portions of it distributed, for the purpose of rearing vegetables, &c., when the season will permit.

The country around is undulating, and very picturesque, having a view of splendid mountain scenery for many miles, and there is abundance of excellent roads, affording facility of egress to the country in every direction; the beautiful lake of Ootacamund is immediately below it, and within sight of the foreground.

As this climate is very favourable to the production of wheat, barley, oats, peas, beans, potatoes, onions, mustard, cabbage, cauliflowers, nolecole, turnips, carrots, artichokes, asparagus, and most of the European fruits, and land can be had at a mere trifle, it is my opinion that it holds out a most promising field for agricultural purposes. The honey is delicious, and very abundant. Hops would grow, I think, in the sheltered vallies, and a brewery, in course of a short time, might be advantageously established. I likewise think it would form an admirable retreat for the pensioned invalids of sober and industrious habits, and thus become a saving to Government, by avoiding the expenses incurred by transporting so many of them to England.

I have nothing further to add on the present occasion; I will therefore bring this imperfect sketch to a close, in the hopes of being enabled to give some additional information in my next report.

(signed) *Thos. G. Stephenson, M.D.,*
Assistant Surgeon, 13th Dragoons.

Ootacamund, 14 January 1833.

FROM *F. Wrachan, Esq., M.D.,* Inspector of His Majesty's Forces, to
Robert Clerk, Esq., Secretary to Government in the Military Department,
Fort St. George.

Sir,

Inspector's Office, King's Troops,
Madras, 23 March 1833.

I AM honoured by your letter with minutes of Council of 5th October, and extract from the first paragraph of the Honourable Court's despatch of the 28th March last (as per margin*) requesting to be furnished with information desired by

* See below.

* Extract from the 1st para. of the Honourable Court's despatch in this department, of the 28th March last, No. 21 of 1832:—"A report on the benefit derived by European invalid soldiers who have been sent to the Hills, as well as, so far as it can be procured, of the benefit derived by our servants and others who have visited the Hills on account of their health, showing the permanency or otherwise of that benefit."

"An annual report, to the same effect as the last we have enumerated, to be sent to us in this department."

by the Honourable Court of Directors, respecting the permanency or otherwise of the benefit derived by invalids of His Majesty's service who have been sent to the Neilgherry Hills on account of health.

In reply, I have the honour to state, that, from the month of May 1830 (when the first convalescents proceeded to the Hills) to the present time, they have amounted in all to seventy-five (75), of which number there have returned in good health, as per margin*

But slightly, or not at all benefited	-	-	-	-	-	-	-	53
Died	-	-	-	-	-	-	-	12
Of the 53 returned in good health, there have continued so	-	-	-	-	-	-	-	6
from three to 22 months	-	-	-	-	-	-	-	30
Ailing occasionally, but generally doing duty	-	-	-	-	-	-	-	2
Embarked with their Regiment (his Majesty's 89th) for Eng-	-	-	-	-	-	-	-	
land, and not since heard of	-	-	-	-	-	-	-	5
More recently returned	-	-	-	-	-	-	-	16

* Fever (cases)	8
Enteritis	1
Hepatitis	7
Rheumatism	1
Dysentery	17
Diarrhoea	9
Paralysis	1
Dyspepsia	1
Epilepsia	1
Land Scurvy	1
Palpitation	1
Cephalalgia	4
Functional disease	1

Of the deaths, one from paralysis (an hopeless case, and which ought not to have been sent) was moribund at the time of arrival, and died on the same day; another died from jungle fever contracted on the journey; reducing the number of casualties at the Sanitarium arising from the diseases for which they were sent there, to four.

Of the cases returned without benefit, there have since died, four.

From this it will appear, that many of the cases sent were of severe disease; not a few of them hopeless, and contrary to the instructions given for their selection; and although I am satisfied that the deviation in question was dictated by the hope of affording some chance of recovery where none other seemed to exist, yet it can be no impeachment on the climate that it did not remove disease which, to all probability, would have been elsewhere incurable.

The climate of the Neilgherries possesses all the essentials of salubrity, a temperature equal and moderate; an atmosphere light and elastic, with a topography in the outline magnificent, in the interior and in detail picturesque and beautiful in the extreme; abounding in streams of the purest water, exempt from the seeds of local disease, and hitherto placed beyond the sphere of epidemic influence.

To these preeminent qualifications is almost solely to be attributed the benefit obtained, for nothing could have been more adverse than the site of the Sanitarium, the means of accommodation which the building afforded, and the arrangements generally for the recovery of the convalescents, as likewise for the transfer to their corps when their recovery was accomplished.

The complaints for the removal of which the climate of the Neilgherries is more particularly adapted, is naturally a subject of interesting inquiry.

1st. Of such, by far the more numerous and important are those occasioned by the paralyzing influence of a tropical sun, whether the effect of long residence and exposure, or of its baneful influence on the more recently arrived from Europe, characterized by derangement of the digestive organs and associated symptoms abundantly known.

In proportion as these are purely functional, and unattended with lesion of the liver, or other important viscera, the recovery may be expected to be more speedy and permanent, although, as shown by the accompanying reports, not a few were restored to health, wherein serious organic disease may be apprehended to have existed; where, however, there is clearly structural derangement of some important organ, the constitution at the same time seriously sympathizing, the more economical as well as the more humane arrangement is to send the individuals home; the renovating influence of the climate of the Neilgherries being to excite a degree of action which, although in itself salutary, is yet in such cases greater than the weakened viscus is able to withstand, which, in consequence, is thereby liable to have inflammation with its consequences superinduced.

Health being restored by the change to Europe, an event, in cases of such severity, often uncertain and always tedious, the individual (if a soldier) should be recommended to volunteer into a corps serving in another hemisphere, an advice which few who have once suffered from the diseases of India would reject.

By carefully watching the state of health, however, of Europeans, and sending them from time to time to the salubrious region of the Hills, before the climate of the low country has laid too great a hold, much may be done to obviate such

serious result, and to enable the individual to protract his stay in India, with a tolerable share of health, for many years.

2d, To the restoration of health in all cases of pure debility, as, for example, of great loss of blood, so frequently indispensable for the removal of the more common diseases of the country, this climate is particularly propitious.

3d, It is likewise so in bowel complaints unconnected with serious visceral disease, occurring more frequently to them, *a priori* might be expected.

4th. For the removal of obstinate remittent and intermittent fever, it is said to be less so; but these are frequently associated with serious disease of the liver or spleen, very often excited by it, when, of course, such an unfavourable result may be apprehended; but where the symptoms are kept up merely from habit, a very usual occurrence, a more favourable conclusion may be predicted.

5th, In rheumatism, whether acute or chronic, and from whatever cause, as from syphilis, mercury, &c. the climate of the low country, more especially the equal and comparatively moderate temperature of the sea-coast, will be found more congenial; but this, in India, is a disease as common as it is often intractable, and in soldiers of long residence but too often bids defiance to both climate and treatment.

6th, In organic disease of the lungs, or a tendency to it, the rarefaction of the atmosphere of the Neilgherries, occasioning laborious breathing even in the healthy, together with the occasionally reduced state of the temperature, forbids the climate being, in such cases, recommended.

The degree of permanency of the recoveries will be more clearly and faithfully deduced by a reference to the accompanying return and report, to the conclusion from which, I venture to add that, where the patient is allowed to remain at the Hills for some months after the disappearance of all symptoms of the disease for which he was sent there (and he ought always to do so), I can see no reason why the restoration should not be equally perfect and permanent, as if effected in another hemisphere.

I have, &c.

(signed) F. Wrachan, M. D.,
Inspector His Majesty's Forces.

EXTRACT Military Letter to Fort St. George; dated 6 March 1834 (No. 15).

EXTRACT Letter, dated 1st March 1833, No. 9.

5. Refer to letter of 23d October last, No. 32, for the information required by Court relative to the Neilgherries, and transmit a list of the public officers stationed there, with their salaries and allowances, and a report by the Medical Board on the advantages derived by European invalids from a residence on the Hills.

And paras. 20 and 21 of letter, 24th May 1833, No. 13, forwarding a report from the Inspector of His Majesty's Hospitals, on the benefits derived by invalids of His Majesty's service who have resided there, with four statements, showing the several establishments kept up on the Hills.

advantages which it offers to the re-establishment of the health of the officers and soldiers serving under your Presidency.

EXTRACT Military Letter from Madras; dated 13 June 1834 (No. 7).

Para. 29. WITH reference to the 5th para. of our despatch, No. 9, dated the 1st March 1833, we have the honour to transmit copy of a letter from the Medical Board, with an annual report relative to the permanency of the benefit derived by European soldiers and public officers who have resorted to the Neilgherry Hills for the benefit of their health, from the 1st of October 1832 to the 31st of December last.

ANNUAL REPORT on the Neilgherries, by Dr. Baikie.

HAVING had an opportunity of visiting in a cursory manner some of the more distant parts of the Hills, I shall commence with a few remarks on their statistics. Next to the relative elevation of the Neilgherries, one of their most remarkable features, and one which undoubtedly exercises a vast influence on the climate, is their perfect isolation.

Placed at the south extremity of the great table land of the Mysore and Dekkhan, they rise abruptly from the surrounding plains in one vast unbroken mass, to the height of from 3,500 to 6,000 feet. To Mysore they are joined by a narrow neck of land (between the Karkoor Pass and Valley of Danackeneottah) about 18 miles across, and the table land of Mysore, being itself elevated 2,200 or 2,300 feet above the level of the sea. Their relative ascent from the plains on this side, though equally abrupt, is less striking than on the N. W. and E. sides, where they spring from the level plains of Malabar and Coimbatore. Between them and the termination of the E. and W. ghats is found a deep gap, at least 20 miles wide, and the great valley of Paulyhât is interposed between them and the commencement of the Anemaller or Pynee Hills and the south.

The advantage of this position is, that they remain uninfluenced by almost all the disturbing causes which affect and deteriorate the climate of subordinate mountain ranges attached to or leaning against others higher than themselves, and which subject them to sudden alterations of temperature, to violent gusts of wind, storms of rain, and various electrical phenomena.

The next peculiarity deserving of notice is their position at the verge of two monsoons, and which, though attended with the inconvenience of a double monsoon, doubtless has a powerful effect on the equability of temperature.

The extent of the Hills may be taken in round numbers at from 600 to 700 square miles. The outline of the group is a parallelogram, the longest diameter being from E. N. E. to W. S. W. a distance of 40 miles. The table land included by this boundary line is naturally divided into three distinct groups or clusters of hills, differing considerably from each other in external features, though all equally remote from the usual characteristics of tropical countries. The group to the west, known by the name of the Koondahs, rises with great abruptness out of Malabar. The whole face of the Hills on that side being a continuous line of precipices, scarped perpendicularly in many places to the enormous height of 500 or 600 feet, and presenting some of the most sublime and magnificent scenery to be found in the world. Only a single accessible point is found on the whole W. face, that over which the proposed Koondah road passes.

The main body of the group is divided into two unequal portions by the Bowany river, which, rising at the base of Kindiakad (the highest summit), cuts its way through the mass of hills opposed to it, and after forming one or two magnificent cascades, descends through a deep and savage-looking ravine, abounding in picturesque scenery, into the jungle surrounding the N. W. angle of the Hills, and making an abrupt turn to the E., pursues its serpentine course through the plains of Coimbatore. The character of the scenery on the right and left banks of the river is essentially different; on the right bank, following the course of the new road, it is made up of a series of rounded hills, like teacups reversed, with abrupt sides, and scarcely covered with soil. On the opposite bank, the hills run out into long ridges, divided from each other by winding vallies, filled with rich forest wood, and exhibiting a succession of the most beautiful views, closely resembling what is generally known as park scenery in Europe.

The soil, particularly in the hollows and bottoms, is of the richest description, being a sort of black loam; and though in general swampy, could be easily drained, and converted into meadow, pasture or arable land of the best quality.

The general level of the table land of the Koondahs, by my measurement, is 7,630; its highest point, Kindiakad, reaches 8,570. The second and most important division of the Hills is situated between the other two, and is principally occupied by the mountain of Dodabet, the highest of the range; and the highest yet measured, south of the Himalayer, being 8,720 feet above the level of the sea. The mountain, as seen from a distance, has the form of a pyramid, with a very extended base, in the direction of N. N. W. to S. S. E., parallel to the general direction of the other parts of the group, and in fact of all the great ranges in Southern India.

The external character of this division of the Hills differs considerably from that of the last mentioned. The Hills are more rounded, further apart, and less wooded. The soil is equally rich, and is cultivated to a considerable extent on the southern side; the two great passes which give access to the table land ascend in this division, one at the N. W. angle, called the Goodaloor Pass, the other at the S. E., known as the Coonoor Pass. Directly at the base of Dodabet, on its W. side, and occupying a basin formed by two projecting spurs on the north and south, is situated the cantonment of Ootacamund; and though chosen almost entirely by accident, could scarcely have been better selected. From its central position, it is free from the operation of all causes extraneous to the Hills; its elevation, 7,420 feet, gives it quite an European climate, and it is at the same time perfectly accessible, and well supplied with wood, water and all other necessities. It contains about 70 habitable houses of various sizes, situated on a number of small hills, which renders the intermediate distances very considerable.

The intervals between the hills are occupied by swamps of various sizes, percolated by streams of pure wholesome water; nothing like miasm or deleterious exhalation proceeds from any of them.

The remaining division of the Hills is formed by the table land about Kotagerry. Its general elevation is about 1,000 feet below that of Ootacamund, and the climate is consequently milder; it is also comparatively free from the influence of the S. W. monsoon, from which it is sheltered by Dodabet. The country in this quarter is barer and less wooded than the other divisions, but abounds in shrubs and underwood; it is intersected by several deep vallies debouching in the low country. The most remarkable of them is known by the name of Orange Valley, the general level of which is 1,500 feet below that of Kotagerry, and nearly 2,000 below Ootacamund; from which circumstance, added to its being shut in by hills, its temperature is high, and the productions hold an intermediate place between those of the low country and the upper part of the Hills. The soil on the whole of this division is exceedingly good, and nearly covered with cultivation.

The geological formation of the whole group is essentially primitive, the base being sieniti, and abounds in iron, chalybeate springs being numerous. I am not aware that traces of any other metal have been observed. Gold is found in minute quantities among the detritus on the W. side of the range. Graphiti exists in small quantities, but impure. Latenti is found in considerable quantity, and will doubtless prove very useful in building.

The soil varies considerably, both as to depth and quality; in the bottoms it is peculiarly rich, and is shown by the strength of the vegetation when not retarded by the frost. On the slopes of the Hills it is more scanty, but still quite sufficient to afford good crops.

The vegetable productions of the Hills have not yet been examined with the attention they merit. A missionary named Schmid, has made a considerable collection of plants, most of which he considers new, and extending to 600 or 700 species. The gradations of character in the vegetation are peculiarly striking from tropical to alpine, in ascending the various ghâts. A great variety of fine forest trees abound in all parts of the Hills. The only species which have as yet been employed for building and similar purposes, are the chumepuree, a whitish-blue wood, very hard and durable; the billoo, of a red colour, and very heavy; and the darchenee, which is soft, but durable and easily seasoned, and furnishes beams of almost any size. Teak and blackwood of good quality, but not plenty, are found on the ghâts. The camphor tree is met with in the Orange Valley, and the Camellia Japonica abounds near Coonoor, a fact of some importance, as indicating the fitness of the soil for the cultivation of the tea plant. Fruit trees thrive admirably, but the fruit does not ripen on the higher portions of the table land, owing probably to the absence of the sun in June, July and August. At Billycul, on the N. border of the Hills, very good peaches, plums and apples are produced, and there is no doubt would succeed at all places on the edge of the Hills.

Every description of European vegetable is produced in plenty, and in great perfection.

The principal article of cultivation among the natives, are barley of a coarse description; ragee, mustard, poppies, a species of millet; a small grain, growing on a red fleshy stalk, called kuree-mow, onions, garlick. Wheat is unknown to

to them, as were oats, until introduced by Colonel Crewe, at the Government farm.

The capabilities of the Hills.—This department embraces a wider field than could, with propriety, be introduced into a report like this. There is little doubt that every species of European production might be introduced with advantage; that hops might be grown and beer made, and that tea, coffee and many similar valuable productions would thrive with proper management, and with a proper selection of soil and exposure.

Of the zoology, I can say little beyond giving a mere catalogue of the names. It is my intention, at some future period, to make a collection of those peculiar to the Hills, or which are only rarely found elsewhere.

Of the large animals, the principal are the tiger occasionally, three having been killed within the last three years.

The cheeta, more common, and occasionally destructive; the gayal (vulgo bison) has been occasionally seen, and attains an immense size; the samber of elk (black rusa, cervus aristoletis of Cuvier); hares in great numbers; the wild hog; bears of a large black species; jackalls and wild dogs abound. The mongoose and martin, not common. The nuntjaek, vulgo the jungle sheep (this and the following are peculiar to the Hills, so far as I know); it is distinguished by the circumstance of the horns growing out of a bony projection of the skull, covered in the living animal with skin and hair; the flesh is delicious eating. The ibex (cupra Caucasica), or wild goat; this is also peculiar, and does not agree in all points with the description to be found in books of any of the ibex species; it is furnished with long triangular horns, bending backwards, and the males have a long blackish-brown beard; though sufficiently numerous, they are so shy as to be seldom met with.

Of birds, which are numerous, the following are the most remarkable:

The eagle, vulture; upwards of 20 species of hawks, some very beautiful; several species of owls, some very large; the blackbird of Europe, the woodcock, and snipe and quail; numerous woodpeckers, two kingfishers, several varieties of humming-birds.

No fish are found, with the exception of a very small species.

A few snakes are found, but none, so far as I can learn, venomous.

Insects are not numerous, and none of them destructive.

Climate.—I have little to add to the general account of the climate given in former reports.

The monsoon during last year was unusually protracted, and the N.E. monsoon, in particular, rather heavy. There were, however, frequent intervals of fine and extremely mild weather, and I should be inclined, upon the whole, to consider the season more natural than that of 1832.

The quantity of rain exceeded by 7.22 inches that which fell last year, being in all 43.41 inches. From comparing the fall during several successive seasons, the latter would appear to be near the average quantity. The mean height of the barometer at Ootacamund, on an average of 24 months in three years, is 23.018.

The average of the thermometer during the whole year, day and night, appears to be about 59.4, agreeing in a remarkable manner with the theoretical mean deduced from the elevation and mean temperature at the level of the sea in this latitude. The mean power of the sun's rays appears to be 15.84; the mean (annual) daily range of the thermometer 17.01.

The mean temperature of Kotagerry appears to be 62.4, almost precisely what may be deduced from the difference of elevation (100 feet in round numbers); the want of instruments precludes the obtaining of any other data for an account of the climate of Kotagerry or Coonoor.

The results of the practice in the cases of sick officers have been quite as satisfactory as in former years. The total number treated has been 65, of whom 36 have been sent back to their duty cured, three relieved, and eight have been sent to

sent back to Europe, their cases proving unmanageable without the aid of a sea voyage. Of these, two were officers suffering from the effects of wounds in the head (No. 8 and 9 in the nominal roll), one of them, moreover, being an officer of 25 years' standing. No. 4 in the roll had already been once in Europe and once at the Cape for the alleviation of the same complaint. No. 15 in the roll had suffered for many years from derangement of the hepatic organs. No. 28 only remained a few days on the Hills, and was sent to sea labouring under a complication of syphilis, mercurial sores and dysentery. No. 32 was a case of dysentery complicated with disease of the liver, and from the first unfitted for treatment in this climate. No. 38 has retired from the service, and 47 suffered from an affection of the spine, from which his recovery in any climate is doubtful.

Of the 15 remaining, only one case is doubtful (No. 59); the rest are convalescent, or rapidly progressing towards recovery.

Of ten officers of His Majesty's service treated, eight have been returned to their corps cured, one relieved, and one remains.

I am enabled also to state, that of the officers, both in this and former years, who have been returned to their duty cured, very few instances of relapse have occurred, and that, in general, the permanency of the cure is quite equal to what might have been expected from a return to Europe.

Of the mode of treatment pursued, I have little to add to the somewhat detailed statement contained in last year's report. As my confidence in the sanative powers of the climate increases, I am daily in the habit of using less and less medicine, and trusting more to the slow operation of pure air, exercise and regimen.

The result of our treatment of the complaints incident to females and children, as exemplified in the cases of officers' ladies and their families, has been equally satisfactory.

The return of Bombay officers, for which I am indebted to Dr. Glen, presents an aggregate of 30, of whom 15 have been cured, and the majority of the remainder remain in a state of convalescence.

Kotagherry.—Increasing experience adds to my confidence in the opinion expressed in my former report of the efficiency of this climate in cases which would prove unmanageable at Ootacamund. Nos. 17, 18, 19, 21, 22, 42, 44, 45, 53 and 58, resided principally at Kotagherry, and recovered there without difficulty, though relapsing immediately on being transferred to Ootacamund. This is evidently not entirely to be attributed to the difference of temperature, though the greater equability of that of Kotagherry must exercise some influence in complaints depending on the sympathy between the skin and the liver. Further acquaintance with the climate may perhaps enable us to detect this cause; meantime the fact is sufficient for all practical purposes.

Convalescent Dépôt.—Of the cases marked improved, but not cured, the majority, as usual, are sufferers from hepatic disease and dysentery. Of those remaining, four are hopeless, and were so from the first. The disproportion of soldiers of His Majesty's service cured is very striking, 21 out of 23 being marked cured, owing principally to the cases having been better selected, and sent to the Hills at an earlier stage of the complaint. The only casualty which occurred took place within less than a month of the man's arrival.

Not having been personally in charge of the Dépôt till the close of the year, I have nothing to offer as to the details of the cases treated.

(signed) *R. Baillie, M.D.,*
Senior Medical Officer, Neilgherries.

Ootacamund, 8 January 1834.

To the Right honourable Sir *Frederick Adam*, Governor in Council, &c. &c. &c.,
Fort St. George.

Sir,

In reference to an extract of a general letter from the Honourable the Court of Directors in the Military Department, dated 28th March, No. 21, of 1832, transmitted with the Acting Chief Secretary's letter, dated 11th September 1832, we have the honour to submit the Annual Report as to the permanency of the benefit derived by European soldiers and public officers who have resorted to the Neilgherries for the recovery of their health, from the 1st October 1832 to the 31st December 1833.

2. The period embraced in this Report is too limited to require any lengthened detail, the additional experience of the time which has elapsed since that of our Report dated the 24th December 1832, being corroboratory of the statements and opinions therein given.

3. The benefit by the European soldiers has borne no proportion to what has been experienced by civil and military officers, which is to be ascribed, in part, to the latter class of patients resorting to the Hills before organic disease has supervened, and when their strength is yet sufficiently unimpaired to resist the effects of the sudden change of climate, while considerable difficulty has been experienced in avoiding sending from distant stations European soldiers in whom disease has made considerable advances, the length of the journey deterring medical men from recommending the change to any but those whose cases they have found to resist every means of cure, and in part to the attention to diet, clothing and temperance observed by the former class of patients, and which it is difficult to enforce with regard to the latter when out of hospital.

4. The following abstract statements will show the number admitted into the Convalescent Dépôt Hospital, and the success attending their treatment, with the subsequent history of the men of the Honourable Company's troops who were discharged during the time embraced in this Report:—

Convalescent Dépôt on the Neilgherry Hills.

RETURN of European Soldiers of His Majesty's Service, from 1 November 1832 to 31 December 1833.

DISEASES.	Remained 1 November 1832.	Admitted from 1 November 1832 to 31 December 1833.	TOTAL.	DISCHARGED.				Died.	Remaining 1 January 1834.
				Cured.	Improved, but not Cured.	As Incurable on the Neilgherries.	TOTAL.		
Catarrh - - -	1	- - -	1	1	- - -	- - -	1	-	-
Cephalalgia - -	1	- - -	1	1	- - -	- - -	1	-	-
Diarrhœa - - -	4	- - -	4	3	1	- - -	4	-	-
Dysentery - - -	4	- - -	4	2	2	- - -	4	-	-
Fever, Remittent -	2	- - -	2	2	- - -	- - -	2	-	-
Hepatic Disease -	3	- - -	3	2	1	- - -	3	-	-
Rheumatism - - -	1	- - -	1	1	- - -	- - -	1	-	-
Syphilis - - -	- - -	1	1	- - -	- - -	- - -	- - -	-	1
Tetanus - - -	- - -	1	1	- - -	- - -	- - -	- - -	-	1
TOTAL - - -	16	2	18	12	4	- - -	16	-	2

RETURN of European Soldiers of the Honourable Company's Service, from 1 November 1832 to 31 December 1833.

DISEASES.	Remained 1 November 1832.	Admitted from 1 November 1832 to 31 December 1833.	TOTAL.	DISCHARGED.				Died.	Remaining 1 January 1834.
				Cured.	Improved, but not Cured.	As Incurable on the Neilgherries.	TOTAL.		
Asthma - - -	- - -	1	1	- -	1	- -	1	-	-
Dropsy - - -	1	1	2	2	- -	- -	2	-	-
Dysentery - - -	2	3	5	2	2	- -	4	1	-
Hepatic Disease - - -	2	4	6	3	2	- -	5	-	1
Indigestion - - -	2	- -	2	2	- -	- -	2	-	-
Insanity - - -	- - -	1	1	- -	1	- -	1	-	-
Inflammation, Abdominal.	1	- -	1	- -	1	- -	1	-	-
Ditto of Bladder - - -	1	- -	1	1	- -	- -	1	-	-
Paralysis - - -	- - -	2	2	- -	- -	- -	- -	-	2
Rheumatism - - -	1	1	2	1	1	- -	2	-	-
Sarcoma - - -	1	- -	1	1	- -	- -	1	-	-
Ulcers - - -	- - -	2	2	- -	- -	- -	- -	-	2
Wounds & Accidents	1	- -	1	1	- -	- -	1	-	-
TOTAL - - -	12	15	27	13	8	- -	21	1	5

Of nine men who were *en route* to join at the date of our last report, six have been permanently benefited, two have been invalided, and one died of cholera while on the march. Of 21 discharged during the last year, six have died; of these, three are from cholera on the march, two have been invalided, and five others joined their corps in indifferent health.

ABSTRACT RETURN of Sick Officers, Civil and Military, treated on the Neilgherries, from 1 October 1832 to 31 December 1833, showing the Permanence or otherwise of the Cure.

YEAR.	Remained 1 October 1832.	Admitted from 1 October 1832 to 31 December 1833.	TOTAL.	DISCHARGED.						Died.	Remaining 1 January 1834.	SUBSEQUENT HEALTH.						REMARKS.
				Cured.	Improved, but not Cured.	No better.	By transfer to another Surgeon.	On Sick Certificate to Europe.	TOTAL.			Permanently Cured.	Not permanently Cured.	Proceeded to Europe.	Died.	Invalided.	Pensioned.	
1832 and 1833 - -	19	54	73	43	7	7	-	-	57	-	16	36	5	12	1	1	-	{ - - The subsequent history of two officers, not belonging to this Presidency, is not known.
TOTAL - - -	19	54	73	43	7	7	-	-	57	-	16	36	5	12	1	1	-	
Officers of the Bombay Establishment 1832 and 1833 - - -	14	16	30	16	-	-	-	-	16	-	14	-	-	-	-	-	-	{ - - Seven of these, remaining at the date of the last return, are not accounted for in that now furnished by the Officer of the Bombay Establishment on the Hills.
TOTAL - - -	14	16	30	16	-	-	-	-	16	-	14	-	-	-	-	-	-	
GENERAL TOTAL - -	33	70	103	59	7	7	-	-	73	-	30	-	-	-	-	-	-	

5. The

5. The salutary effect of the climate of the Neilgherries is clearly shown by the abstract return of the civil and military officers who have visited the Neilgherries for the benefit of their health, and we believe, notwithstanding that the permanence of the benefit, as ascertained by our inquiries, is less than represented in the enclosed valuable Report of the Senior Medical Officer on the Hills, it is as great as can be expected from any temporary measure, however salutary; and we are of opinion, that the facility of access to the Hills by officers, who would, from various causes, be necessitated to defer a change beyond sea till their health had become permanently impaired, has been of essential benefit to the servants of this Government, and has been of great public advantage, by preserving the efficiency of valuable public servants.

We have, &c.

(signed) *M. Davis,*
First Member,
J. Hay,
Second Member,
J. Annesley,
Third Member, } Medical Board.

Fort St. George, Medical Board Office,
15 May 1834.

EXTRACT Military Letter to Fort St. George; dated 13 May 1835 (No. 34).

Letter from, dated 13th June 1834, No. 7.

11. THIS report is satisfactory. 29. With reference to para. 5 of letter 1st March 1833, forward an annual report relative to the permanency of benefit derived by parties resorting to the Neilgherries for their health, from 1st October 1832 to 31st December last.

EXTRACT Military Letter from Madras; dated 17 November 1835 (No. 54).

14. WITH reference to the 29th para. of our despatch, No. 7, dated the 13th June 1834, we have the honour to transmit copy of a letter from the Medical Board, with an Annual Report relative to the permanency of the benefit derived by European soldiers and public officers who have resorted to the Neilgherry Hills for the benefit of their health during the last year.

(No. 136.)

To the Right honourable Sir *Frederick Adam*, Governor in Council, &c. &c. &c.,
Fort St. George.

Sir,

WITH reference to extract of a general letter from the Honourable Court of Directors in the Military Department, No. 21, dated the 28th March 1832, received with the Acting Chief Secretary's letter dated 11 September 1832, we have the honour to submit the Annual Report on the benefit derived by public officers and European soldiers who have resorted to the Neilgherries for the recovery of their health during the year 1834.

2. The reports furnished to us by Assistant-surgeons Birch and Macdougall relative to Ootacamund, and by Assistant-surgeon Eaton regarding Kotagherry, 729. o 3 from

* Extract from the Minutes of Consultation, dated 4 July 1834.

from 1st January to the beginning of August, at which time he was removed,* and an apothecary appointed, represent the climate as proving extremely beneficial to the officers who have been under their care during the period embraced in this Report, and accord with the observations submitted to Government in our former Reports. The permanency of this benefit in those who have left the Hills, however, can only be ascertained after the lapse of a longer period than has expired since the formation of the statements submitted in our letters, No. 190 and 74, dated 24 December 1832 and 15 May 1834 respectively, but we have no reason to think that the statement of this kind, embracing the experience of several years, which we shall submit on a future occasion, will materially differ from them.

3. The following extract from Assistant-surgeon Macdougall's Report states, that the N. and N. E. winds, which prevail during the cold months of December, January and February, prove very trying to the more delicate invalids; and that, during the monsoon, which commences early in June, and continues to the end of September, the wet weather acts injuriously by retarding convalescence, and requires great attention to prevent its inducing congestions of the large viscera, especially in those suffering from rheumatism, disease of the liver and bowel complaints.

The climate of Ootacamund is, from its greater elevation, colder and more bracing than that of Kotagherry or Coonoor (the other two stations), and possesses other advantages as regards houses, and facilities in procuring supplies from the bazaar, which may here vie with most I have seen in India. The houses, in number about 80, of various sizes, are scattered over all parts of the cantonment, without reference to any fixed plan, and, from peculiarity of taste, sites in many instances have been selected of the most difficult approach. There are four public quarters, two for married officers and two for bachelors. The sites of two of these have been badly chosen, being perched on the summits of hills or ridges, exposed to the full influence of the S. W. monsoon, and their internal arrangement bad. They are seldom occupied now, some enterprising individuals having lately erected a number of small detached bungalows, which are preferred, although at a very great pecuniary sacrifice. The seasons are two, viz., the dry, and the wet or monsoon season. The former commences towards the close of November, and continues with the exception of a few showers in April and May uninterruptedly dry till June; during the whole of this time the sky is uniformly clear and serene, and the air remarkably dry. In the months of December, January and February the nights are exceedingly cold, and in the vallies and marshes ice is frequently formed to the thickness of half an inch, and the elevated ground intervening is often covered with hoar-frost. The air in the mornings and evenings is exceedingly sharp. The sun is nevertheless very powerful throughout the day; during this period the winds generally blow in strong gusts from E. or E. N. E., and prove very trying to the more delicate description of invalids. The mean average range of the thermometer during these three months of last year, kept in an open verandah fronting the N. E., placed one foot and a half from the ground, taken at three periods of the day, was 53·2. In March the air at these periods becomes considerably milder; in April and May still more so, and those invalids who were precluded by cold of the preceding months from indulging in a morning ride, can venture out with impunity. This is the season invalids ought to select when a choice exists, for their arrival on the Neilgherries. The transition will be less felt, and they will acquire some strength, and become settled, and in some degree familiarized to the climate before the wet season commences. The mean average temperature of those three months was 59·4, prevailing winds N. E., S. E., E. and S. W. Throughout the dry season most cases progress favourably: about the end of May dense clouds are seen collecting over the Koondahs and Dodabetta, and occasionally heavy showers of rain and hail fall, with vivid flashes of lightning and thunder; these are the certain precursors of the approach of the S. W. monsoon, which generally sets in in the first week in June, and continues with occasional blinks of sunshine to drizzle on till the end of September, generally attended by a dense fog. The appearance of Ootacamund at this season is gloomy and dismal in the extreme, and most invalids suffered from the effects of continued wet, alike precluding necessary exercise and amusement of every description

description in the open air, whereby recovery is often retarded, and relapses not unfrequently produced, especially among those suffering from rheumatic, hepatic and bowel complaints, and congestion of the large viscera not unfrequently arises suddenly, particularly in the liver, in those enjoying even the best health.

Those circumstances point out Kotagherry as the most eligible place for invalids arriving at the Hills during those periods, at least for some time after their arrival on the Hills; particularly if they have been long in India, or have a tendency to any congestive complaint.

4. They also assist in explaining the fact of the benefit derived by European soldiers sent to the Hills on account of their health, bearing no proportion to what has been experienced by Civil and Military Officers; organic disease, or a tendency to it, having been already formed in too many of that class previous to the change having been tried.

5. The following abstract statement will show the result of treatment of the men who remained in the Convalescent Depôt on the 1st January 1834, and who have been since admitted, together with the subsequent history of those belonging to the Honourable Company's troops who were discharged on the abolition of that institution by order of Government, dated 4 July 1834. It is obvious that no positive inference can be drawn from this part of the statement, as the whole of these were aggravated cases of disease, for the cure of which every other means available in this country had been tried in vain, and their discharge from the depôt did not take place because they were considered to be incurable on the Hills.

RETURN of European Soldiers of the Honourable Company's Service.

	Remained 1 January 1834.	Admitted in 1834.	TOTAL.	Discharged previous to the Abolition of the Depôt.				Discharged on the Abolition of the Depôt.				GENERAL TOTAL Discharged.	Rejoined.			State of Health subsequently.					
				Cured.	Improved, but not Cured.	No better.	TOTAL.	Cured.	Improved; but not Cured.	No better.	TOTAL.		In good Health.	In improved Health.	In bad Health.	Permanently Cured.	Improved.	No permanent Benefit.	Invalided and Pensioned.	Died.	
Hepatic Disease	-	1	1	-	-	-	-	-	1	-	1	1	-	-	1	-	-	-	1	-	
Indigestion	-	1	2	3	-	-	1	1	-	2	-	2	3	-	-	3	-	-	-	3	-
Paralysis	-	2	1	3	-	-	2	2	-	1	-	1	3	-	-	3	-	-	-	3	-
Rheumatism	-	-	2	2	-	-	-	-	1	1	2	2	-	-	2	-	-	-	2	-	
Ulcers	-	2	-	2	-	-	1	1	-	1	-	1	2	-	1	1	-	1	-	-	-
TOTAL	-	5	6	11	-	-	4	4	-	6	1	7	11	-	1	10	-	1	-	9	-

RETURN of European Soldiers of His Majesty's Service.

	Remained 1 January 1834.	Admitted in 1834.	Total.	Discharged previous to the Abolition of the Depôt.				Discharged on the Abolition of the Depôt.				General Total Discharged.	Died on the Neilgherries.	REMARKS.
				Cured.	Improved, but not Cured.	No better.	Total.	Cured.	Improved, but not Cured.	No better.	Total.			
Fever, Continued	-	-	1	1	-	-	-	-	1	-	1	1	-	
Heptic Disease	-	-	2	2	-	-	-	-	2	-	2	2	-	
Rheumatism	-	-	2	2	-	-	-	-	-	1	1	1	1	
Sarcoma	-	-	1	1	-	-	-	-	1	-	1	1	-	
Syphilis	-	-	1	1	1	-	1	-	-	-	-	1	-	
Tetanus	-	-	1	1	-	-	1	-	-	-	-	1	-	
Ulcers	-	-	3	3	-	-	-	2	1	-	3	3	-	
TOTAL	2	9	11	1	-	1	2	2	5	1	8	10	1	

6. We subjoin an extract from Assistant Surgeon Eaton's Report on the climate of Kotagherry:—

"Kotagherry is situated 6,571 feet above the level of the sea, and 900 feet lower than Ootacamund, from which place it is distant about 16 miles in an easterly direction; its climate is milder by about four degrees than Ootacamund, and the seasons at the two situations vary considerably; the former, from its easterly position on the range, being more exposed to the N. E. moonsoon, whilst at the latter the S. W. is most felt. The station consists of eleven or twelve houses, besides the public quarters at Dimhutti, appropriated to the use of sick officers, and sufficient for the accommodation of five or six. They are situated in a hollow 200 feet below Kotagherry, sheltered from the high winds which at times prevail, and the thermometer I should think generally stands from two to three degrees higher in them than in the other bungalows, which are built on eminences, and are a good deal exposed.

"The milder climate of this station, in my opinion, points it out as the most eligible place for invalids to fix their residence, at least for a time after their arrival on the Hills, particularly if they have been a long time in India, or have a tendency to any congestive complaint, as, in some instances, the change at once from the low country to Ootacamund is too great, and in such cases I have often observed the best effects to result from a removal to this place; but the scarcity of comfortable houses, and the want of good bazaars, it is to be regretted often prevent people availing themselves of this advantage. During the prevalence of the S. W. monsoon at Ootacamund, recovery in some cases is not unfrequently considerably retarded by the damp foggy weather which prevents invalids taking exercise. At that season this place affords a desirable change, as much less inconvenience is generally felt from it here.

"The weather during the early part of this year was much the same as is generally experienced at that season in the months of January and February; the days were almost invariably fine and cloudless, with a clear bracing atmosphere; the monthly mean of the thermometer at 10 o'clock in the shade about 59°, and occasionally followed at night by a reduction sufficiently great to produce ice in situations favourable to its formation. In March, April, May, and the beginning of June, the temperature was considerably higher, but on no occasion have I observed the thermometer above 74°, and but seldom has it risen so high as that;

that; the monthly mean at 10 A.M. being 70°. About the end of June or the beginning of July the S. W. monsoon appeared to commence, and till this time, with occasional intermissions, it has continued with more than usual severity."

We have, &c.

(signed) T. H. Davies,
First Member,
J. Hay,
Second Member,
J. Annesley,
Third Member, } Medical Board.

Fort St. George, Medical Board Office,
27 August 1835.

EXTRACT Military Letter from Madras; dated 6 March 1835 (No. 11).

2. WE have the honour to report, that Sir Frederick Adam recorded a Minute, proposing the abolition of the Convalescent Depôt on the Neilgherries, and that as the benefits of this establishment were by no means commensurate to the expense attending it, we directed that it be discontinued, and also the establishment connected with the Lock Hospital, for which there would be no longer any occasion.

MINUTE by the Right Honourable the Governor,

HAVING recently under my consideration a statement of the charges of the different establishments on the Neilgherries, my attention was attracted to the large monthly current expenses of the European Convalescent Depôt, in which there are only 16 patients, and in April last the expenses were Rs. 413. 9. 10.. exclusive of the outlay for the hospital itself, its repairs, and any other charge not included in the monthly disbursements of the local pay and Commissariat Department.

For some time past very few patients have been sent to the Convalescent Depôt, and the Annual Reports of the Medical

Board upon the medical establishments on the Neilgherry Hills, for the last two years, to which I beg to refer, show that the benefit which has actually resulted from the Convalescent Depôt has fallen far short of what was expected to be derived at the time it was instituted.

I am fully satisfied that the benefits of this establishment are in no way commensurate to the expense attending it, and that it may be discontinued without any inconvenience of consequence. I propose, therefore, that it be abolished, and the proper department directed to take the necessary steps for disposing of the patients now at the Convalescent Depôt, and the establishments connected with it to be discharged when the arrangements for removing the patients have been completed.

The abolition of the Convalescent Depôt at Ootacamund, in which, for some time past, there have been but few patients, will not effect any important diminution of the personal exertion required from the medical officers in performing the duties of the station; and, considering the extent of space over which the houses are dispersed, and the impediments to quick movement occasioned by the hilly nature of the surface, it seems evident that the whole medical duties cannot be efficiently performed by one officer, as long as the number of persons requiring attendance continues as great as it has been for a considerable time, and is at present. Two medical officers, however, would appear to be quite sufficient.

April 1834:			
Staff batta to Commanding Officer	-	-	Rs. 62 - -
Stationery allowance to ditto	-	-	30 - -
Hospital Serjeant's pay	-	-	24 1 -
Staff pay and house-rent to ditto	-	-	21 - -
Pay as Librarian	-	-	5 - -
Commissariat servants for ditto	-	-	121 - -
Hospital diet	-	-	Rs. 164 14 11
Wine and European articles	-	-	46 4 4
		211 3 3	
Stoppages from Soldiers	-	69 9 1	141 10 2
Country medicines	-	-	8 14 8
		16)	413 9 10
Each man per month, exclusive of pay	-	-	25 13 7
			12
Expense per man for one year	-	-	Rs. 313 3 -

There being, in general, but few residents at Kotagherry, an intelligent and experienced warrant officer of the rank of Apothecary would probably be found adequate to the satisfactory discharge of the ordinary medical duties of that place. The medical officers at Ootacamund would, of course, communicate to him general directions for the management of cases transferred by them, and it should be considered the duty of the senior to visit Kotagherry, whenever the occurrence of serious or difficult cases might render his presence necessary, for the purpose of personally giving his advice and instructions to the Apothecary. To meet the expense attendant on the performance of this duty, it will be necessary to grant a palankeen allowance to the person on whom it might be imposed.

Dr. Baikie, the senior medical officer of the Neilgherry Hills, is now senior Assistant Surgeon on the establishment, and upon promotion to Surgeon, must vacate his appointment at Ootacamund. When this takes place, I propose that the Assistant Surgeon stationed at Kotagherry be removed to Ootacamund, and the services of the Apothecary now at the Convalescent Depôt will, by that time, be available for the medical duties at Kotagherry.

Present :		This arrangement will cause a considerable
Senior Medical Officer at Ootacamund, per mensem	Rs. 400	reduction in the expenses, as shown in the
Junior ditto - - - ditto - - - ditto -	250	margin, giving a monthly reduction of
Assistant-surgeon, Kotagherry - - - -	250	330 rupees.
	Rs. 900	
Proposed :		When the Convalescent Depôt is abolished,
Staff pay - - - - -	Rs. 250	there will be little occasion for the Lock Hos-
Palanquin - - - - -	70	pital, which was at first established experi-
	320	mentally at Ootacamund, and in which there
Staff pay to Junior Assistant - - - -	250	have been but few patients during the greater
	Rs. 570	part of last year. I propose that it be dis-
		continued also, and the house made use of as

a common hospital for any occasional cases requiring medical treatment, for which purpose it is conveniently situated, being near the dispensary, and well sheltered, and having drinking water in the vicinity.

When the arrangements for the final disposal of the patients in the Convalescent Depôt have been made, two Assistant Apothecaries, two leechmen and one cooly attached to the dispensary, together with a toty for the common hospital, will be sufficient for the duties on the Neilgherry Hills, and all in excess may then be removed.

Ootacamund, 23 June 1834.

(signed) Frederick Adam.

EXTRACT from the Minutes of Consultation, 4 July 1834.

THE following Minute by the Right honourable the Governor, is ordered to be recorded :—

(Here enter 23 June 1834.)

For some time past very few patients have been sent to the Convalescent Depôt, and the Annual Reports of the Medical Board upon the medical establishments on the Neilgherry Hills for the two last years, show that the benefit which has actually resulted from the depôt, has fallen far short of what was expected to be derived at the time it was instituted.

The Governor-in-Council is satisfied that the benefits of this establishment are in no way commensurate to the expense attending it, and that it may be discontinued without any inconvenience of consequence.

Resolved, therefore, that the depôt be abolished, and the proper departments directed to take the necessary steps for disposing of the patients now there, and the establishments connected with it be discharged when the arrangements for removing the patients have been completed.

The abolition of the Convalescent Depôt at Ootacamund, in which for some time past there have been but few patients, will not effect any important diminution of the personal exertion required from the medical officers in performing the duties of the station ; and, considering the extent of space over which the houses are dispersed, and the impediments to quick movement occasioned by the hilly nature of the surface, it seems evident that the whole medical duties cannot be efficiently

efficiently performed by one officer, as long as the number of persons requiring attendance continues as great as it has been for a considerable time, and is at present : two medical officers, however, would appear to be quite sufficient.

There being in general but few residents at Kotagherry, an intelligent and experienced warrant officer of the rank of Apothecary would probably be found adequate to the satisfactory discharge of the ordinary medical duties of that place. The medical officers at Ootacamund would, of course, communicate to him general directions for the management of cases transferred by them, and it should be considered the duty of the senior to visit Kotagherry, whenever the occurrence of serious or difficult cases might render his presence necessary, for the purpose of personally giving his advice and instructions to the Apothecary. To meet the expense attendant on the performance of this duty, palanquin allowance will be authorized to the person on whom it may be imposed.

Dr. Baikie, the senior medical officer on the Neilgherry Hills, is now Senior Assistant Surgeon on the establishment, and upon promotion to Surgeon must vacate his appointment at Ootacamund. When this takes place, the Assistant Surgeon stationed at Kotagherry will be removed to Ootacamund, and the services of the Apothecary now at the Convalescent Depôt will by that time be available for the medical duties at Kotagherry.

When these arrangements are effected, there will be little occasion for the Lock Hospital, which was first established experimentally at Ootacamund, and in which there have been but few patients during the greater part of last year ; it will therefore be discontinued also, and the house made use of as a common hospital for any occasional cases requiring medical treatment, for which purpose it is conveniently situated, being near the dispensary, and well sheltered, and having drinking water in the vicinity.

When the arrangements for the final disposal of the patients in the Convalescent Depôt have been made, two Assistant Apothecaries, two leechmen and one Cooly attached to the dispensary, together with a toty for the common hospital, will be sufficient for the duties on the Neilgherry Hills, and all in excess may then be removed.

Resolved, that his Excellency the Commander-in-Chief be requested to issue such subsidiary instructions as are requisite for carrying the above arrangements into effect, with as much promptitude as circumstances will admit.

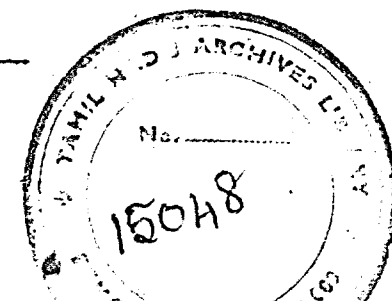
(A true extract.)

(signed) H. White,
Deputy Sec. to Government.

EXTRACT Military Letter to Madras ; dated 12 April 1836 (No. 26).

26. For the reasons which you have given, we approve of your resolution to abolish the Convalescent Depôt and the Lock Hospital at the Neilgherries, as well as your other proceedings adverted to in this letter.

Philip Melvill,
Sec. Mil. Dep't.



SANITARIUM, NEILGHERRIES.

COPIES of all PAPERS relative to the Formation of
a SANITARIUM on the *Neilgherries* for EUROPEAN
TROOPS.

(*Mr. Hume.*)

Ordered, by The House of Commons, to be Printed,
15 August 1850.

[*Price 1 s. 3 d.*]

729.

Under 20 oz

169
CUSTOMS AND POST OFFICE DUTIES (INDIA).

RETURN to an Order of the Honourable The House of Commons,
dated 10 February 1848;—*for*,

COPIES “of INSTRUCTIONS issued by Lord *William Bentinck*, Governor-
General of India, when at Madras in the Year 1834, to a Commission of
Civil Servants appointed by his Lordship to examine and report upon the
CUSTOMS and Post-Office Systems:”

“And, of the said Report.”

[*Note.*—This is not a complete Return.]

East India House, }
24 March 1848. }

JAMES C. MELVILL.

(*Mr. George Thompson.*)

Ordered, by The House of Commons, to be Printed,
28 March 1851.

L I S T.

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From H. Torrens, Esq., Officiating Secretary to Government, General Department, to J. H. Crawford, H. Babington, H. Borradaile and W. R. Young, Esquires, ordinary Members; G. J. Liddons, H. M. Parker and C. E. Trevelyan, Esquires, Honorary Members, Committee for revising the Customs and Post-Office Laws of the four Presidencies; dated the 1st April 1835.

Gentlemen,

1. YOU are convened in consequence of the record of a Minute by the late Governor-general, Lord William Bentinck, wherein he proposed to assemble a Committee composed of competent officers from the three Presidencies, for the purpose of effecting a revision of the laws regulating the export, import and transit duties of British India.

2. The formation of the Committee is now, save as regards the presence of the appointed Secretary, complete, and this deficiency not being of such importance as to oppose a serious impediment to its active operations, the Governor-general in council has directed me to convey to you in brief his sentiments as to the main points to which your attention in the prosecution of your labours is to be given.

3. The purpose of your formation is to improve the system of custom revenue throughout British India, so as to render it in the highest degree productive as a branch of revenue, with the least possible impediment, and the utmost practicable encouragement to the course of trade.

4. The object to which your attention, in the first instance, seems to be most urgently called, is a beneficial modification in the present system for collecting what is termed the transit duty, a name, be it observed, conventionally used, and not properly applicable to the impost levied in the Bengal and Agra Presidencies, whether it be applicable or not to the sayer or customs toll, as in force in that of Madras. In the Bengal and Agra Presidencies the tax so called is, in fact, a trade duty, the whole amount leviable on each parcel of commodities being made over to Government in one payment, either on its import, or on its first movement, which, when certified by a proper pass, entitles the merchant to remove his goods so franked from one extremity of either of these Presidencies to the farthest extremity of the other, without being liable to additional exactions. Although the rates are to come under your consideration for such modification as may seem desirable, it is not the amount of duty which is understood to constitute the real grievance of the system; its evil rests in the operation of the checks upon the evasion of duty which expose the honest trader to the constant wearisome process of the search, weighment and inspection of his goods, for the purpose of verifying the pass under which they travel, a process to which he may be subjected in every Customs division, and sometimes at the caprice of the lowest subordinates belonging to it. The expense even to the fair dealer hence incurred in bribes to the native Government Officers must be considerable, as well as in buying off informers, who live by fraud and false witness, accusing the honest merchant or aiding the smuggler, as they find it most conducive to their interests. The loss of time, which is to the merchant money, the consequent demurrage

demurrage incurred on hired conveyances, the detention from a favourable market, and the enhanced price necessarily put upon merchandize, in order to cover so much expense over cost price, and insure, besides, a fair rate of profit, must all tend to operate against the commercial prosperity of the country. It is to be feared that they impede the healthy action of trade, injure the capitalist, by inducing tardy returns on capital expended, divert commerce from its proper channels, and affect materially the mass of the population, as purchasers, by high prices. In return for these evils, the net profits purchased by them for the State are inadequate in comparison with the extent of the trade; and of the population over which the system prevails. For the native officers and their dependents, engrossing much of the honest earnings of the merchant, he, to trade with advantage, is driven into the commission of fraud by the operation of those very checks devised for its prevention; the establishment for Customs collections, though maintained at a great expense, and often under vigilant supervision, is yet insufficient to answer the end proposed, when contraband traders are enabled to lavish bribes on the under-paid Customs subordinates, a class proverbial for venality. The report prepared by Mr. Trevelyan under the orders of the Right honourable the late Governor-general, and the remarks of the Board of Customs of the Bengal Presidency on that Report, together with the letter accompanying those remarks, will furnish you with ample information regarding the Customs levied in the Bengal and Agra Presidencies. What has been partially described, being, in some degree, the acknowledged state of things in these Presidencies, it is supposed that the result may be even worse under the sayer or actual transit duty in the Madras Presidency. In Mysore the Customs chokes amount to 738, while in parts of the Madras Presidency these Customs stations occur at the rate of 24 @ four pergunnahs. And there the custom of farming out the sayer collections to private individuals is understood to be far from unfrequent. Your Committee have the means of knowing or ascertaining the state of the Bombay Presidency in this respect, and the effect of the revision which the subject has there undergone more recently than at the other Presidencies. The present system being comparatively unproductive to the State, oppressive and vexatious to merchants, and injurious to the people at large, you are called on to apply a remedy to these evils, in such manner as to procure the greatest sum of advantage to the community, without sacrificing the public resources. The remedy would be simple and easy if the Customs revenue could be dispensed with; but the revenue being necessary for the existence of our Government, your more difficult task will be to rid the collection of the revenue of its abuses, without throwing away the revenue, which cannot be spared, or to find a less objectionable substitute for whatever may be relinquished.

5. The system of town duties will be included in your investigation, as a branch of the Customs classed usually with the trade or transit duty, but differing from that impost, as being a mere local consumption tax, to which certain communities alone are liable; although less extensive, they are unavoidably vexatious, bearing indeed a peculiar character of injustice, from the arbitrary manner in which they have been fixed on some places, and not on others; in the Bengal and Agra Presidencies the town whereat a sudder custom-house is established, suffers the disadvantage of a separate consumption-tax, although larger towns of a more commercial character in its immediate vicinity may be free from all such impost: in walled cities, where a town duty is levied, and to which a large military cantonment is attached, the resident trader incurs a double hardship; for the merchants of the open cantonment can, in most instances, from the want of a sufficient preventive check, and by collusion with the native soldiery, smuggle in their goods, avoiding payment of the town duties, and thus afford to undersell the traders of the city. The collection of the town duty is commonly in the hands of farmers; in this case also the abolition of the duty would be an easy remedy, if the revenue could be spared; but the maintenance of the revenue with the correction of all evils, or the substitution of a system equally productive, and free from those evils, will constitute one of the difficulties which you will have to encounter, and which have led to the assembling of your Committee. I am desirous to caution you against exaggerated estimates of revenue to be derived from a change of system, and which are more easily imagined than realised. On the other hand, it may sometimes happen that an apparent loss of revenue would be no real loss, the expenses attending its collection being equal to the revenue itself.

6. One of the important questions for your consideration, therefore, is the method in which an amount of revenue, equal at least to that now collected under the general head of Customs, may be realised on an ameliorated principle; another important branch of your labours will be, a general revision of the tariff of the sea, as well as of the land Customs throughout India, with a view both to the encouragement of commerce and the increase of the revenue.

7. As regards the improvement of the Post-office department in all the Presidencies, the Honourable the Governor-general in Council directs me to refer you to Mr. Prinsep's letter of the 13th March 1835.

8. The question having been agitated as to the propriety of your committee being locomotive, I am directed by the Governor-general in Council to inform you, that the committee will not quit the seat of Supreme Government without special orders from the Council of India. In case of difficulty, however, in obtaining information, or your conceiving that any point calls for local inquiry, you may despatch one of your body for the purpose of conducting the necessary investigation, duly informing Government of the cause of his deputation, and the probable period of his absence, and obtaining its previous sanction to the measure.

9. You are hereby authorized to call on any of the officers of Government at any of the three Presidencies, through the medium of the secretaries of the departments to which they may belong, for copies of papers required by you, or for transmission of the said papers in original.

10. No distinction as to power of vote or authority in committee is recognised between the ordinary and honorary member of your body.

11. The Governor-general in Council considers it inexpedient to appoint any member of your committee to be permanent President. The senior servant present at your meetings will take the chair, and the senior of all will perform any acts which appertain to the office of President when there may be no meeting.

12. You are requested to forward, at the expiration of every month, a brief abstract of your proceedings, for the information of Government, to the secretary to the general department, the preparation of which abstract will, of course, commence from the date of your first proceedings in committee.

13. It will be advisable that you should communicate on all occasions unreservedly with any of the mercantile community from whom you conceive information may be derived. The Secretary of the Chamber of Commerce will be directed to apprise the members of the association that instructions to this effect have been issued to you.

14. The Governor-general in Council suggests the propriety of your appointing the junior salaried member of your committee to officiate as secretary until Mr. Taylor's arrival.

15. The committee for concentration of public offices have been directed to provide a suitable building wherein your business may be conducted, and your office records deposited.

16. You will be pleased to submit, for sanction of Government, an estimate of the expense of your office establishment, with the number and description of persons you propose to entertain on it.

I have, &c.

(signed) H. Torrens,

Off. Sec. to Govt.

Council Chamber, 1 April 1835.

REPORT I.

FROM the Committee for revising the Customs and Post-Office Regulations in India to *H. T. Prinsep, Esq.*, Secretary to the Government of India, General Department; dated Calcutta, 27 January 1836.

[First Part of their Report upon the Sea and Land Customs of India, being a description of the system under which these Revenues are at present administered in each of the Presidencies, with a short Sketch of the Modifications which have been effected from time to time by the respective Governments, accompanied by Appendixes marked (A.) to (E.)]

BOMBAY LAND CUSTOMS.

Sir,

Bombay
Land Customs.

1. ADVERTING to Mr. Officiating Deputy Secretary Torrens' letter of the 1st April 1835, appointing us a committee for the revision of the Customs and Post-Office Laws of the four Presidencies, and furnishing general Instructions for our guidance in prosecution of the duty entrusted to us, and to your subsequent communication of the 25th November last, desiring us to report in the month of January:

2. Referring also to our reply of the 5th ultimo, wherein we laid before his Honour the Governor-general in Council the causes which had prevented our obtaining the information requisite to enable us to submit any definite measures for the consideration of his Honour at the early period indicated in your letter, but promised a preliminary report upon the system of customs as existing at each Presidency, we have now the honour to submit the same.

3. In this the first part of their Report upon the Sea and Land Customs of India, the committee propose to confine their remarks to a description of the system under which these revenues are at present administered in each of the Presidencies, with such a short sketch of the modifications which have been effected from time to time by the respective Governments as may complete the view, and show as well what the Indian Customs system was when we got the country, as what it has become under our rule.

4. An exposition of the further charges which they recommend being effected therein, will be more appropriately comprised in a future part of their Report, following that which shows the financial results of the present Custom Revenue, and which the committee intend should form the second portion of their Report.

5. They propose to begin with the inland Customs, and dispose of that branch of the subject before taking up that which is more familiar to the mercantile world, the Sea Customs, or import and export duties at the sea-ports.

6. With the hope of making more intelligible the progressive changes which have been effected by the British Governments in the ancient practice of the country, the committee will commence with that Presidency wherein such practice has been least deviated from.

Bombay
Inland Customs.

7. The Presidency of Bombay is in this position, from its being, for the most part, of more recent acquisition, as well as from local peculiarities which generally retarded any fundamental change of system.

8. With respect to the first point, it may suffice to state, that, with exception of the islands of Bombay, Salsette and the others in their immediate vicinity, the three ports of Malwan, Vingola and Bankot, south of Bombay, with a small district annexed to each, the city of Surat and a line of coast extending north from Damaun, round the head of the Gulf of Cambay to Gogo, the whole of that Presidency has been acquired since June 1816, and a great portion even of this coast line since June 1817; that is to say, in June 1817, we had but three ports (Bankot, Malwan and Vingola) south of Bombay, none on the continent north of it, as far as the Portuguese port of Damaun, and north of Surat; our only port on the east coast of the Gulf of Cambay, was Broach.

Bombay
Land Customs.

Bombay
Inland Custom

9. To elucidate the local peculiarities which have prevented any modification in the inland duties in the Bombay Presidency, it is necessary to describe the features of the country composing it, and to show the territorial subdivisions.

10. The Presidency is bounded throughout on the west by the sea, forming a line of coast running from the Portuguese territory of Goa, and the Madras districts on the Toomboodra on the south, to Cambay in the north. The districts on the west side of the Gulf of that name, as far as Gogo, also belong to that Presidency.

11. The rest of the peninsula of Kathiawar (erroneously marked in maps as Goojurat) and that of Cutch, form no integral part of the Presidency. Connected with us by political ties alone, the internal administration of these two large provinces is exempt from our regulations, and we have no control either over the sea-ports lying along their coast, or over the inland duties levied by the chieftains.*

12. The breadth of the Bombay territory on this coast-line may be about 200 miles; it is shut in along the whole eastern frontier by the territories of the Nizam, as far as the parallel of Surat and Khandesh.

13. The territories of Scindia, Holkar and various petty chieftains, lie on the north of Khandesh. The whole Company's possessions in Goojurat beyond Surat are bounded on the east and north and west by the dominions of the Gaikowar.

14. But the whole of the area comprised within these limits must not be considered as belonging to the Bombay Presidency. Very large tracts of country above the Ghats in the south belong to the Sattara and Kolapoor Rajas, and to the great Jagheredars of the late Maharatta empire. On the south coast the states of Sawantwaree of Angria and the Hubshee own considerable portions of territory, and the latter have sea-ports of their own.

15. North of Bombay is the port of Damaun, with a small territory belonging to the Portuguese. Between that place and Surat, the Gawkowar has purgunnas, both on the coast and inland. Between the Surat districts and Khandesh the country along the Ghauts is possessed by chieftains tributary to our Government, but having a share in the land customs; and the low country between Surat and Cambay is on the east bounded by the districts belonging to the Gawkowar and to petty chiefs. In addition to these (larger portions of a limited territory), there is in every district under the Presidency, but particularly in the later acquisitions from the peshwa, a number of villages belonging to independant persons, many of them having a right to levy land customs within their own villages.

16. From the above, it will be perceived that the territory is circumscribed, and far from compact.

17. The face of the country presents, in most parts, great obstacles to a consolidated system of management. Throughout the length of the Presidency, from its most southerly point, about the parallel of Goa, to that of Cambay, a rib or chain of high mountains runs parallel to the coast at the distance of from 30 to 50 miles from it, cutting the territory into two unequal portions, one-fourth to the west, and three-fourths to the east of these mountains.

18. The communication between the sea coast and the country east of this range, including the dominions of the independent princes above-named, is naturally dependent on the state of the passes through this long tract; and until the Bombay Government made three of them practicable for carts, viz., the Ghat, leading to Poona east to Belgaum south, and to Nassick, north of Bombay, the only mode of conveyance was that of packs laden on bullocks or ponies, and in some parts on camels.

19. This employment (conveyance of goods) has for ages been followed by a distinct class of men, the Brinjara, whose almost exclusive trade it has become to escort droves of pack animals loaded with goods, partly their own property, partly that of merchants, for whom they act as carriers from one part of India to another.

* The sea customs of the port of Porchunder, in Kathewar, have been received by us for some years past, and belongs to the Rane of Porchunder.

Bombay
Land Customs.Bombay
and Customs.

another. Distance is of no moment to men whose whole capital is comprised either in the cattle they drive, or the loads in the packs, and who are at no expense in finding fodder for their animals, and no more trouble than is necessary to fetch them in from the jungle tract in which they have been travelling, and are turned loose to graze. The wandering life these men lead, carrying their wives and families with them, and trusting to safety from all enemies to themselves alone, has fostered a spirit of independence very unfavourable to attempts at extortion by custom-house myrmidons; whilst the intelligence which self-interest causes the different bodies of these people to keep up among themselves, would speedily punish one act of successful extortion, by the certain desertion of the route by every future drove.

20. The passes in the range are, with very few exceptions, passable by loaded bullocks, and occur within such short distances, that a slight deviation from the route leading to one would enable the trader to avoid it, and to go through another.

21. The facility with which the largest drove of bullocks can be subdivided and sent on by different routes, or despatched entire in any direction its leader may choose, is well known, and acts as a great and efficient check upon abuses in customs' officers. The same facility of avoiding a route, where extortion is feared from the officers of the Customs, exists in those parts where carts are used, chiefly in Goojurat.

22. In this respect there is a very striking difference between the Bombay Presidency and those of Bengal and Madras. In the former, trade is secured from vexatious interruptions, or increased taxation, by the facility of changing one route for another, owing to the nature of the country, and the parcelling of it out among different proprietors, each anxious to draw through his own territory the source of a moderate revenue.

23. In Bengal, trade is confined to one single line by the great river, as much as it would be by a railroad, and is consequently left at the mercy of the many Customs' agents stationed along its course, subject to an united rule, with authorities too distant from most of them to allow of recourse being had to the superiors for redress against extortion, the only remedy for those who have but one road open to them for conveyance of their goods, and where the rule for taking the duties at an *ad valorem* rate offers a ready cloak for those who require to make use of it to cover extortion.

24. Under the Madras Presidency, the consolidation of a territory comprised in a vast triangle, having the sea on two sides, and the Nizam's dominions and Goa territory along the base, under one authority, and the power acquired thereby of exacting a uniform rate of duty everywhere, has given a hold upon the trader too great for him to resist; and whatever line he may follow, he knows that it must bring him within the reach of those who are to be satisfied by payment of the uniform duty alone.

25. The above circumstances have chiefly contributed to the maintenance of the land customs in the Bombay Presidency on the ancient system. It has been an essential feature of that system in levying transit duties to make the trader pay them by degrees in small sums, according to the distance to which they are carried; and whilst the country is divided into small portions among different authorities, such a mode is not only practicable, but necessary, to enable each to get his due proportion of revenue from the trade as it passes through his jurisdiction, in return for the protection he affords it therein.

26. The duty is levied in each pergunna or subdivision of a zillah in the shape of a toll on each load of goods or produce passing through or imported for consumption therein, or raised and manufactured therein, and exported to other places.

27. The toll has been originally computed with some reference to the value of the articles liable to it, as it varies in degree according to the relative value of different products; but, for the convenience of the trader, as well as of the revenue, it has been fixed upon certain quantities, regulated by the weight which each vehicle employed in the conveyance of goods is ascertained to be equal to moving through a long distance.

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Land Customs.Transit Duty,
Mode of collectin

28. As the bullock was originally the most common means of conveyance, the weight which that animal is capable of carrying appears to have been taken as the standard. This quantity is six maunds (about three Bengal maunds).

29. A camel is charged for two bullocks, an elephant for four; a one-yoke cart for six bullocks, a two-yoke cart for eight, and so on.

30. The different descriptions of goods are classed in the rate-books with reference rather to their place and value in the general scale of taxation than to any similarity in the nature of those in each class.

31. Under the term "kirana" are included spices, dyes, drugs, condiments, groceries, &c., articles of very different value as respects each other, but of the first importance to the tax-gatherer, as coming more constantly under his notice than any others; they accordingly stand as the first class, at the highest rate of duty. Elephants' teeth, indigo and articles rarely met with, are in the rate-books generally put down under a remark "the same rate as kirana."

32. Grain and pulse hold the second place, and are generally rated at the half of the kirana rate, whatever that may be in each province.

33. A third class is cloths; those of silk pay about double those of cotton, and after this manner, although the articles enumerated may be many, the rates are comparatively few, and the confusion exists in the eyes of those who have nothing to do with paying them.

34. The most general rule in regard to the levy is, that payment of the dues once in each purgunna exempts from further charge, but does not exempt the goods from it in the next purgunna.

35. Exceptions will be found, and on cross roads, instead of exacting the full dues, a small sum only will be taken at each chokee; but the rule is otherwise true of the whole Presidency.

36. On payment of the duty at the chokee, the chokeedar passes a small receipt, showing the amount levied, and the nature of the goods on which it has been paid, with the date and a few other necessary particulars, which receipt covers goods to the frontier of the purgunna.

37. The lowness of the duty renders smuggling or evasion of it unusual, and the penalty for such an offence is consequently trifling; in most cases double duty, and in rare cases treble duty, is exacted.

38. The uniformity of the plans on which the transit duties are levied, and the great antiquity of the whole system, renders it as easy as it is necessary for every native in the country connected with trade to make himself master of the rates; and it is matter of notoriety that any carrier can with readiness detail each item of charge, upon any given number of loads, of any given sorts of goods, along any of the roads he is accustomed to travel.

39. The effect of the transit duties upon the trade passing through the Company's provinces to and from the sea-coasts, the only portion that could be reached by an enhancement of the duty at the seaports, is even lighter than would, from the above description, appear. At Panwell, where all goods passing between Bombay and Poona are landed or shipped, the duties are levied not as Sea Customs, but at the rates and after the manner of a transit duty upon the load.

40. The trade between Bombay and those parts of the Nizam's dominions for which the road by Poona is the most direct, and the whole of that part of the Dekhan, in this way are subject to transit duties alone, without any contribution for Sea Customs beyond the light duties of Bombay.

41. It will be hereafter explained, that by a Regulation passed in 1827, the payment of import Sea Customs at the ports in the Konkun, that is, the coast between Goa and Damaun, were declared to exempt from all transit duties the goods so imported on their further passage throughout the Konkun (or low country), the Dekhun or Khandesh. To the northward of Damaun, by ancient prescription, the transit of goods from the port of Surat to Khandesh is entirely free from any payment to our Government, the duties upon goods proceeding either way, for the whole route to the boundary of Khandesh, belonging by the same title to the native state holding the fort of Singurh.

Transit Duty,
mode of levying.

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Land Customs.
Transit Duty,
Mode of collecting.
* Broach and
Jumbonur.

42. From Surat to Cambay, the British Government, holding only to the breadth of one purgunna along the coast, under the present system have but little share in enhancing, as they can do little towards lightening, the burthens of the trader carrying his goods inland; and at the two ports* between Surat and Cambay, by long-established usage, goods imported for the districts immediately behind our purgunnas on the coast, as well as for Malwa and that part of Central India to which the road lies through these ports, are exempt from all sea customs, and liable to a transit duty of Rs.3. 3 as. per cart-load of 90 maunds, about half an anna per maund, on every description of goods, the most costly included, payment of that rate entitling them to free passage into the interior.

43. As these low rates prevent the Malwa trade passing through Cambay, so the proximity of Cambay effectually prevents any increase of the duties at the other two, since goods might be imported there, and passed through the adjacent districts of the Gawkwar to their proper destination, without touching any Company's district on the way.

44. On the west coast, the Company's territory only extends to the depth of two purgunnas between it and the foreign territories on the north of Goojurat, and in the southern part of the line, towards Kathewar, we have but one purgunna, that of Gogo, which, moreover, is free from all transit duties; so that goods imported at either of its ports, Gogo or Bhownugur, are liable to no transit duties whatever on their passage westward after passing the gates of those towns, where some trifling dues are levied, in the shape, but much under the usual rate even, of the transit duties of the country.

45. The transit duty on cotton in Khandesh was abolished in A. D. 1823, and in A. D. 1834 the transit duties on the same throughout the Presidency were abolished, and a sea export duty of 5 per cent. imposed instead. Indigo and cotton yarn, both white and dyed, fruits, vegetables, bamboos, timber, firewood and cattle are also free in Khandesh. In the Dekhun, teak timber is free from transit duty, and in that province, as well as in the Southern Maharatta country, transit duties have been abolished on horses and horned cattle.

46. A difference, however, prevails between the practice at Bombay and that of the other Presidencies, in respect to further levy of transit duties on British manufactures and goods imported free from Great Britain. The certificate admitting them to exemption from import Sea Customs, is not held to bar the levy of transit duty on the further passage of the goods through the country.†

47. The transit duties, as thus levied piecemeal in each portion of a district, are described by all the officers concerned in the administration as light in their amount, and not so vexatious in the nature and the mode of levying as might be expected.

48. But this description strictly applies only to the duties levied on the transit of goods between places distant from each other.

49. It is probable that the levy of inland duty was originally confined to this description of traffic, and to this only.

50. At some former period, more or less remote from the date of our acquisition of the country, the rulers of it, or those to whom they delegated the power of realizing the transit duty, extended its operation, and virtually changed its character to a general duty on inland consumption, by charging it upon the produce of each district as soon as it left the bounds of the village within which it was produced, and upon articles of manufacture on their despatch from the place where they were wrought.

51. This was accomplished by adding to the regular Customs stations, which were probably originally placed only on the great thoroughfare of trade, others upon every cross-road by which trade is carried on from one village or town to every other village or town.

52. At present, therefore, the petty traffic which is carried on between neighbouring parts of the same purgunna is as much liable to the transit duty levied therein

† Under Madras and Bengal they are exempted. It seems to have arisen thus, by the general Customs Regulation before quoted, all inland duty was, in 1810, at Bengal, and 1812, at Madras, covered by the sea import duty, and on the renewal of the Charter, the Sea Customs on British imports were reduced, and no authority granted to impose further land duty.—Remark by Bombay Customs Committee in 1824.

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therein as if it were to be exported beyond the bounds of the district, and the vexation of this levy has been aggravated by the host of petty exactions it has given rise to, on the part of the numerous agents employed in the collection of the duty.

53. The consequences of such system have in many parts of the country been somewhat obviated by a composition between the villagers and the Revenue, the former engaging to pay a fixed sum annually on condition of the produce of their village being free from the Customs station in or near their village.

54. This goes by the name of "hoonda," or "fixed payment," or of "sayer sookhree," a "douceur" to the "sayer," or Customs.

55. And in most cases the produce raised within the limits of each of the Kusba towns is free from all charge, unless exported again from the town.

56. But the inconvenience and hardship of the exaction are still very great, and, together with the extra levies to which it gives cover, form the worst feature of the native transit system as existing under the Bombay Presidency, and that to the remedy of which the attention of that Government has long been most anxiously directed.

57. The whole machinery of the transit duties was indeed considered so prejudicial to the improvement of the country, and to the great interests of the revenue, that a regulation for the entire abolition of all transit duty throughout the Presidency was submitted to the Home Authorities, and formally sanctioned by them in 1827.

58. As, however, the financial difficulties of the Presidency forbade the sacrifice of the revenue involved in these duties, and it was believed that the equivalent proposed for them are, enhanced sea duty at the ports, with heavy consumption duties in the principal cities and towns, and increase of the duty on salt, would not meet the amount, and that a considerable deficit must occur by their abolition, besides other objections made to the measure, the Government in 1831 directed their attention to the possibility of improving the present system, and freeing it from the abuses and hardships above alluded to, and the following instructions were issued to the officers entrusted with the Inland Customs.

59. "For your guidance in proposing modifications, I am instructed to communicate the following observations, which will put you in possession of the views of the Honourable the Governor in Council on the subject:

60. "It appears desirable that nakas or stations at which duties are levied should be confined to the smallest possible number, none being retained that are not indispensably requisite for the security of the revenue.

61. "When the duties admit of consolidation, a frontier duty might be levied or the one taken at a principal naka increased, to compensate for the loss occasioned by the abolition of smaller nakas on the same line of road. The amount fixed in such cases should not, however, be the aggregate of the duties to be abolished, but such a sum as may be considered equitable and moderate.

62. "Imports which are vexatious in their operation might be at once abolished; of which description are certain duties levied on grain, jagree, ghee and some other articles, the natural produce of the country, and such duties as form obstructions to these commodities proceeding to market, where they might otherwise find a profitable sale. This remark applies more particularly to goods calculated for the consumption of foreign countries, such as indigo, cotton, &c., the aggregate duties on which should be ascertained by communicating, if necessary, with other collectors, and such reductions in their amount proposed as would remove all hindrance on that ground to their exportation.

63. "In the mode of valuing merchandize, expedition and simplicity are requisite above all other qualities; but in studying to obtain them, it should be borne in mind that it is desirable to vest as little discretionary power as possible in the petty officers of collection, whose arbitrary valuations are a subject of common complaint, and the Honourable the Governor in Council believes, are in reality one of the principal evils of the present system.

"I have, &c.

"Bombay Castle,
14 January 1831."

(signed) Thomas Williamson,
Secretary to Government."

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64. The reports of these officers are now before the Committee, and though the Bombay Government were anticipated in following up their recommendations for the improvement of the system, by the appointment of the present Committee for all India, the nature of the remedies proposed may be here stated, as the clearest mode of exhibiting the defects of the transit duties, and the grounds of the opinion there entertained of the practicability of eradicating them, without destroying the transit duties as a source of revenue, under the impression then held by that government of the inexpediency of altogether abandoning them for any other substitute.

65. The first point was to abolish all internal duties upon the produce of the purgunna, so long as it was not carried out of the purgunna.

66. This would at once change the character of the duty from a general inland duty to a transit duty, since no demand could be made until the goods were actually in transit to another district.

67. This involved the abolition of all Customs chokees, except those on the frontiers of the purgunna, which would alone be necessary to secure the duty on transit of goods going from or entering the purgunna.

68. As each purgunna has its kusba town, and that town is the general mart of the purgunna, to which its produce is naturally carried, the abolition of the internal duties of each purgunna would render its town a free mart for the produce of it.

69. A general revision of the rates of transit, with the view of reducing them to a standard more suited to the low price of commodities; no enhancements to be in any instance effected.

70. The entire abolition of all exactions extra to the regular transit duty, whether levied on account of Government, or by individuals for their own use.

71. Abolition of transit duties upon all petty articles of domestic consumption; upon all implements used in agriculture or manufactures, upon eatables and necessaries, and upon building materials.

72. Horses are free in Goojurat and in the Deccan, Khandesh, and southern Maharatta country; not only horses but horned cattle, and many articles of domestic consumption, as well as the articles above specified, have long been free from transit duty.

73. The avowed intent was to leave liable to duty only articles of commerce or general consumption.

74. In districts where it was practicable, viz., the low country, between the Dekhan and the sea, purgunna chokees were to be altogether abolished, and a new line of frontier chokees established along the Ghat mountains dividing this district from the Dekhan, leaving the traffic of the low country absolutely free from all transit duties, whilst traversing the district, or on its passage to the coast. We have shown, para. 44, that the trade passing from the coast inland, after payment of Import Customs, has for some years been free from transit duty.

75. The measures above contemplated would still fall short of giving entire relief to trade in its passage through the limits of the Bombay Presidency, owing to the liability for payment of transit duty to the great landholders, as well as to the possessors of independent villages within the same.

76. Under the other two Presidencies this objection has no existence; since in them these dues have been in all but very few cases commuted and abolished.

77. But under the Bombay Presidency, although the abolition of perquisites, as well as of the dues claimed by landholders, has been to a great extent accomplished in that part of Goojurat lying north of the river Myhee, in every other part of the Presidency all such exactions are in full force; and although perquisites and extra dues were everywhere swept away, the dues of landholders would still remain.

78. The Bombay Government indeed have declared all perquisites to cease, on abolition of the source of revenue, in virtue of which they are exacted; but this rule will only affect persons subordinate to our Government, who receive huks in right

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right of some connexion with the Land Customs, on the transit duty being abolished. All independent landholders will remain in full possession of their incomes.

79. The first enactment of the Bombay Government on the subject of inland duties appeared in the Customs Regulation, XX. of 1827, by c. 8, sec. 30, of which it was provided, "The collection of inland duties throughout the territories subordinate to Bombay as at present established, shall be conducted by the Collectors of the Land Revenue, and the individuals on the establishments, under the rules and liabilities attaching to them respectively in the discharge of their other official duties."

80. Another chapter, 6, totally abrogated the levy of transit duty throughout the konkuns (or low country), the Dekhun and Khandesh, that is to say, the whole Presidency, except the province of Goojurat, upon all goods which had paid import Sea Customs at any port in the konkuns, a term including the whole line of continent from Goa to Damaun.

81. In A. D. 1831, it was further made lawful to transfer the management of these duties to any other covenanted servant, besides a collector of land revenue, and the officer so entrusted with the inland duties was vested with power to farm them, and rules for doing so were detailed.

82. With respect to rates, it was declared, the amount of collections and the mode of levying them shall be regulated by established usage, when there is no enactment specifically applicable to the case.

83. But it is to be understood that in the case of transit dues, as the goods themselves are sufficient security, no other mode of compelling payment than detaining the same, is to be resorted to.

84. In this regulation the custom of the country was first departed from, and the power of confiscation conferred in cases of evasion of the collections.

85. Lastly, the collector was empowered with the sanction of Government to make such alterations in the situation of stations for collecting duties, as may be considered to conduce to public convenience, the amount of the rates not being thereby enhanced.

86. About four years ago a plan was tried at the Goojurat western ports, of taking on the import trade going inland, the transit duties for the whole of the Company's districts lying in the route, at the regular rate for each purgunna, and granting a certificate exempting the goods from all further demand throughout the line to be passed; as the seaports are under the Government officers, and the Land Customs chiefly farmed, the transit duties are levied on account of the farmer by the Sea Customs establishment, which thus mediates between him and the trade, and while they secure his just dues, prevent extortion on his part, and dare not practice it on their own.

87. The amount thus levied is carried monthly to the credit of the farmer, in payment of his instalments. The Bombay Government have ordered the system to be introduced along the whole coast, wherever practicable.

88. The general effect of this system of transit duties on the Bombay Presidency, may be concisely stated as follows:

89. That all goods going through the country are charged, in addition to Sea Customs, with a light toll as Land Customs on the load, without particular reference to value, once in each purgunna, in each district they pass.

90. That on several parts of the coast line, goods may be entered for inland consumption on payment of this transit duty only, without any charge for Sea Customs.

91. That payment of the import Sea Customs, at any place on that coast line through the greater part of its length, exempts from all charge for transit duty throughout the inland districts.

92. But goods exempt from import Customs, as coming under certificate, including British free and other goods, are liable for transit duty thereon.

93. That at two seaports on the west coast, goods are not liable to transit duty at all on going westward.

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94. That cotton has been relieved from transit duty throughout the Presidency.

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95. That transit duty, after these exceptions, is still levied upon all commodities going to the seaports, upon all goods going inland from the seaports, and upon all the trade passing through the Presidency, without ever touching upon the coast.

96. We propose submitting in the Appendix, extracts from the Reports of the Collectors respecting the oppressive nature and mischievous effect of the extra exactions made by individuals upon traders above adverted to.

BOMBAY TOWN DUTIES.

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97. The principal branch of the Land Customs derived from Transit Duties has been described. The other is that of Town or Consumption Duties which yield some revenue at the principal towns and most of the larger villages throughout the Presidency. As regards the latter, it will suffice to state that these duties are levied at them in the shape, and generally at the rate of the transit duty, that is, upon the load or quantity.

98. At the principal towns in the Dekhan, too, and at many of those in Goojurat, south of the Myhee, the duties are levied in the same way. In the former province they are known as st'hutmor or import, and st'hut b'hureet, or export dues. In the latter province, the general name is "gaum-ootar," "what is unloaded at the place."

99. At all the seaport towns of the province, except Surat, the import Sea Customs are held to cover the consumption duty on goods coming in by sea. Goods coming in by land at them pay a rate of duty different from, and generally lighter than the sea export duties elsewhere detailed.

100. The places at which regular town duties are levied, are Bombay, Surat, and Broach, and the cities and towns in the districts north of the Myhee River.

101. At Bombay a town duty has been raised, since A. D. 1803, by a Regulation passed in that year, which in the preamble is declared to be established on the principle of the Calcutta "town duty, with such modifications as might be judged necessary to adapt it to the local situation of Bombay."

102. The duty was four per cent. upon the prime cost, with advances, as detailed under the head of Sea Customs, Bombay.

103. Cotton paid one rupee per candy.

104. The articles liable to this duty are shawls, pepper and spices, sandal wood and rose water, sugar and molasses, oil, ghee and turmeric, tobacco, betel nut and leaf, piece goods, wax candles and saltpetre, wine, beer and liquors were subjected to certain fixed duties.

105. Certificates from the other Presidencies, exempting from Sea Customs at Bombay, were not to exempt from the town duty, if the goods were otherwise liable thereto.

106. Certain of these articles for re-exportation were allowed to be warehoused. But the privilege of drawback was withheld on re-exportation of any articles taken out for town consumption on payment of the duty.

107. This town duty was abrogated on the 30th of April 1805, but reimposed on the 1st of May 1810. Ghee, turmeric, oil for culinary purposes, betel nut and leaf were excluded from the above list, and china, piece-goods and nankeens added to it, as well as bhoeesingh, cocum and tamarinds, which latter were thenceforth to be exempt from Sea Customs.

108. Pearls and precious stones were also made liable to town duty, as well as jewellery.

109. When the Regulations were remodelled in 1827, an oversight was committed in re-enacting the Customs Regulations, by striking out the provisions relating to wines and liquors in those parts of the Regulations of 1803 and 1810, which

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which imposed town duty thereon; this oversight was only remedied in the last year, 1835.

110. The evils and inconvenience of the system under which the town duty was levied, led to a new arrangement, founded upon a calculation, that as Government, in a series of years, retained only about $1\frac{1}{2}$ per cent., out of the 4 per cent. levied, the rest going in drawback, it would be better to take $1\frac{1}{2}$ per cent., and to allow drawback only on exportation to the United Kingdom, on British bottoms.

111. A Regulation was, therefore, passed in 1834, rescinding the former ones of 1803 and 1810, as far as retained by Regulation XX. of 1827, and imposing a duty of $1\frac{1}{2}$ per cent. and allowing no drawback, except on exportation to the United Kingdom, and then only to such an extent as should reduce the total duty receivable by Government to $2\frac{1}{2}$ per cent.

112. At Surat the duty is levied as an ad-valorem duty of 5 per cent. on all articles coming in by land.

113. But in addition to these, the old Moghul consumption duties, called Mookauts, are charged upon many articles of consumption, though the Mookauts upon trades and manufactures, and upon petty articles, have been abolished. Those which remain are cloths, fine and coarse, chintzes and turbans, cotton and silk, lakh and kusoom (dyes), silver melted for wire drawing, metals for making ware, groceries and drugs, and spices, cocoa-nuts and dried fruits, mangoes, ghee, oils and oil seeds, jagree and molasses, rice, teak timber, cattle exported to Bombay, and sheep imported for town consumption.

114. These rates are generally fixed for a certain quantity, and average about 5 per cent.

115. Duties in 1830 were imposed on betel nut and pepper at 5 per cent.

116. The town duties in the Ahmudabad, or western district, north of the Myhee, are levied ad valorem, $2\frac{1}{2}$ per cent. on all imports and exports; but firewood, grass, milk and other necessities of life, as well as cotton, silk, indigo, and some other substances used in manufactures, in all 36 articles, are entirely exempt from these duties.

117. As the town duties, when the country came under the British Government, were far higher, even as much as 10 or 12 per cent., the reduction to a low uniform duty has been found beneficial to the manufactures of Ahmudabad, and generally to the prosperity of the towns; and the report of the Revenue Commissioner, founded on the opinions of the inhabitants, is favourable to the town duties as administered on this plan.

118. In A. D. 1831, the inhabitants of Ahmudabad freely consented, through their headmen, to extra duties being levied upon import of ghee ($2\frac{1}{2}$); silk, before free ($1\frac{1}{2}$); groceries, sugar, &c., cotton cloths, tutenague and ivory (1) per cent., and a half per cent. on export of the silk and cotton, and filagree manufactures of the city, for the purpose of forming a fund for the repair of the city walls. These duties yield 40,000 rupees a year.

119. The inhabitants of Gogo have in like manner agreed to payment of light extra duties for repair of their town walls. An extra tax, yielding about 3,500 rupees a year, has long been levied at the town of Veramgaun, for the same purpose.

120. In three or four of the smaller towns of this zilla, and in most of those in the other (Kaira) zilla, north of the Myhee, town duties are levied upon the principle, and generally at the rate of the transit duties; that is, on the quantity.*

121. At two of the towns in that zilla,† ad valorem town duties are levied, $6\frac{1}{4}$ per cent. at the one, and $3\frac{1}{2}$ at the other, but from the loose way in which they are realized, these duties do not yield more than $2\frac{1}{2}$ per cent. duties do at smaller towns under Ahmudabad.

122. The

* The Bombay Customs Committee have rated these town duties at something under $2\frac{1}{2}$ per cent.

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122. The above system of town duties has not been legalized by any regulation, except at Surat, in the case of betel nut and pepper, metal ware, rice and silk, for which regulations have been passed in other respects; it derives its origin from the custom of the country.

123. The town duties under the Bombay Presidency, therefore, consist at present of a duty of $1\frac{1}{2}$ per cent. at Bombay on spices, and luxuries, and cloths; at Surat, of certain duties upon quantity generally under 5 per cent. upon the same, and several other articles of domestic consumption; at Ahmedabad, and the principal towns in that zillah, of $2\frac{1}{2}$ per cent. ad valorem on all but 36 articles, the exempted ones consisting of dyes and of the raw material used in manufactures and the necessaries of life (grain not being among them). At the other towns in Goojrat, and the principal ones throughout the Dekkan, a duty upon consumption is levied like the transit duty on the load or quantity, without much precision as to the value, and in all cases light in amount.

124. At many of the greater villages a duty, like the transit duty, is levied in like manner on the consumption of each.

125. The Committee which sat at Bombay for the regulation of the Customs in A. D. 1827, proposed to abolish the town and consumption duties above described, as existing in the provinces of that Presidency, and to substitute at the principal towns alone, town duties of less general application, but at a much higher rate of duty, contemplating that the increased revenue to be derived therefrom would in some measure compensate for transit duties to be abolished. The subject was under the consideration of the Bombay Government, when the present Committee for all India was appointed.

BENGAL AND AGRA INLAND CUSTOMS.

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126. We shall now proceed to describe the system which prevails in the Bengal and Agra Presidencies, but as this part of the subject has been treated of in detail in the reports lately submitted to Government by Mr. Trevelyan and the Calcutta Board of Customs, we shall confine ourselves to a short sketch of the more prominent features of it.

127. In 1788, Lord Cornwallis abolished all the internal Custom-houses in Bengal and Behar, retaining only export and import duties, which were collected at Manjee, on the Benares frontier, and at Calcutta and the other seaports.

128. In 1801, internal duties were re-established in the abovementioned provinces, by Marquis Wellesley, at the rate of $3\frac{1}{2}$ per cent., with a provision that articles which had once paid inland duty should not again be liable to it.

129. At this period separate duties were levied according to various rates in the province of Benares; and when the ceded and conquered provinces came into our possession, the native toll system was found to prevail in them, just as it has been described as existing in the Bombay Presidency, and as it has been sketched at pages 2 and 3 of Mr. Trevelyan's Report.

130. These various plans were reduced to one uniform system by Regulation 9, of 1810, the principle of which was to consolidate the different duties which were then separately levied, and to realize the consolidated duty, once for all, on the whole trade of the country, by environing the principal marts with cordons of chokees. For this purpose, Custom-houses were established at Balasore, Calcutta, Chittagong, Dacca, Murshidabad and Patna, in the Lower Provinces; at Ghazee-pore, Benares and Meerzapore, in the Central Provinces; and at Allahabad, Cawnpore, Furruckabad, Bareilly, Agra, Meerut, and eventually also in each of the five divisions of the Delhi territory, in the Upper Provinces. The Hoogly custom house was established at the same time, with a view to bring under contribution the trade of the foreign settlements, which was then very considerable, owing to the protection afforded by the neutral flags; but as some of those settlements have since been annexed to the British dominions, and the rest have long since ceased to have any foreign trade, it is agreed by all that the Hoogly Custom-house may be immediately abolished without loss to the Government.

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131. The first thing to be considered is the rate of duty. That which formerly prevailed was, as we have seen, extremely light, and it was increased by the accumulation of new imposts in proportion to the distance to which goods were conveyed. Intercourse between neighbouring places, therefore, was never seriously impeded, and the great difference of price, which generally prevailed between places which are far apart, enabled the merchants to bear the accumulated duties to which distant transactions were liable. The new duty, on the contrary, was fixed at the average amount of the payments to which goods conveyed long distances were before liable, and those which were only conveyed a short distance were therefore placed by this arrangement under a great disadvantage. In regard to the former class of goods the new rates were generally a decrease on those which before prevailed, but in regard to the latter, they were always a great increase. Goods which were only conveyed to the next village had now to pay the same duty, supposing a chokee to intervene, as those which were conveyed many hundred miles, and that saving principle of the native system which provides that goods shall pay strictly in proportion to the distance they are carried, was thus completely neutralized.

132. At the period when we established our power in India, the experience of ages seemed to have convinced the native states that a duty which is universally levied must be extremely light. The remarkable uniformity of practice which prevailed in this respect amongst states so numerous, so widely separated, so different in their character, and generally so rapacious, evidently points to a common cause; and that cause we conceive to have been, long experience of the fact that, in order to levy a duty on goods which are conveyed only short distances, it must be fixed at a very low rate. Although the difference of price between neighbouring places may admit of the payment of a duty of one or two per cent., which is about the rate levied by the native states, it can seldom afford one of five, seven and a half, or ten; and the establishment of such a high rate of duty in the interior of any country, must seriously limit, if it does not altogether prevent legal commercial intercourse between neighbouring places or districts, which are cut off from each other by chokees. Such we conceive to have been the general result in the present instance. If the above high rates of duty had really been levied on any considerable portion of the internal trade of the Bengal and Agra Presidencies, the amount collected must have greatly exceeded what is at present realized. In the Madras Presidency, a duty of five per cent. is really levied by a system of excise from the whole trade of the interior; and, in consequence, that Presidency, with only one-fourth of the population of Bengal and Agra, no navigable rivers, and very little exportable produce, yields in Custom revenue, sea and land, only about $5\frac{1}{2}$ lacs less than both those rich and mercantile Presidencies. The revenue derived from salt, which is collected in Madras and Bengal by means of a monopoly, is not included in the above calculation.

133. The truth is, that the same articles are, generally speaking, produced in greater or less abundance from the place where the Ganges and Jumna issue from the mountains to the place where their united stream falls into the ocean, while the custom chokees are entirely confined to the banks of the rivers. Great tracts of country are, therefore, left unmolested by any chokee, and within these tracts the population are supplied with all the ordinary articles of native consumption, entirely tax free. The goods which do pay duty are those which are sent long distances, and which belong mostly to the foreign trade. The duty on such goods might, it is obvious, be equally well collected at custom-houses situated on the actual frontier.

134. As regards internal trade, therefore, the result of the general increase of inland duties, which was made by the law of 1810, has been, that by far the largest portion of the consumption, that is, of the internal trade of the country, is carried on without contributing anything to the revenue, and will continue to be so, unless the Madras system of extending chokee interference into every village, house and garden, in every part of every district, shall be introduced, and that where chokees do exist, restrictions of a very serious kind are imposed on trade and manufactures without any corresponding advantage to the Government. We do not consider it necessary to enter into the details of all the evils which are caused by this partial and oppressive system of taxation. Its operation in preventing the free exchange, both of agricultural and manufacturing produce, in cutting

cutting off manufactories from the place where the raw material is produced, and in narrowing the market for the manufactured article, has been described elsewhere.

135. The next thing to be considered is, the effect of the change of system upon the distant and foreign trade which does pay duty.

136. The duty was calculated under the new system at the average of what was before paid on long journeys; and what was paid before by instalments, as the goods were on their road, was now required to be paid at once, before they set out. Perhaps this is rather a disadvantage to the merchant than otherwise, because the longer he can put off the payment of any sum, the longer he will have the use of it.

137. But this would have been a very minor evil, if the main object of Regulation X. had been attained. The peculiar advantage which was proposed by the enactors of it, was to enable "merchandize having once paid duty to be freely transported from place to place, without the harassing interruption to which the trade had before been exposed;" but we do not hesitate to say, that it has turned out a complete failure in this very important respect.

138. The first cause which has led to this unfortunate result is a natural one. The plan of Regulation X. was to tax the whole trade by taxing it at the marts or reservoirs through which it circulates; and as these marts happen all to be situated on the Ganges and Jumna, it follows that the whole foreign trade has to run the gauntlet of them all. Even allowing for no intermediate stoppages, a boat loosing from Anoopsheher is obliged to bring up for examination at each of the custom-houses at Furruckabad, Cawnpore, Allahabad, Mirzapore, Benares, Ghazeepore, Patna, Murshidabad, Hoogly and Calcutta, being ten in all; besides which, they have all, with the single exception of Ghazeepore, two chokees attached to them, and some of them have three or four, at which boats are stopped and searched in the same manner as they are at the custom-houses.

139. We need not urge the injurious effect of such a state of things as this upon the trade of India. It is no excuse for it to say, that large districts are free from interruption, while chokees are accumulated in this manner upon the great natural highway of the commerce of these provinces.

140. Second among the causes which have made the present so oppressive to trade, is the establishment of the rowannah system. We have seen, that under the native plan, which still prevails in the Bombay Presidency, duties are levied on general and well understood quantities, as the bullock, camel or cart load. The rates of duty are different on different kinds of goods, but no notice is taken of value; and the only criterion of quantity required, is that which is supplied by the nature of the conveyance, and as there can be no difference of opinion about that, no excuse is afforded for searching and weighing, nor consequently for detention or exaction.

141. Under the new system, every body was required to take out a rowannah, or pass, specifying the sort, the quantity and the value of the goods, and the number and description of the packages, and any discrepancy in any of these respects between the state of the goods, and the description of them contained in the rowannah, became punishable by confiscation or fine.

142. The necessity of procuring a pass before any article can pass a chokee, is of itself productive of considerable expense and delay, particularly where the custom-house happens to be at a distance; and it is to be remembered that the obligation of having a rowannah extends to all the petty quantities of which each dispatch of goods consist, before it is collected in the hands of the wholesale merchants.

143. When any portion of any goods, for which a rowannah has been taken out, is disposed of, the same rowannah will not answer for both the parts into which the goods have been divided, and it therefore becomes necessary to take out a new rowannah (which goes by the names of "tukseemee," "atrafee" or "divided") for each part into which the original dispatch is broken up. The goods are subject on this occasion to an additional duty of eight annas per cent.; but the obstruction which is caused to the free distribution of the goods by the

necessity of taking out a new rowannah for every small quantity into which they may happen to be divided, is a much heavier burden than this additional tax.

144. Rowannahs are in force only for one year, and if the goods remain unsold at the end of it, it becomes necessary for the holder to take out a renewed rowannah, and to pay a new duty of eight annas per cent. on the value of the goods. Besides the loss of time caused by having to take out a new rowannah, the merchant is in this instance burdened with the additional obligation of proving, to the satisfaction of the Collector, the identity of the goods for which he wishes to take out a renewed rowannah, with those for which the original rowannah was taken out, which it is often not easy to do, owing to the number of hands through which the goods have intermediately passed.

145. Much loss and inconvenience are also experienced by merchants from rowannahs being lost and damaged, and from the ignorance or neglect of their servants in not complying with the usual forms. The interference of the custom-house is not in this country, as it is in most others, an occasional thing. Elsewhere, when the inconvenience has once been submitted to, the merchant is released from further restraint, but here the Custom restrictions follow his goods through every stage of their progress, from the time at which they leave the hands of the producer till they reach the consumer; and a mistake committed at any one point renders the owners liable to fine or confiscation.

146. In consequence of the universality of the Custom system, merchants are obliged to keep up extensive private establishments, merely for the purpose of complying with the requisitions of the Custom laws. Every custom-house is beset with artees or agents for the supply of rowannahs, and the transaction of other necessary business with the custom master and his amla; and not unfrequently agents are maintained by merchants in constant attendance at the chokees, through which their goods usually pass, with a view to expedite their passage through them. The great expense of this machinery is of course added to the price of the goods; but this is not the only inconvenience which results from it. Rich merchants can alone afford to support agents for the purpose of facilitating the passage of their goods; and this circumstance, combined with the corrupt understanding which they are generally able to maintain with the native custom-house officers, gives them a very unfair advantage over the small trader. The rich merchants possess, as it were, a monopoly of the good offices of the custom-house establishments; and we are not sure that the abolition of the existing restrictions would be regarded by them as any advantage. Small traders, and persons who occasionally embark in mercantile speculations, are always loudest in their complaints; and when it is considered that nearly the whole trade of the country passes, both first and last, through the hands of small dealers, the real extent of the evil will in some degree be appreciated.

147. We now come to what we consider as the radical and incurable evil of the present system. The law requires that the goods shall be neither other, nor more, nor superior in value to those described in the rowannah, and charges the chokee officers with the duty of preventing any deviation from this rule. In order to form an idea of the real extent of the power thus vested in the chokee officers, it is necessary to recollect what must be done to ascertain whether the goods correspond with the description in the manner required by law. In order to effect this object, boats and carts must be stopped, the goods must be taken out, opened, weighed, examined and valued; in short, a full custom-house examination must take place at each chokee which the goods pass in their way. It is needless for us to add, that if this process were really gone through, the trade carried on by the great rivers, where the chokees are very numerous, must entirely cease. The actual result is, that no effectual examination is made, and the chokee officer attests the rowannah after he has received the amount of bribe which he thinks he can exact.

148. It appears, therefore, that the great bulk of the inland trade is carried on in defiance of the law, and by the sufferance of the chokee officers. The chokee officers by no means exceed their powers; if they only conscientiously acted up to them, trade would be annihilated. What they do is to exercise a dispensing power. The law has armed them with the means of ruining the merchant, and the matter is settled by a compromise. The law is evaded, and the merchant is enabled to pursue his journey at the expense of a bribe to the chokee officer.

149. Although the transit duties directly affect only those articles which are included in the inland tariff, yet the machinery used for their collection must be equally applied to the whole remaining trade of the country, and to all travellers. If any sort of boat or vehicle were allowed to go unsearched, it would immediately be made a medium for smuggling; and hence grain and other tax-free articles belonging to the internal trade, the whole of the import trade in English and foreign manufactures, which is also free, and all passage and private boats, although all these contribute nothing to the state, are liable to a search to which it is impossible to affix any precise limits by law. The chokee darogas are said to make their richest harvest from travellers, with whom they have no such regular dealings as they have with rich merchants, and whom, therefore, they are disposed to fleece without mercy.

150. We do not pretend to be able to form any estimate of the sum which is annually extracted from the country by these means; it is sufficient for us to observe, that whatever it may be, it remains in the hands of the native officers; and accordingly the subordinate situations in the Custom department are generally supposed to bear a high premium. At Madras, on the contrary, owing to the competition for the farms, a large share of what is annually extorted from the people finds its way into the public treasury.

151. It must be observed, that a power of searching everything that passes the chokees is an inseparable part of the present system; if this power were not exercised, nothing would be collected. The only way, therefore, to get rid of the power of search, is first to get rid of the system of which it forms a necessary part.

152. There can be no doubt that the evils of the system have been somewhat aggravated by the abolition of the separate appointments of Custom Master, which has taken place in so many instances, and by the transfer of the duties of that office to the land revenue collectors, who were before overburdened with other work, and who are often necessarily absent, for long periods together, from the places where the custom-houses are situated. On the other hand, it must be admitted that these evils would be somewhat alleviated, if a separate European officer were re-appointed to the charge of each custom-house.

153. After everything had been done, however, to mitigate the inconvenience, what would remain would still amount to a very serious obstruction to trade. The evil arises from the number of instances in which the right of search is accorded to different individuals. Where the right of search is given at all, no precise limits can be set to it; the searching officer must have the power of searching everything, and to any extent he pleases. If any bounds were placed to his discretion, the exempted cases would be immediately taken advantage of by the smuggler. Supposing, therefore, that European officers were re-appointed to the sole charge of each custom-house, although their subordinates would be more limited as to time, yet they would be able to carry their search to exactly the same extent as at present, and would consequently have nearly as much power of extorting money as ever; they would still be able to open packages, to turn over and disarrange the cargo; and as this operation would be liable to be repeated at each custom-house and chokee which the goods would pass in their way, the merchant must either compromise the matter by giving the usual bribe to each native custom-house officer, or give up trade altogether; that is to say, the same state of things would exist, and the same remedies, better only than the disease itself, would be applied to it as at present.

154. The propriety of re-appointing European custom-house officers to the internal custom-houses, however, mainly depends upon the profitableness of those custom-houses. If they are capable of yielding a large amount which could not be collected elsewhere, it might be worth the while of Government to add to their efficiency; but if not, any additional sums laid on them would only increase the expense of already unprofitable establishments. We consider it certain, that the great bulk of the internal consumption of the country never can be brought under contribution, until we either return to the native system, or establish an universal excise like that which prevails in the Madras Presidency. The present Bengal custom-houses are quite unequal to the above object. How far, under these circumstances, the existing custom-houses are profitable, we shall not at

present.

present venture an opinion. The decision of this point belongs more properly to our Second or Financial Report.

155. We have heard it argued that as the salt and opium chokees must be retained, for the present at least, nothing would be gained by abolishing the Custom chokees, because the native officers at the chokees which were retained would increase their exactions to the full extent of what was before levied at those which may be abolished. We believe, on the contrary, that the exactions practised by each individual chokee officer, are proportioned only to the power of annoyance which he himself possesses; we know that they are founded on this, that they exist by this; that if the power of the chokee officers over the trade were increased, their exactions would increase also; and that if their power were to be curtailed, their exactions would be proportionably diminished; but we are not aware of any motive which can induce them to regulate their demands by the extent of the demands which are made at other places. Whether more or less be levied elsewhere, the power of each chokee officer to cause loss to the merchant remains the same, and the merchant has exactly the same motive to buy him off.

156. If this view be correct, it follows that to whatever extent chokees are abolished, commerce will be benefited to exactly the same extent. Suppose, for instance, that including the salt and opium chokees, there are at present altogether thirty places on the Ganges where boats are stopped and searched; if twenty-five of these are done away with, the river trade would be better off in the proportion of five to one than it is at present.

157. There is however another very important consideration, connected with the partial abolition of the existing chokees, which stands quite independent of the above. The more chokees are abolished, the more effectual will be the control which may be exercised over those which remain. One reason of the worthlessness of the present searching establishment is, the great number of officers employed, which puts it out of the power of Government to offer salaries which would secure the services of respectable individuals, and make it their interest to be honest. The same cause prevents any effectual superintendence from being exercised over the chokees; but if none but the salt and opium chokees were left on the Ganges, the Government would be able, without incurring any extraordinary expense, to appoint trustworthy officers to them, and to bestow such a degree of minute attention on the subject as would at least considerably alleviate the evil.

158. Our remarks have hitherto been principally confined to the state of things which exists in the Bengal Presidency. The Custom system of the Agra Presidency has of late been so frequently brought under the review of the Supreme Government, that we do not think it necessary to submit more than a very slight sketch of it.

159. The Custom system introduced in 1810, was devised strictly with a view to the circumstances of the Lower Provinces; the plan of it was to tax the whole trade, by intercepting it at the great marts to which it was supposed it must of course resort. This plan was perfectly applicable to the state of the Lower Provinces, where nearly the whole trade is carried on by the channel of the river, upon the banks of which the great marts are situated; but in the Upper Provinces quite another state of things existed; there, although a considerable trade is carried on by the Ganges and Jumna, yet a still larger, including the whole of the salt trade, is carried on between our own provinces and Oude on one side, and the countries of Central India on the other, and is quite independent of those rivers. This great trade crosses the open frontier of the Agra Presidency at almost every point from Mirzapore to Saharanpore, a distance of about 700 miles, and the attempt to intercept it by such means as those which had been devised for stopping the trade on the channel of the Ganges, proved totally ineffectual; there was no use in guarding one road, when 500 others were left open. The frontier was pervious at every point, and as soon as one road or one mart was blocked up by chokees, the merchants immediately abandoned it for the nearest road or mart which was left unguarded.

160. This state of things led in the end to the following results. We have seen that no Custom system was prescribed to the up-country collectors, except one which was totally inapplicable to the circumstances of that part of the country. Everybody was left to form a system for himself, and each collector set about doing

it in the manner which the circumstances of his own particular district seemed to him to require. When a collector heard that any road was much frequented by smugglers, he would put down a chokee upon it; and when he or his successor heard that this road had been deserted by them in consequence, and that they had betaken themselves to another, then another chokee was fixed upon that other. These arrangements were made with little or no idea of mutual support and co-operation among the different chokees, even in the same district; and the union of two districts under one uniform plan of operation was never so much as heard of. The pay of the chokee officers also was utterly inadequate to secure their fidelity, and no officers of a superior order were provided to check their proceedings.

161. The result therefore was, that the whole face of the country was crowded with chokees filled by public servants of the most worthless description, acting without system, and subject to no effectual control. This state of things was most ruinous to the fair trader; there seemed to be no end to the exactions to which he was subjected. A chokee occurred almost at every five miles. After he had cleared the Delhi chokees, he had to run the gauntlet of those of Meerut, and after he had got clear of these, he had to enter upon those of Bareilly or Furruckabad, and so on, to the end of his journey. The inadequate pay of the chokee officers, which made them nearly useless as guardians of the public revenue, made them at the same time greedy extortioners. Besides this, the custom-house officers of each district, both sudder and mofussil, always combined together to vex every merchant who did not take out his rowannahs from their own custom-house, and thus enable them to make a fair show of revenue notwithstanding their malpractices. This net-work of chokees also necessarily produced a most injurious effect upon the country which was covered by it; and in the parts where they were thickest, the practical result was almost equal to that of the all-pervading excise established in the Madras Presidency.

162. The loss to the public revenue from this state of confusion has also been immense. Although the chokees were extremely numerous, yet as they were spread over a vast extent of country, and were put down in different places with scarcely any regard to combination, it was not difficult for those who thought it worth their while to do so, to wind their way among them without touching upon any of them. This was the course which was usually pursued by the small traders, but those whose means were more extensive, generally chose rather to smuggle with the connivance of the chokee officers.

163. This state of things, we are happy to say, is now in the course of being effectually reformed. The chokees towards the western extremity of the Agra Presidency have been confined to two lines, one of which follows the western bank of the Jumna, and the other runs parallel to it, nearly along the line of the actual frontier. This arrangement extends from the Deyrah Dhoon in the hills, to the junction of the Chumbul with the Jumna; for as these are the limits within which the salt trade principally prevails, two lines are, for the present at least, considered necessary to this extent. Below this, a single line will be sufficient, and it is highly important that it should be continued down the same, or the western bank of the Jumna, till it joins the Mirzapore hills, where the line ends. Throughout the whole length of the line patrols are stationed at proper distances for the purpose of ascertaining that the chokee officers pass nothing which is not covered with a new rowannah. As the patrols are comparatively few in number, salaries can be offered to them sufficiently large to secure respectability of character and fidelity in the discharge of duty, and as the patrols check all the rest, a considerable degree of efficiency is thus imparted to the whole line, at an expense which, in comparison with the object gained, may be considered small.

164. Another single line of chokees and patrols was established in May last, at right angles to the above, for the purpose of bringing under contribution the trade which passes between the Rajpoot and Sikh States, as well as of imposing an additional check upon the smuggling of salt from the Sambhur Lake and the Beraich Jagree, into the Northern Doab. This line commences in the neighbourhood of Delhi, and extends about 250 miles through the province of Hurreana to Ranncea, in the Buttee country.

165. Another important reform which has been carried into effect in the Agra Presidency is the limitation of the demand for duty to a few great staples. When,

in consequence of the establishment of the frontier preventive system, every thing which passed the custom line became liable to a real and effectual search, the inhabitants of the neighbourhood of the frontier line were seriously incommoded by the interruption caused by it to their daily business, and it was therefore wisely determined that the interference of the preventive officers should be confined to the staples of the trade of that quarter. The mode of carrying and packing these is a matter of general notoriety, which in a great measure supersedes the necessity of minute search. The list of articles from which duty is now levied, on the great western frontier line, will be found in the margin. On the Hurreana line the limitation has been carried to a still greater extent, and on crossing that line, five articles only are subject to duty; that is, salt, sugar, shawls, indigo and cotton. *Vide Appendix (B.) and (C.)*

166. For further details of the preventive system which has been established on the western frontier of the Agra Presidency, we beg to refer to the accompanying copies of reports from Messrs. Smith and Blunt.

167. It does not consist with the plan of this report to enter into financial details, but we may state in this place that there are ample grounds for believing that, while numerous restrictions upon internal trade in the upper provinces have been done away, no loss has been entailed upon the Government, or in other words, that the frontier system recently established in that quarter has succeeded.

168. To conclude. The Custom system which prevails in the Bengal Presidency was founded on the basis of the native system, of which both it and the Madras system are only two separate modifications. A comparison of it with the native system therefore furnishes a test by which we may arrive at a tolerably accurate estimate of its merits, and we shall endeavour briefly to make this comparison in every respect in which the difference between them is sufficiently striking to merit particular notice.

1st. Under the native system, the duty levied at each particular place is so light, that commercial intercourse between neighbouring places can never seriously be interrupted. Under our system, the duty is so heavy as seriously to interrupt commercial intercourse between neighbouring places, which are cut off from each other by the intervention of chokees.

2d. Under the native system, no passes are required to be taken out beforehand. Under our system, they must invariably be procured, often from a great distance, before any goods liable to duty are allowed to pass a chokee, and afterwards they must be renewed as often as the goods change their form, or are divided, or the pass becomes out of date.

3d. Under the native system, the duties were levied according to such general denominations of quantity and kind, that there was no excuse for search and detention. Under our system, an exact correspondence is required between the goods and the written description of them which is contained in the pass; and as every chokee officer is separately charged with the duty of ascertaining, and certifying on the back of the pass that this correspondence actually exists, an almost unlimited power of extortion is conferred on a large body of ill paid native officers.

169. In all these respects our system is decidedly inferior to the native system which preceded it. In one point only does it appear to have a decided advantage; it is that large tracts of country on both sides of the river, which were formerly studded with chokees, are now entirely free from the presence of a custom officer. This exemption, however, though important, is not so great as would at first sight appear. The Ganges and Hoogly are the high roads of the trade of these provinces. The commerce of the country is in a great measure concentrated on them, and on them also are the chokees accumulated. The circulation, which is free towards the extremities, is impeded in the vitals. Where trade is scanty there are no chokees; where it is abundant, they follow close one after the other. Their injurious effect also is not alleviated, as under the native system, by any competition among the chokee officers, with a view to attract an increased resort of traders through their own chokees. Each chokee officer stationed on the banks

1. Salt of every description.
2. Shawls.
3. Cotton piece goods or webs of cotton exceeding five in number, or 10 rupees in value.
4. Sugar in excess of 5 seers.
5. Tobacco in excess of 20 seers.
6. Iron in excess of 1 maund.
7. Cotton.
8. Alum.
9. Assafetida.
10. Dry ginger.
11. Spices (karana).
12. Sal ammoniac.
13. Gool moosubi.

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of the river stands as independent of all the rest as if they did not exist. The merchants, as long as they use the river at all, must pass through his chokee, and he therefore sells to them his forbearance from exercising the powers of annoyance entrusted to him, without reference to anything except the amount, which this power and this forbearance may enable him to extract.

TOWN DUTIES.

Town Duties.

170. As the town duties are both more simple and better understood than the transit duties, we shall not dwell long upon them.

They are less injurious than the transit duties, because they are far more limited in their operation. Being confined to particular towns, they do not necessarily interrupt the general course of trade; as they are levied only on a few articles, and those mostly of a bulky nature, there is not the same necessity for minute search as there is in the case of transit duties, and no rowannahs are required to be taken out.

171. On the other hand, the town duties are extremely partial. A distinction is made, not only between town and country, but also between those towns in which town duties are levied, and all other towns. It is also impossible to make any fair adjustment of the tax for any length of time. Trade and manufactures naturally desert places which are so heavily taxed, and hence a perpetual tendency to fluctuation is kept up. Those places where town duties are levied are depressed, and new marts of trade spring up in their neighbourhood; while marts, which already existed in towns free from the infliction of town duties are augmented.

172. The town duties are undoubtedly a great evil to the inhabitants of the towns in which they are established.

173. They bring the interference of the custom-house officers home almost to the doors of the people. Everything which goes in and out of the town must be searched; neither the daily supplies for the consumption of the inhabitants, nor the conveyances which contain their families when they go out for pleasure or business, nor any other thing, is exempt. The inhabitants of these towns know of the transit duties merely by fame, but they daily experience the inconvenience of the town duties.

174. The town duties also interfere in a very serious manner with the freedom of manufacture. An oil mill or a sugar mill, established within the line of the town duty chokees, has to pay 5 per cent. more on its raw material than one which is established outside; the consequence is, that manufactures in taxed articles are limited to the supply of the town itself. If the manufacturers attempted more, they would be undersold by others who carry on their business in places not subject to the tax.

175. The most serious evil of all, however, to the inhabitants of the taxed town is, that they are virtually excluded, by this partial impost, from participating in general trade. The town duty tariff includes salt, sugar of every description, tobacco, ghee, beetelnut, turmeric, oil, oil-seeds and pulse, all of which are great staple articles of trade. These articles cannot be brought to any of the taxed towns without being subjected to an extra duty of from 5 to 10 per cent., and merchants do not, therefore, resort to them at all when they can avoid it. The trade is generally transferred to some place in the neighbourhood, and most of the towns liable to town duties will be found to have some gunge or mart near them to which the trade has been diverted.

176. There are some cases, however, in which, owing to peculiar local circumstances, the general stream of trade must pass through the town duty limits. A great portion of the trade between the Valley of the Ganges and Central India, for instance, must pass through the great mart of Mirzapore, and the whole export and import trade of this side of India must pass through Calcutta, both of which places are subjected to town duties. In this case the whole trade of a country is placed under restriction, not for the sake of levying duty from it, but merely for the sake of levying duty from the local consumption of one particular place. One hundred are delayed and laid under contribution by the native custom-house

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custom-house officers for their own benefit; but of these only one may be ultimately required to pay anything to the treasury. At Mirzapore a warehousing system, and at Calcutta a drawback and bonding system, have been had recourse to for the purpose of alleviating the evil, but these expedients are only a degree better than the evil itself. We consider it preposterous, for instance, that all the sugar exported to England and elsewhere should be subjected to complicated and annoying restrictions, merely in order that a local duty may be realized on the comparative small quantity of that article which is consumed in the town of Calcutta. The following extract from a note from a member of our committee, who long filled the office of Collector of Customs at Calcutta, will convey some idea of the loss of time and inconvenience, to say nothing of extra unnecessary expense, which is entailed by this system, both on the merchants and on the public establishments:

177. "All the sugar (in common with every other town duty article) which is lodged for sale, store or consumption within the limits of the custom-house, must pay the town duty, and if the sugar is afterwards exported by sea, the whole sum so paid is returned as drawback. But parties, instead of actually paying the town duty, may enter into bond or engagement to export by sea within a year; and this is done very largely as relates to sugar. If they do export by sea within that period, then the engagement is cancelled; if they do not, then at the expiration of that period the parties are required to pay actually the town duty (with interest, I believe) upon the whole of the sugar, or upon such portion as may not have been exported; or parties may, instead of making actual payment of town duty on sugar, lodge deposits for the same in Bank of Bengal notes or cash, and the sums so taken are remitted to the general treasury. As the sugar for which deposits have been so made is exported by sea, the parties become entitled to a return of the said deposits. If the sum to be returned to each is not in excess of 500 rupees, I think it is paid from the custom-house treasury; if beyond that sum, it is paid by a draft on the sub-treasurer, which is drawn against a Government order in favour of the collector, for this specific purpose. Any how, the town duty occasions infinite trouble, and it is not possible to return it, whether as drawback or otherwise, without delay, of which merchants complain bitterly." Supposing no remedy to be applied, the burden imposed on the country by these restrictions will increase in proportion to the increase of the sugar trade, while the pecuniary advantage to the Government will increase only in proportion to the increase of the consumption of the town of Calcutta in this article, even supposing no smuggling to take place.

178. But, as has been truly stated by Mr. Siddons, in the note from which the above extract has been taken, "town duties generally are not collected on a fourth of the goods liable to them which do actually come into town. They are smuggled into town enormously, either with or without the collusion of the native officers. They cannot be effectually secured till Calcutta is made a walled town, with but few gates (well guarded) for ingress and egress; and this will never be." Besides the loss to the Government, this extensive system of smuggling is the cause of serious and continual injury to every trader and shopkeeper who does not smuggle. We believe that smuggling takes place nearly to the same degree everywhere, except at Delhi, which is a walled town.

MADRAS INLAND CUSTOMS.

179. Before describing the present Inland Custom system of the Madras territories, it will be necessary to give a concise account of the systems which preceded it; for a knowledge of the modes in which they operated, and the causes of their failure, appears essential to the forming a just opinion of the probable financial effect of a modification of the one now in force.

180. Previously to 1803, the native toll system, the nature of which is fully described in our account of the Inland Customs of the Bombay territories, prevailed in those of Madras. Regulations IX., X., XI. and XII., of 1803, abolished the whole of the anomalous duties of the native system, and substituted, 1st, a general duty of 6 per cent., calculated on a tariff valuation on goods imported by sea or by land into the town of Madras, or produced or manufactured within

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its limits. 2dly, A general duty of 6 per cent. on goods exported from the subordinate ports (imports were not taxed unless on foreign European bottoms). 3dly, A general duty of 6 per cent. on goods imported or exported across the frontiers of the Madras territories; and, 4thly, A general duty of 6 per cent. on goods imported into certain provincial towns, or produced or manufactured within their limits. Goods belonging to the Company, cotton and cotton thread, and several articles of minor importance, were exempted from duty. There were also some exceptions to the general rate of duty which it is not necessary to particularize. Goods might thus be subjected successively to three distinct 6 per cent. duties, viz. a frontier, a town, and an export duty, making an aggregate of 18 per cent.

181. These duties were more than the external commerce of the country could well bear. The substitution of an ad valorem frontier duty for a toll, fell particularly heavy upon cloth, which was at that time manufactured largely in the Madras territories, for foreign as well as home consumption. "The duties on all commodities having formerly been regulated by the bullock-load instead of the price, they were as high on articles of little as on those of great value; but being now collected upon the cost, and the bullock-load of cloth being equal to five or six times the value of most other articles, the increase of duty upon it was in the same proportion." A great decrease consequently ensued in the foreign consumption; numbers of weavers were thrown out of employ, and many migrated to native states, while those who remained in the country and manufactured for home consumption, in a great measure evaded the town duty by deserting the towns. The practical operation of the town duty on the trade and manufactures of the country is deserving of notice, showing, as it does, how inapplicable to the Madras territories are duties which succeed well, as far as financial results are concerned, in countries whose local circumstances are of a different character. The general security of the country renders it unnecessary either for ryots or manufacturers to resort to towns for protection; and as marts of trade, the largest of the towns do not hold out any advantages to merchants and traders which at all counterbalance a local tax of six per cent. on all that is "imported, manufactured or produced within them." Accordingly the effect of the duty was gradually to drive traders and manufacturers out of the towns into the neighbouring villages, by which, as we noticed above, they evaded the duty; but no longer having the ready market they had when residing in towns, they necessarily carried on their trade at greater expense, which expense fell ultimately on the consumer, no advantage accruing to Government. This increased expense was, as remarked by Colonel Munro, an absolute loss to the State, for it was the employment of labour without any return, which loss would have been all saved had trade continued to run in its ordinary channel. Under these circumstances, the Land Custom revenue gradually declined; the town duties were considered by Government to have been so exceedingly mischievous in their effects, that two years prior to the passing of a formal enactment on the subject, Government ordered the Revenue Board to give directions for their immediate abolition everywhere, except at Madras; they were also directed to discontinue the levy of duty on exports to Hyderabad, and to reduce the import duty on that frontier to five per cent. These measures reduced the Land Custom revenue from 23 to 10 lakhs.

182. In 1808 the town duty, which, though it had been discontinued for two years, had not been formally abolished, was revived. It was enacted in that year that the town duty both at Madras and the provincial towns should be restricted to goods imported into the towns; goods exported from, or manufactured or produced within their limits, being left free; goods having paid a frontier duty were exempted from the demand of town duty, or having paid the town duty, were exempted from duty on the frontier.

183. These changes did not much improve the productiveness of the inland duties. The merchants and shopkeepers who had fled to the exempted villages on the establishment of the town duty, and had returned again to the towns when its collection was discontinued, were little affected by the revival of that part of it which came under the head of import. The raw materials of which cloth was manufactured, viz. cotton and cotton-thread, were specially exempted from the town import duty; so that the manufacturers of the towns importing the raw material free were enabled, under the new rules, to manufacture cloth for the

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consumption of the town and the neighbouring country, without the article being liable to any duty whatever. The cloth was not subject to the duty, except on importation into a town at which town duty was levied; but a town where town duty was levied would have manufacturers of its own, who, by living within the town, ensured a ready market for their manufactures, and avoided the duty on them. By flying to the villages, the manufacturers had, in a great measure, evaded the duty; by returning to the towns they escaped it altogether.

184. The trade across the Madras frontiers is so very insignificant that the frontier duties produced very little; and if the rules established in 1808 had been strictly adhered to, from the inconsiderable number of towns of any size and consequence to be found in the Madras territories, the town import duty would also have been trifling. These rules, however, were widely departed from. A committee appointed to revise them in 1809, the year after they came into operation, state, that "the subordinate chokees at many of the nominal town duty stations had been so extended as to embrace the trade of a considerable tract of country, and thus produce all the effects of a transit duty." "This," they observe, "is certainly a deviation from the strict letter of the existing Regulation, but in many parts of the country it was the only means for rendering the Customs at all productive."

185. The committee of 1809 declared it to be their object "to legalize and render general" this irregular system, to which end they framed the Custom Regulations which were passed in 1812. No material alteration has since been made in the Inland Custom Regulations; for though some years after their enactment, the Inland Customs, which had hitherto been collected by the servants of Government, were farmed out to the highest bidder, yet the rates of duty and the rules for collection remained unchanged.

186. The following are the principal features of the present system: a general inland duty of five per cent., on a fixed tariff valuation, is leviable on every article of consumption, except such as are necessary to the lowest orders of the people, as vegetables in a green state, fire-wood, and a few others, and on every article of trade the produce of the country (except grain, cotton and cotton-thread) imported by land, passing through or sold within "the Madras territories."

Reg. I. of 1812.

Sect. 3, Reg. I. of 1812.

187. Goods having paid the general inland duty, pass the frontier by land free of further demand, into the territories of native powers; but goods passing by land into the settlements of foreign European nations, or, *vice versa*, from such settlements into the Company's territories, are subject to the same duty to which they would have been liable if they had been exported or imported on foreign vessels by sea, viz. 16 per cent.

Sect. 9, Reg. I. of 1812.

188. Grain, cotton and cotton-thread are exempt from the inland duty, except on importation by the land frontier, under which circumstance grain pays a duty of three per cent.; cotton, if exported to the settlements of foreign European nations, is liable to the same duty as if exported on foreign vessels by sea, 16 per cent.; and, if exported to the territories of native powers, is liable to a duty of eight per cent.

Sect. 14, Reg. of 1812.

189. Opium passing the frontier to or from foreign European settlements, is liable to a duty of 40 rupees per viss, which is equivalent to the sea duty. An exception is made in favour of opium purchased at the Company's sales at Calcutta.

Reg. I. of 1821.

190. Goods having paid the 5 per cent. duty pass into any part of the Madras territories (except the town of Madras and the provinces of Canara and Malabar) without being liable to any further demand. In the town of Madras the duty, instead of 5 is 6 per cent., and when goods that have paid the general 5 per cent. duty are imported by land into Madras, the certificate of the payment is taken in part payment of the higher rate. In Canara and Malabar the rate of duty is the same as in other parts of the country, but the fixed valuation upon which the duty is levied is considerably higher; and when goods that have paid the general inland duty are imported into those provinces by land, a duty of 5 per cent. is levied on the difference between the local tariff valuation and the tariff valuation of the place where the general inland duty may have been first paid.

Clause 2, Sect. Reg. III. of 1812.

Clause 3, Sect. 5, Reg. III. of 1812.

Sect. 12, Clause 4, Reg. I. of 1812.

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Reg. II. of 1817.

191. The certificate of the payment of the general inland duty must be on stamped paper, the expense of the stamp of course falling on the merchant. The price of the stamp is from 1 anna on goods not exceeding 10 rupees in value, to 20 rupees on goods above 10,000 rupees, and operates as an additional tax on every dispatch or parcel of goods below the value of 1,000 rupees, of from one quarter to $2\frac{1}{2}$ per cent., falling the most heavily on parcels of the lowest value.

Sect. 9, Reg. III.
of 1812.

Reg. VI. of 1812.
*Coimbatore, Ma-
dura, Trichinopoly,
Tanjore.

Clause 3, Sect. 9,
Reg. III. of 1812.

Sect. 13, Reg. I. of
1812.

192. A high consumption duty in addition to the general inland duty is levied at Madras and at all the more considerable towns in the interior, on betel, tobacco, ganjah, bhang and godack. In four districts*, this duty is levied at every Custom chokey throughout the district, as well as at the towns. The rate of the duty on each article varies in every district; it appears to be from 100 per cent. upwards. Though the above articles should be accompanied by a rowannah, no drawback is allowed. This duty has never been introduced into Canara and Malabar. A particular duty, denominated "haulut," is levied in Canara on pepper, betel-nut, cardamums and sandal-wood. With this exception, no duty is levied in Canara on the products of the country consumed within itself. The same is the case in Malabar, where duties, as in Canara, are leviable only on the external trade of the district. In our general remarks on the Inland Customs of the Madras territories, those of Canara and Malabar, unless particularly named, are not included; they will be treated of separately.

Sect. 8, Reg. II. of 1816.

Sect. 6, Reg. VII. of 1819.

Sect. 7, Reg. VII. of 1819.

Government Advertisement, 1 May
1820.

Government Advertisement, 13 Fe-
bruary 1821.

193. A stamped certificate of the payment of the general inland duty is received in full or part payment of the sea export duty, in cases where export duty is leviable. It is also the voucher on which the inland duty paid on several articles is drawn back in full or in part on their exportation.

194. The lists of the articles liable to the general inland duty, as well as the valuations according to which the duty is levied, vary in different districts. It may, however, be generally stated, that with the exception of cotton, grain and a very few of the commonest necessities of life, the whole internal trade and consumption of the country is subject to a duty* of 5 per cent.; a high town duty is levied in the principal towns of every district on betel, tobacco, goduck, bhang and ganjah; and a frontier duty of 16 per cent. on exports and imports is levied on the frontiers of foreign European settlements.

195. It is not easy to give a concise and at the same time a correct account of a very complicated system. Anomalies and exceptions are so numerous, that in order to make a description of it perfect, it would be necessary to enter into very considerable detail, which it has been our desire as much as possible to avoid. We have, therefore, in order to be as concise as possible, enumerated only those exceptions to the general rules which are most remarkable.

196. From the accounts received from the Accountant-General at Madras, we are enabled to state in general terms the changes that have taken place at different periods since 1803 on the Land Customs revenue, including town duties; the real financial results of the latter, as we shall in a subsequent report have occasion to explain, it is impossible, owing to the mode of collection, to show distinctly from those of the general inland duty. The town duties have formed since 1808 an inconsiderable portion of the total Land Custom revenue.

197. It appears that the amount of the Land Customs in 1802/3, was 23 lakhs. The operation of the Regulations of 1803 raised it for the first two years to 26 lakhs, from which it fell to 10 lakhs, the high amount of the repeated 6 per cent. duty having in a measure destroyed the commerce of the country, and the inhabitants of the taxed towns having gradually removed themselves to the neighbouring villages. After the promulgation of the Regulations of 1808, by which the general amount of the duty was considerably lowered, and the manufactures and products of towns were relieved from it altogether, it rose in the three subsequent years to 13, 24 and 25 lakhs. But this increase is not to be attributed to the operation of the rules of 1808, so much as to the breach of them by the partial
and

* The returns of the Collectors show that 70 per cent. and upwards of this duty is paid on the produce and manufactures of each district consumed within itself.

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and unauthorized introduction of transit duties. The general duties established in 1812 (the duties now in force) on the whole trade and consumption of the country, raised the Land Customs to 31 lakhs, at which they stood in 1818/19, when the renting system was partially introduced; since the full establishment of which, notwithstanding the diminished amount of the external trade, the greater part of the collections on which are credited to the Land Customs, they have risen as high as $42\frac{1}{2}$ lakhs.

198. The charges of collection previously to 1808 appear to have been about 2 lakhs. Under the system of 1808 they rose to above $4\frac{1}{2}$ lakhs; under the system of 1812 they rose to $5\frac{1}{2}$ lakhs; but the establishment of the renting system reduced them to between 2 and 3 lakhs. The average charges of the five years ending 1803/4 are Rs. 2,23,103.

199. It is our intention to confine our remarks at present to the general inland duty. It is a part of the system of far greater importance than the town duty, the duty collected on the frontiers of foreign European settlements, and the 8 per cent. land duty of Madras, as it is more general in its operation, and produces a much larger revenue. It will be our endeavour to establish, if possible, the policy of abolishing the general inland duty altogether; and when we submit to Government in a future report, which we hope speedily to do, the sources from which this loss of revenue may be supplied, we shall enter into a more detailed account of the other minor branches of Land Customs revenue. We do not at present contemplate any further alteration in them than may become necessary in order to make them harmonize with any great change that may take place in the general inland system.

200. The provisions of the Regulation under which the general inland duty is collected, are in many respects so vague, imperfect and inconsistent, that a perusal of it would by no means furnish a correct idea of the system actually in operation. The system which the collectors have pursued, as appears from their answers to our circular queries, is not precisely the same in every district, but the differences are not very material. Left in several important particulars without rules to guide them, or with rules that it was impossible to apply, they have contented themselves with adhering closely to the great principle of the Regulation, that of levying duty on all goods enumerated in the tariffs of their respective districts, on their import by land, transit or sale.

201. The Regulation contains abundance of rules for their guidance in the collection of the transit duties; but it appears to have been considered unnecessary to furnish them with any rules at all for the collection of duty on goods exposed for sale. The consequence has been, that long after the promulgation of the Regulation, it was looked on (at the Presidency at least) in no other light than as a regulation for the collection of transit duties. Its real character has latterly been better understood, but it had been 14 years in operation before the Board of Revenue appear to have discovered, that although it treats almost exclusively of transit duties, nevertheless the duties collected under it are, for the most part, excise duties on consumption, rather than transit ones. The words "sold within" extend its direct operation to the petty traffic of every village, to the retail transactions of the poorest native shop. Yet this, which is far the most important head under which the five per cent. duty is levied, and which, as the event has proved, placed in the hands of the sayer officer or the farmer a power of almost unlimited oppression, was considered by the framers of the Regulation as of so little consequence, that beyond the bare enactment they have hardly noticed it. The only provision of the Regulation which has any reference whatever to the collection of duty on goods sold or exposed for sale (both terms are used) is inconsistent with the general system, as we shall presently show; and as it would be perfectly absurd to act upon it, it necessarily stands a dead letter. That the collectors should have been charged with the collection of an universal consumption duty without any rules for their guidance, is so extraordinary, that it is impossible to suppose the framers of the Regulation understood the nature of a duty to which they attached so little importance. The Custom Committee, who sat in Madras in 1818, though they strongly recommended the total abolition of the general inland duty, yet in their description of its operation, and in all their arguments against it, treat it simply as a duty on goods in transit. Like the framers of the system, they scarcely notice the fact of its being also a duty on

Reg. I. of 1812.

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*Minute in Council
under date 28 De-
cember 1820.

goods exposed for sale, and never refer to its practical operation under that head. Sir Thomas Munro also, in 1820*, appears to have viewed the general inland duty solely as a transit duty; some years later the operation of the system began to be better understood. The Board of Revenue in a letter to Government, dated 30th March 1826, after giving a highly favourable account of the state of the Inland Customs, conclude by observing (par. 45) that they "are rather an Excise consumption than mere Custom duties upon trade; and it is this consideration," say they, "which should be borne in mind, when the existing Inland Customs, or rather Excise, comes to be regulated anew."

202. The greatest enemy of the general inland duty can say little worse of it than is here voluntarily avowed by its admirers and advocates. A system of universal excise, if administered by Government servants, will always be a system of universal fraud on the revenue and exactions on the people; and if administered by farmers, a system of grinding oppression, under which the payment of legal dues will form the lightest part of the burden.

203. It is provided by Regulation I. of 1812, that chokies for the collection of the general inland duty should be established at certain stations in each district; their number and situation to be determined by the collectors, under the orders of the Board of Revenue. In Bengal and Behar, where the duty is not general, and where from local circumstances far the greatest part of the trade of the country almost necessarily passes the Custom-houses, there was no occasion to entrust chokeedars with authority to levy duty and grant rowannahs. But in the Madras territories, as the duty was a general one, had it been enacted that the duties of the district should be paid at one or two particular spots, the grievance would have been intolerable; the petty traffic of one village with another, if not in the immediate neighbourhood of the Custom-house, would have been completely stopped. Hence it was necessary in the outset to trust very important authority to very ill paid servants. It was also necessary, from the open character of the country, to multiply the chokies to a prodigious extent.

204. The greater part of the Madras territories may be traversed by loaded bullocks in every direction; there are few towns and marts of trade of any size and consequence to which commerce is attracted, and in proceeding to which it is necessitated to travel, as in Bengal and Behar, along great roads or navigable rivers, where it may be easily intercepted by chokies and Custom-houses, placed at long intervals from one another. On the contrary, the internal trade, which is conducted on a very petty scale, passes through an infinite variety of channels. A trader would seldom find any difficulty in avoiding chokies placed at long distances from one another along the principal routes. He might travel a few miles off the road with almost as much facility as upon it. There are very few points which goods in transit are obliged to pass; and if these only were guarded, the greater part of the internal traffic of the country (all of which by the Regulation is chargeable with the general duty) would escape it altogether. The plan of confining chokies to towns and leaving the surrounding country free, had been tried from 1803 to 1808, and again in an altered form from 1808 to 1812; and the result was in both instances most unsatisfactory. To make the inland duty productive, experience had shown that it was necessary to spread chokies over the whole face of the country. This was done from the first introduction of the present system; the chokies seem to have been placed wherever the collectors recommended, and the number has not since been materially increased. The number of chokies and mettoos, or subordinate chokees, at which duty is collected in each district, varies from 30 to 231, the number depending on local circumstances. To each chokey is attached a circle of from 20 to 30 villages, over which the chokeedar's jurisdiction extends, and within which he is authorized to levy the general inland duty. This circle of villages constitutes the limits of the chokey. The chokey is itself the centre of the circle; the whole district is thus allotted out; each village is within the limits of some chokey or other, and the chokeedar's peons, if not actually resident in it, pay it frequent visits. In some districts the villages under the jurisdiction of each chokey are thrown into smaller allotments of five or six villages. In each allotment is a mettoo, which is to all intents and purposes a minor chokey; at this mettoo are paid the village or bazar duties of the allotment, that is, the duty on goods sold within the villages; a large dispatch of goods passing through one of these small allotments, and liable to transit

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transit duty, would not be stopped at the mettoo, but would be carried to the chokey. The duty collected at the mettoos falls chiefly on the raw produce of the village lands. The duty has of late years been generally under-rented to the chokeedars, who again under-rent it to the holders of the mettoos; these individuals are in most instances residents of the village attached to their mettoos. The chokey and mettoo peons patrol within the limits of their own stations, but do not enter the villages or limits of other chokies. The owners of the mettoos give certificates on unstamped* paper of the payment of duty on the smallest quantity of goods. These certificates do not cover the goods beyond the jurisdiction of the chokey to which the mettoo is attached; a person desiring to remove goods beyond the limits of the chokey, must carry his unstamped certificate to the chokey, and get it exchanged for a stamped rowanah. This system prevails with little variation throughout the whole of the Madras territories, except Canara and Malabar.

205. The mode in which the limits of the chokies have been gradually extended is worthy of remark, as showing the impossibility the collectors found of making the trade and consumption of the country pay the general inland duty but by a system of universal pressure. Regulation I. of 1812, restricts collectors from establishing chokies without the authority of the Board of Revenue; but with regard to arranging the limits of them, the Board of Revenue have allowed them to follow their own judgment. The Regulation declares, that the chokies shall be so situated as to "embrace within their limits the principal towns, bazaars and roads throughout the country." This provision is somewhat vague. If the limits of the chokies had been confined to their immediate vicinity, the greater part of the trade in transit would have easily escaped them; and to levy duty on the sale of goods would have been altogether impossible, because it is specially provided that the duty shall not be demanded on goods exposed for sale in places situated within the immediate limits of chokies. Accordingly the collectors began to extend the jurisdiction of the chokies in every direction, till the whole country was at length embraced within their limits. Every village has, in the course of time, been declared within the limits of some chokey or other. Whatever place is without the limits of one chokey, is within the limits of another. Goods passing out of the limits of a chokey, do not pass into open neutral ground, but into the limits of some other chokey. Every 10 or 15 miles the merchant is thus liable to detention.

Clause 11, Sect. 17,
Reg. I. of 1812.

206. The multiplication of chokies is a great grievance to the merchants; but to the agricultural part of the community it matters little whether the chokies are few or many, so long as it is left to the collectors to assign their limits. To the ryots indeed, who pay the duty in the shape of excise, an infinite multiplication of chokies, the establishment of one in every village, would be rather an advantage than an evil; for as the ryot, or perhaps the village bazarman, who takes the ryot's raw produce, tamarinds, garlic, &c., off his hands, must pay duty on exposing it to sale, and as that duty, by the Regulation, can be paid nowhere but at a chokey, whether it is near or far, the nearer the chokey the sooner the business is settled. It is a much less grievance to a man to pay a few pice at his own door, than to lose two or three days in making a journey to a distant chokey. As the Regulation declares that goods shall pay duty when exposed for sale, supervising peons are sent into every village to guard against ryots effecting the sale of their garden produce without payment of duty. The ryot cannot, therefore, escape the duty by living at a distance from the chokey, but the nearer the chokey is to him the sooner his business is transacted.

207. The establishment of a transit duty throughout a vast extent of open territory, and of an excise duty in every village of it, required a prodigious body of sayer officers. In 1818, between 7 and 8,000 sayer peons†, receiving on the average 3½ rupees per month, just half the pay of a common Madras coolie, were employed in the Inland Customs department, exclusive of the Land Custom establishment of Madras. In several districts, 2 rupees is to this day the monthly pay

* The impossibility of applying the rowanah system, as established by the Regulations, to retail transactions, has given rise to the practice here described, a practice, however, inconsistent by law.

† The number of peons and chokeedars employed at the present time in the collection of the Land Customs, exclusive of the large Land Custom establishment of the town of Madras, is between 10 and 20,000.

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pay of a sayer peon. The chokedars and other officers, with reference to the duties required from them, were equally ill paid. It was not the miserable pittance they received from the treasury that induced qualified men, either peons or chokedars, to offer their services. The officers of Government must have been aware of the mode in which the whole body of the candidates for Custom appointments proposed to eke out their inadequate pay, but probably they were not aware of the impossibility of keeping their peculations and exactions within tolerable limits. To do this was found impossible even in Bengal, where the duties were levied under the very eye of the collector, and at a time when the management of the Customs was the sole employ of the superintending officer. But in the Madras territories, where the Customs were of a much more general nature, and collected at a hundred different chokies in every district, and where the superintending officer was burdened with a multiplicity of other business, to keep an adequate check on the proceedings of the sayer peons and chokedars was impossible. The chokedars found it was almost optional with them whether they carried their collections to account or not. They might realize large sums with little fear of detection, and without committing any exactions; they had only to withhold the sums they had legally collected. Not, however, that they were generally so forbearing. In 1818, the Board of Revenue, in recommending to Government the renting of the inland duties, remark,* "The great exactions and frauds of the sayer servants have been the theme of as constant representation by the collectors, as their oppressions have been the subject of repeated complaints by the inhabitants and merchants of the country." They say again, in another letter, that the oppression exercised on the people is not the chief evil to be remedied: "The grand and enormous abuse is, that a large portion of the duties actually levied never reaches the treasury of the state, and that the trader and the public officers mutually combined to defraud the Government."

* Letter from the
Board to Govern-
ment, dated 23
February 1818.

208. The grounds on which the Board of Revenue advocated the renting of the inland duties were, the frauds committed in the levy of them by the Government servants, and the heavy charges of collection. They conceived that the people would more readily appeal to the collector against the servants of the farmer, than against the servants of Government, who were persons of his own nomination; that the renter being interested in the good conduct of the subordinates, would use his best endeavours to controul them, and would be much better able to effect this than the collector; that the persons who collected the Customs being no longer public officers, the collector's establishment, instead of making common cause with them, and conniving at their frauds, would be disposed to check them. The introduction of the renting system was strongly opposed by the Madras Customs Committee, to whom the question was referred for consideration.

Regulation V. of
1818.

209. After much discussion, the renting system, which had been for several years in partial operation, was in 1821 fully adopted by the Government of Sir Thomas Munro. His opinions on the question will be found in the Appendix. The financial result of the general adoption of the renting system, notwithstanding the ruin about that time of the cloth manufacture, was an increase of about 10 lakhs of rupees in the collections, and a decrease of about 3 lakhs in the charges.

210. No uniform system has been pursued in renting the Inland Customs. The Customs of each district are rented separately. They are generally rented for a year, sometimes for two or three. In some districts, the Customs of the whole district are rented to a single individual, or to several conjointly; in others, there are a considerable number of renters, each renting separately the Customs of a portion of the district, and also renting separately different branches of them, as cloth and sundries, betel, and the town duty on the five articles. The object is to get the highest possible offers, coupled with good security; an end sometimes obtained by putting the whole Customs of the district up at once, and sometimes by subdividing them. What course it is best to follow, depends on local circumstances.* The renting of the Customs is annually arranged by the collectors in communication with the Board of Revenue. The renters are bound to collect the duties, in conformity with the provisions of the general Regulations for the levy of them.

211. The

* If it happens that the offers are much below the average of the preceding five years, they are not in general accepted, but the Customs for that year are collected by Government servants..

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211. The collection of the duties on the frontiers of foreign European settlements has always been retained in the hands of the collectors.

212. It appears from the general testimony of the Madras collectors, that the competition among the renters of the Customs is excessive, and constantly brings ruin upon themselves and their securities. There is no speculation which has from its nature so many attractions for a native of that class whose regard for character does not prevent them undertaking it. It ensures great influence; it does not require much personal exertion; it affords an opportunity of providing in subordinate offices for that tribe of idle, starving relations and dependents, with whom every native in tolerable circumstances is generally surrounded, and, what to a native is perhaps not the least attractive part of it, it confers very extensive powers of exaction. Hence the great competition for the sayer farms, a competition that keeps down the renters' profits, and induces them to offer for the farms often nearly as much, sometimes even more than they find it possible afterwards to extract from the country. If their illegal exactions are enormous, so are also the rents they have engaged to pay. Extort as they will, they have generally taken their farms at so high a rate, that they must eventually disgorge their extortions, in order to make good their engagements to the Government. Though the instances of sayer farmers sustaining positive loss are very numerous, yet the nature of the business is so exactly suited to the native taste, that notwithstanding the numbers that have been ruined, there has never, hitherto, been any lack of fresh adventurers eager to play the same game.

213. The great native merchants are the part of the community which under the existing system suffers least inconvenience from the inland duties. They have an accurate knowledge of the demands, legal and illegal, to which they are liable. "As the renters," says the collector of Chingleput, "are open to all sorts of arrangements and compromises, their irregularities do not tell so hard upon them (the merchants) as might be expected." Several other collectors speak to the same effect. It appears that the merchants, if they trade on a large scale, make such arrangements with the renters as prevent their exercising upon them those formidable powers of annoyance with which the Regulations invest them. If the merchants have made their arrangements beforehand at the several chokies on the road, the goods may pass through the country almost without detention, but these arrangements are made at a considerable expense, which finally falls on the consumer. If a trader does not carry on regular and extensive business, and has not made his arrangements beforehand, he becomes subject to the arbitrary exactions of the renters and their servants, and he will find he consults his interest better by quietly submitting to pay a bribe at every chokey he passes than by appealing to the collector of the district. On this point the collectors themselves are nearly unanimous. The following are a few of the passages to this effect, with which their reports abound.

214. (Report of the Principal Collector of Tanjore.) "That the commercial classes, especially the petty traders, are subject to endless vexation and exaction, is undeniable, and under existing circumstances it is quite impossible for a collector to interpose any effectual check, because each instance is of so trivial a nature, that the sufferer prefers passive submission to incurring the trouble and expense of bringing forward a complaint."

215. (Report of the Principal Collector of Madura.) "So great must be their loss by detention to substantiate a complaint, that it is rare that the oppressed have recourse to such a measure, even when assured the collector will use his best endeavour to pass a quick decision. The impositions to which an honest merchant must lay his account to submitting in journeying from Madras to Madura and Tinnivelly are, payment to each of the sayer renters whose chokies he passes, of one-eighth of a rupee for a man's load, one-fourth for a bullock, and half a rupee for a cart load, under penalty, on refusal, of having his goods opened and weighed or measured."

216. (Report of the Collector of Ganjam.) "I believe it is a well known fact that a gomastah receives from a merchant a russoom for writing out of every rowanah; that he will detain the merchant until he is paid, and annoy him in every possible manner until it is forced from him. A merchant will seldom make his report to the collector unless grievously imposed upon, his goods suffering

so much from delay." Again, "detaining the goods even for a short time until the investigation has been accomplished, is what the trader is most desirous to avoid, and sooner than suffer this detention he will submit to illegal exactions."

217. (Report of the Principal Collector of Coimbatore.) "Without some prospect of advantage, which the management of the sayer revenue under the officers of Government notoriously affords, it cannot be supposed that any persons would undertake the duty of superintending a chokey, and the heavy responsibility attached to it, on a salary seldom exceeding 10 rupees per mensem."

218. (Report of the Principal Collector of Nellore.) "It is not possible for the collector to interpose an effectual check to the illegal and vexatious proceedings of the renters."

219. It is unnecessary to multiply quotations to the same effect. A case stated at some length by the collector of Trichinopoly, in illustration of the fact that it is not the interest of merchants and petty traders to complain, will be found in the Appendix, and sets the matter in so clear a light, that after the perusal of it we do not see how it is possible to believe that the most strenuous exertions of the most active collector will oppose any effectual check to evils that are inherent in the system.

220. Supposing a petty trader may wish to carry his goods to a market, the road to which lies through three or four different districts, containing, as they do, from 30 to 231 chokees each, some idea may be formed of what an ordeal he would have to pass through before his goods reached their destination. The collectors, whose duty it is to protect him, declare their utter inability to do it, because it is not his interest to complain to them. This appears to us a sufficient answer to any arguments in favour of the system drawn from the circumstance of there being little formal complaint; if there is but little complaint it is manifestly not because there is little cause for it. No testimony can be so good as that of the collectors; they are not likely to exaggerate disorders, the existence of which is an imputation on themselves.

221. If the system were denounced by those only who had smarted under the operation of it, it would be necessary to make allowance for high colouring and exaggeration, but the strongest opinions we have seen in condemnation of it come from the officers who administer it, from those whose special duty it is to prevent the abuses they describe, on whose character as public servants the existence of such abuses, unless they are without a remedy, seriously reflects, and whose private interest would certainly lead them not to exaggerate the evils of it, drawing as they do a large part of their salaries in the shape of commission on those very duties the total abolition of which they strongly advocate.

222. The local officers do not ask for more extensive powers, or recommend severer punishments. Abuse is so inherent in the system, that no powers the Government could place in their hands would enable them to eradicate it. If the punishments for exaction were heavier, it would probably produce no other effect than that of rendering the character of the Custom officers, or the renters (as the case might be), even more worthless than it is at present. It is not the severity, but the certainty of punishment which renders it effectual. The difficulty of obtaining a conviction, owing to the universal disregard of truth unhappily so prevalent among all classes of the people, is in all cases very great, but a charge of exaction against a renter is, from the impossibility of procuring unbiassed evidence, particularly hard to deal with. Besides, the circumstance of punishment on conviction being very heavy would make the magistrate more cautious than before how he condemned, and increased severity, instead of checking the offence, would rather tend to promote the commission of it with impunity. On the other hand, if a magistrate showed great readiness in crediting complaints of exaction against the renters, advantage of it would immediately be taken by the traders to avoid paying their legal dues. Smuggling would increase, and the revenue fall off.

223. As the case stands at present, we have no hesitation in stating our opinion that a very large portion of the custom rents paid to the Government are the proceeds of the illegal exactions of the renters. "An effectual prevention of abuse," says the principal collector of Madura, "would sensibly diminish the revenue

revenue under a rent." "Any mode," says the collector of Trichinopoly, "that could be devised effectually to put a stop to the illegal exactions and irregularities of the renters in all parts of the country, would undoubtedly be a great relief to the trade of the country, though a falling off must be the consequence in the present revenue derived from the Customs." Of this there can be no doubt. When the Customs were collected by the Government officers, whatever exactions they could make went into their own pockets. But now that the Customs are farmed, the greater portion of the illegal exactions of the renters are carried to the Government account, in the shape of rent; the rents being in general so high from excessive competition, that the renter is in most instances under the necessity of making over to Government the greater part of his collections, legal and illegal, to discharge the sum for which he has rendered himself liable. Should a renter miscalculate the profits of a farm, and, incited by a spirit of competition, offer the whole sum which he is subsequently able by any means to derive from it, the whole of his collections, legal and illegal, must be paid away to Government to discharge his improvident engagement.

224. Illegal exactions are equally practised by custom-house officers and renters; but whether it is a greater evil that such exactions should be appropriated by the Government servants, without the public deriving any benefit therefrom, or that the dignity of the Government should be compromised by becoming a party to the transaction, receiving, as they do, from the renters the largest part of their illegal exactions, we will not undertake to determine. It remains for Government to decide how long a system of taxation should be persevered in, under which a very large portion of the sums levied from the country and brought to account, is levied illegally. The universal infraction of the Custom laws is notorious, and the Government in a manner sanctions these disorders, by largely reaping the benefit of them.

225. We have been completely baffled in our endeavours to form an estimate of the actual pecuniary burden which the Madras Inland Customs impose upon the country. To the known amount of the burden (viz. the rent paid to Government where the Customs are under farm, and the gross collections made by Government servants in the few instances in which the Customs are not rented) must be added the surplus receipts of the renters, being the fund from which the charges incurred by them are defrayed, and their profits realized. To ascertain these particulars we referred the question to the collectors, but their answers have not furnished us with the means of making even the roughest calculation. It is an item of the agreements between the Government and the renters, that the latter shall not be obliged to show their accounts. The manifest falseness of the statements they have, at our request, voluntarily made of their collections, renders them perfectly useless. The opinions given on the subject by the local officers, as they state themselves, are merely conjectural, and vary considerably. One collector supposes the renters' profits may be 2 per cent. on the rent paid to Government; another says 20 per cent.; another thinks that they more often lose than gain; several declare they are unable, from want of data, to form any opinion whatever.

226. As it is enacted that the rowanahs covering goods that have reached their destination shall be sent to the collector of the district in which they were issued, we had hoped at one time that these might furnish us with a clue to the actual collections, but found on further inquiry that a large proportion of the rowanahs issued are never returned, and also that a very large portion of the collections are on goods for which no rowanahs are taken out. Reg. I. of 1812, sect. 17, clause 9.

227. There is just the same uncertainty with regard to the charges of collection. The renters have given in statements showing these charges to be, in general, nearly the same as those incurred by the Government before the Customs were rented. On these statements not the smallest reliance is to be placed. The nominal salaries of their servants, if ever paid at all, which is very doubtful, form but a small part of their actual gains. Though the renters often lose, their subordinates most probably always find their employment a profitable one. We cannot suppose that the sayer peons make less than 10 or 12 rupees a month, at the lowest calculation. They are quite as good a class of men, often much superior, to those employed on higher salaries in the collection of land revenue. We have not, however, that degree of knowledge that would admit of our making any estimate with the accuracy of which we could be at all satisfied. We are, there-

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fore, compelled to leave this point in the state of uncertainty in which we found it; a circumstance we less regret, as we do not think the mere pecuniary amount of the burden of the general inland duty, heavy as it is, is by any means the most objectionable part of it.

The following are some of the petty articles in common use, enumerated in the Land Custom Tariff.

Onions - -	Garden Productions.
Chillies - -	
Tamarinds - -	
Saffron - -	
Garlic - -	
Cocoa Nuts - -	
Coriander - -	
Jerah - -	
Maythee - -	
Ginger - -	
Mustard - -	
Seacoy.	
Hurrijee oil seed.	
Gunnies.	
Cumblies.	
Paper.	
Medicines and drugs.	
Ready-made implements	
Mats of every description.	

228. Though the general inland duty presses heavily on the country as a transit duty, it is as an excise or consumption duty that it more directly affects the great body of the people. The greater part of the produce and manufactures of the country is liable to the duty when exposed for sale, unless covered by a rowanah. In the Madras territories, where the internal commerce is very trifling, the dutiable goods exposed for sale in every village are, for the most part, the raw produce of the village lands; as chillies, tamarinds, garlic, &c. Whether the duty to be collected is duty on goods in transit, or duty on goods exposed for sale, the same rules, according to the letter of the law, must be followed in its collection, that is, all the complicated refinements of the rowanah system must be applied to the retail transactions of the bazar; no distinction or exception is made. A seer of onions is as liable to confiscation as a consignment of piece goods, unless the seller can prove by a rowanah that duty has been paid upon it. The duty is not, as might be expected, confined to certain great marts, but is equally levied in the smallest hamlet as in the largest town.

229. It is needless to remark what a powerful engine of oppression in the hands of the officers of the Customs, is a code of laws to which it is impossible for the people to conform. By Regulation I. of 1812, section 17, clause 4, any person having paid the general inland duty is entitled to a rowanah; and by clause 9 of the same section, this rowanah, having reached its destination, is to be delivered up to the chokeydar, and forwarded by him to the collector, that he may check the chokeydar's accounts. Thus a ryot wishing to sell to the bazarman of his own village a few chillies of his own growing, must carry them to the nearest chokey, pay the duty and receive a stamped rowanah, which rowanah on reaching its destination must be forwarded to the collector. To apply such rules, applicable only to great mercantile transactions, to the petty dealings of a bazar, is impracticable. No other rules, however, are laid down, and it is therefore always in the power of a renter to call on the bazarman to prove, which it is impossible for him to do, that the goods on his stall have paid the duty. "From the petty bazarman," says the principal collector of Madura, "the renter exacts a monthly contribution of one or two fanams, for his forbearance from persecuting him for the absence of a rowanah. And from the cultivator he collects a rupee or half a rupee per annum, for abstaining from troubling his enjoyment of the cocoa-nut, tamarinds, &c., the produce of his back yard." So that to make sure of the duty, the renter manages to levy it twice over; and both ryots and bazar-men find it a much easier, and perhaps cheaper, matter to pay the duty twice over, than to take out rowanahs.

230. The only passage in the Regulation which makes a particular reference to the levy of duty on goods exposed for sale, declares that no duty is to be levied on goods exposed for sale in places situated within the immediate limits of chokies, it being "presumed that such goods have been charged with the duty on transit through the chokies to the place of sale." If the inland duty was not general, but was levied, as in Bengal, at certain great marts shut in by chokies, and if the goods on which it was levied were always brought from a distance, the above provision, though somewhat indefinite, and opening the door to much discussion as to what might be considered "the limits" and what the "immediate limits" of a chokey, would not be utterly absurd. But in the Madras territories, a great part of the goods liable to duty, which are exposed for sale in villages and hamlets, are the produce of the lands of the village where they are sold. Such goods, therefore, cannot have paid the duty by crossing the limits of the nearest chokey. And in the case of those goods brought from a distance, and exposed for sale in the immediate vicinity of the chokey, situated as the chokies are there is no more reason to presume that they have paid duty, than if they had been exposed for sale in a bazar not in the immediate vicinity. The chokies do not form a line of interception, and if the above provision were carried into effect the villages immediately round a chokey would enjoy exemption from the inland duty which

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would fall exclusively on the villages on the outskirts of the limits. The language used in the Regulation, regarding the limits of chokies, is applicable enough to chokies surrounding a town or stationed on the frontier of a district, but it is most incorrect and deceptive to use it in speaking of chokies situated as those of Madras are, covering, as they do, the whole face of the country, each standing independent and unconnected with others, the centre of a little domain of its own.

It may be argued that the framers of the Regulation did not contemplate the circumstance of a chokey, and half-a-dozen mettoos, being established in every square 10 miles. If this is the case, adverting to the local character of the Madras territories, they could not have contemplated the levy of a general inland duty upon the whole trade and consumption of the country. If a general inland duty is to be levied on the whole trade and produce of an open country, there is no use in establishing a few chokies here and there, with a limited jurisdiction.

231. The collectors, unable to apply the letter of the Regulation, have followed the spirit of it, and levy the duty everywhere on goods exposed for sale, providing against the evasion of it, each according to his own judgment. There was at first some variation in their modes of proceeding. The Regulation was not in every district carried into full effect when it first came into operation. It appears from the chokey pattis* that have been laid before us, that certain chokies which have at present 20 or 30 villages within their limits, had in 1815 not above three or four, which shows how the existing system has rather grown out of the Regulations, than been established by them. At the present time no village is free from the supervision of officers of the Customs, who take accurate note of every ryot's cultivation; so that the ryot, after paying a heavy land-tax on the growth of his crop, is called on to pay another tax on the sale of it. It would be far better for him that the five per cent. duty were added to the assessment on his land; he would be spared the extortion of the sayer peons, and the intolerable annoyance of their domiciliary visits.

232. One or two of the Madras collectors have not, in their replies to our circular queries, expressed the unqualified condemnation of the Inland Custom system which is to be found in the reports of the majority; the principal collector of N. Arcot, one of the largest districts in the Madras territories, having given opinions by no means unfavourable to the existing system; but having at the same time been so particularly concise in his answers that it was impossible for us to understand in what mode he managed to secure the people from the extortion that was represented as prevailing in the surrounding districts, we thought it necessary to enquire particularly into his system of management; because, if it proved to be the case that an active officer was able to raise a very large revenue by the Inland Customs, and could at the same time secure the people from vexation and illegal exaction, which the majority of the collectors declare to be inseparably connected with the collection of them, the inference would be, that it was not the system, but the officers who worked it, who were responsible for the evils they describe. We therefore requested copies of certain orders issued by him to the subordinate Custom officers of his district.

233. We subjoin a translation of extracts from his circular orders for the year 1833-34, a year when the Inland Customs of the district happened to be under his own management, and not rented.

Para. 2. "The village ryots must report to the chokeydars the out-turn of their crops of tobacco, turmeric, onions, garlic, ambaree, ganjah, bhang; which articles are liable to duty. The monigars (heads of the village) and curnum must prepare a return, showing the names of the proprietors, the quantity in maunds of the articles produced, and the extent in gooteys of the land producing it; which, being sealed, is to be kept in the chokey, and chitties containing the above particulars given to the ryots, &c. The ryots must report to the chokeydar when they are about to sell the articles to the wurtugs (traders). The chokeydar is then to deduct from the return the quantity sold, and do the same in the chitties given to the ryots."

Para. 3.

* The lists furnished to the chokeydars by the collectors of the villages within which their power may be exercised.

Para. 3. "A statement is to be prepared, showing the number of the houses of the weavers and handkerchief manufacturers, &c., and the number of looms of all sizes found in them. A separate seal is to be prepared, which should be affixed to every kind of cloth as soon as it is woven a cubit long in each loom, and a daily list should be kept of the pieces of cloth manufactured, and a note for each piece so prepared should be given. At the time of the sale of the piece goods, the weavers should come to the chokey, and report which cloth, and to which of the wurtuks he is going to sell them; stating at the same time the total quantity sold and that remaining in hand."

Para. 6. "A list of the villages under each chokey should be made out, and the chowkeydar, taking with him the monigars, should ascertain the quantity of the articles of consumption found in the possession of the ryots and the wurtuks, and then preparing a statement thereof, send it to the hoozoor. He is also to give them a chittee for the articles, deducting such portion of them as have paid the duties."

234. These rules appear sufficiently strict, but the collector was not satisfied that he had done enough; for, on the 17th September 1834, he issued the following order to one of his native officers:

"You have laid before the hoozoor, lists of the villages being under the jurisdiction of each chowkee, and of the articles there produced; but you have made no mention when the articles were stored up. I have therefore to direct you, that as by allowing the articles to remain for a long period in the houses of the wurtuks and others, without collecting the tax on them, some fraud might take place, you immediately levy the duties on the articles according to the Regulations, and pass them a receipt, the chowkeydars witnessing it; and report the circumstance of your having done so to the hoozoor. The ryots and wurtuks being allowed to discharge the duty within two months from the date the articles are put into store, their articles should be sold to recover the amount, should they fail to discharge it themselves within the given period. They cannot be allowed any longer period, for they in that case commit frauds."

235. We gather from these orders, that in a district in which the Customs are levied without abuse and oppression, a regular system of domiciliary inquisition is in operation in every village; that a strict account is kept of the garden produce of every ryot when stored in his house; and that within the space of two months from the time of his having stored it, he is made accountable for the duty whether he sells it or consumes it in his own family, though in the latter case it is not legally chargeable with duty. So that the collector makes good the duty, it appears a matter of indifference to him whether it is paid by the ryot or the shop-keeper. Both seem to be held responsible, and the fact probably is that the peons take good care to make both of them pay it.

236. To levy duty on goods stored in houses is clearly illegal, and is contrary to the express and repeated orders of the Board of Revenue; but the duty is little less oppressive, though the letter of the law is not infringed in collecting it. Every ryot who has a garden grows articles liable to duty; though these articles are not chargeable with duty if he consumes them in his own family, yet the sayer officers have no assurance that he will so consume them, and their eye must be perpetually upon him, so that he and his women are liable to molestation from them whenever they appear abroad, unless he bribes their forbearance.

237. The collectors declare almost unanimously, that the merchants consult their own interests best by submitting without complaint to the exactions of the sayer officers. If it is not, then, the interest of men who are comparatively wealthy, and are not like the ryot tied to a particular spot, to carry complaints to the collector, much less can it be the interest of an unfriended ryot to quit his family and home, and leave his crops to be destroyed, while he travels 40 or 50 miles, perhaps more, to appeal to the collector against the renter or his servants, of an exaction of a few annas. So great is the mistake of inferring the non-existence of oppression from the circumstance of there being little open and formal complaint. Complaint is not likely to be made when it only aggravates the evil; That there is abundant cause for it, however, is the strongly expressed opinion of those officers whose duties give them peculiar opportunities of becoming acquainted with the state of the country and circumstances of the people.

238. The ryots and shop-keepers feel the pressure of the general inland duty much more severely than the merchants; for though it is true that the legal checks on the extortions of the renters on the merchants are perfectly inefficient, yet the open character of the country, which has rendered it necessary to plant chokies in every part of it, in order to ensure a Custom revenue at all, supplies at the same time a natural check, operating on the self-interest of the renters themselves. For the trade not being confined to a particular route, each renter knows if he pushed his exactions too far, that, instead of gaining by it, the merchants would avoid passing through the tract of country under his jurisdiction. This check, which, in most parts of the country, affords considerable protection to the merchants, is of no service to the shop-keepers and ryots. For them, especially the latter, there is no escape. The renters have no apprehension of their exactions driving them to other districts, and have no fear of their complaining to the collectors; consequently the only limit to their extortions is the ability of the ryots to comply with them.

239. As a proof of the little practical knowledge of the nature of transit duties possessed by the framers of the system, it may not be out of place to mention, that it is enacted by Regulation I, of 1812, that goods in transit, covered by a rowanah, shall not be searched at the intermediate chokies between the chokey from which the rowanah was taken out, and the last chokey they pass on reaching their destination. This provision appeared to us so incompatible with the realization of revenue, that we inquired from the local officers whether it is ever acted upon. We find from their answers that it neither is nor can be, as smuggling might be carried on to any extent under the protection it would afford. Some of the collectors declare it in plain terms to be a dead letter; and others say that the chowkeydars have orders not to search goods in transit, unless there is ground for suspecting that they do not correspond with the rowanahs that cover them; as if there could be any doubt of the chowkeydars always suspecting goods the owners of which were not prepared to buy off their suspicions. This modification of a positive rule against the search of goods in transit, this unauthorized exception in favour of a chowkeydar's suspicions, of course renders the provision null and void. There appears, however, to have been no alternative; the principal collector of South Arcot states a case to the point, which had recently come under his own observation. A merchant complained to him that a chowkeydar had stopped a dispatch of raw silk, which was passing through the district to a distant part of the country, and insisted on searching it, which, as it was covered by a rowanah, he had no authority to do. The collector went himself to the chokey, and in defiance of the Regulation had the bales opened in his presence, when each of them was found to contain a quantity of spice. This would be a case of every-day occurrence; if the chokeydars were debarred from searching goods in transit, not a dispatch of coarse goods would pass through the country that corresponded with the covering rowanah. Under a rowanah taken out for a place 500 miles distant to cover goods of a coarse description, traffic would be carried on in the most valuable commodities free of duty, along the whole line of road. In order to check this mode of smuggling, which is much practised even now, without subjecting the traders to detention and search at every chokey they passed, the Board of Revenue directed (25th August 1831), that rowanahs shall run only for such time as is necessary for conveying the goods covered by them to the place of their destination, at the usual rate of travelling. The principal collector of Coimbatore, remarking on the insufficiency of this check, observes, "the time of departure is still left to the convenience of the parties receiving the rowanahs, and there is nothing to prevent them from taking the goods to their own villages, and from opening the bales or packages, so as to alter the quantity and quality of the goods; and therefore," he goes on to say, "the chowkeydars do and must exercise the power of search." The notion of levying transit duties without search, and without distressing the trade of the country infinitely beyond the mere pecuniary weight of the tax, is perfectly chimerical, and never could have entered the heads of practical men.

240. The weight of the general inland duty falls quite as directly on the community at large, as on the ryots and merchants. A man who has no connection whatever with either commerce or agriculture, will not the less find himself perpetually brought into collision with the officers of the Customs. He cannot move along the high road without being subject to be carried to a chokey to be

searched, nor make a purchase in the bazar without a sayer peon at his elbow calling upon him to pay duty. His very clothes are liable to be examined, to ascertain whether they bear the government stamp. An anecdote was related to us the other day, illustrative of the manner in which the vague authority conferred by the Regulation, to levy duty on goods exposed for sale, is exercised in the minutest retail transactions. It occurred in one of the largest towns of the Carnatic, and in the immediate neighbourhood of the collector's cutcherry. A woman who was leaving a shop where she had purchased a pair of common slippers, was stopped in the street by a sayer peon, who required her to pay a duty on them, for slippers, by the tariff of the district, are liable to duty; a dispute arose as to the amount to be paid, which ended in his taking her to the sayer chokey; as soon as she got out of the chokeydar's hands she complained to the collector; not of the exaction of duty on an article not worth 8 annas, that she seemed to consider a regular and legitimate demand; but of the personal violence that had been used towards her by the peon, as he dragged her to the chokey. She had no objection to pay half an anna for the slippers, but she thought a whole anna too much. It appears doubtful whether any tax could be invented which would cause more universal vexation and distress, or strike more effectually at the root of industry, than one under which such a system of interference is openly practised and avowed. It is not in the amount of the duty that the grievance consists; it is the intolerable vexation that attends the collection of it.

241. Several of the collectors have recommended a revision of the inland tariff, and that many articles of common use now charged with the duty should be omitted. Such revision would certainly be most desirable, if there was any means of compelling the sayer officers to act upon it. But as long as the machinery of the inland system is preserved, as long as authority to collect duty on any article is left in the hands of native officers, it is morally certain they will collect it on all. It is only necessary to spend a few minutes incognito some morning at the gate of any town in the Carnatic when the country people are coming into market, and to observe the mode in which the sayer peons lighten their loads of green vegetables, fire-wood, brattis, &c., which are expressly exempted from duty, to be satisfied that little relief would be afforded by a revision of the tariff. It is by these practices only that the peons are able to subsist; it is not for 2 rupees a month that either Government or renters could obtain the services of the stout well-fed men that fill the office of sayer peons throughout the greater part of the Madras territories.

242. For this reason we consider the town duty on the five articles objectionable. Those articles are in themselves most legitimate objects of taxation, but the authority to levy duty on them does in fact convey the authority to levy it on a hundred other articles; for though a peon would not in plain terms demand duty on articles not liable to it, he might, and would, detain and search every passenger who did not pay for exemption; it would be very desirable that the five* articles should be made to pay duty if possible in some other mode, either by a monopoly or a heavy assessment on the crop. The town duty is, in most instances, at present in the hands of the same individuals who rent the general inland duty.

243. The evils that belong to the toll system of Bombay, and those of the consolidated duty system of Bengal, are united together in the inland system of Madras; besides which it has others peculiarly its own. Like the toll system of Bombay it is universal in its operation; the country, as in the Bombay territories, is sown thick with chokies and mettoos, and fees equivalent to a tax are as regularly demanded at every one of them, as if the practice was sanctioned by law. In addition to these fees, a consolidated duty is levied as in Bengal; the right of search, as in Bengal, is exercised by every chokeydar, but the chokies are not, as in Bengal, placed on a single line and at long intervals, but occur every few miles; nevertheless, as in Bengal, all the complicated machinery of rowanahs and drawbacks is in full operation. Thus the internal commerce of the Madras territories is oppressed by an aggravated combination of the distinctive evils of the Custom systems

* Two of them (bhang and gunjah) are included in the Abkaree Department of the other Presidencies, and a third (betel leaf) is grown under such peculiar circumstances, that it might easily be subjected to excise; a fourth (godack) is an article very little used.

systems of Bengal and Bombay, in addition to which, nearly the whole of the raw produce of the country is subject to an universal excise on consumption.

244. The population of the Madras territories is between 13 and 14 millions, not one-fourth that of Bengal and Agra; the greater part of the country is naturally barren; it produces few articles of export, and in very limited quantities; its manufactures have been nearly ruined; it has no great towns, no good roads, no navigable rivers, no seaports, and is subject to a heavy land assessment, yet the gross annual Customs revenue, sea and land, including about two lakhs collected on stamp rowanahs, and deducting sums repaid in drawback in the five years ending 1833-34, averaged without reckoning the charges of collection and the profits of the Customs farmers, which it is impossible to calculate, 47 lakhs of rupees; while in the provinces of Bengal and Agra, containing a population quadruple that of Madras, countries rich in the great staples of commerce, with navigable rivers throughout their whole extent, and subject to a comparatively light land tax, the Sea and Land Custom revenue previously to the recent changes in the Agra Presidency, in the two years ending 1831-32, averaged, deducting drawback as above, and duty collected on western salt,* and taking credit for abkaree collections on intoxicating drugs, but 52½ lakhs of rupees. The burden, therefore, on the country of the Customs of Bengal and Agra is trifling, even in amount, compared with those of Madras. Besides which, being more limited in their nature, the grievances connected with the collection of them are felt by a smaller part of the whole population; a much smaller part are directly affected by them; whereas in the Madras territories not an individual escapes, from the rich man, whose baggage and person are liable to search every 10 miles he travels, to the poor villager, whose head-load of firewood and vegetables is plundered by the sayer peons as he enters the bazar.

245. The difficulty of reforming the inland system of Madras, without destroying the revenue, arises from the unquestionable fact, that it is from abuse itself that a very large portion of the revenue is drawn. If the Customs were under the management of Government servants, removal of abuse would tend to raise the revenue, but under a rent it has exactly the contrary effect. It is for the power of exaction that the renters pay so largely; the limitation of this power would necessarily reduce the rents; thus abuse becomes equivalent to revenue, and the greater the abuse the stronger the argument, in a financial view, for maintaining it; to obviate this evil, it has been proposed to us by some of the collectors to again place the collection of the inland duties under the management of Government servants. Supposing this were done, and that the effect of it was completely to put an end to existing abuses, yet as the revenue would undoubtedly fall off when the collections were limited to the legal dues of Government, and that large portion of the renters' exactions, which now goes into the treasury in the shape of rents, was no longer received, restricted as we are from recommending any change that would involve a loss of revenue, it would not be in our power to advise it. But the result of past experience gives no reason to hope that the management of the Customs by Government servants would afford any material relief to the people; revenue would be lost, and abuse would remain. The system was tried for nearly 10 years, and answered even worse than in Bengal; the local circumstances of the Madras territories rendering it more difficult to check the subordinate officers. So great was the oppression sustained by the people, so extensive the embezzlements of the sayer officers, and so trifling the revenue brought to account, compared with the burden imposed upon the country, that the Committee assembled at Madras in 1818 recommended the total abolition of the general inland duty; we have reason to believe that those officers who propose to revert to the old state of things, underrate, from want of experience, the evils of a system with which they are practically unacquainted; for when this question of the comparative merits of the two systems was proposed to the Madras collectors about 10 years since (the greater part of them at that time having had experience of both systems), they were nearly unanimous in favour of the rent. The collectors of the present day have not had the same opportunity of comparing

* Salt is subject to a monopoly throughout the Madras territories, and intoxicating drugs are not taxed as abkaree, but pay a town duty. In drawing the above comparison, the want of information has rendered it necessary to compare different periods.

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paring the two systems. In accordance with an opinion expressed by Sir Thomas Munro, we think there is every reason to fear that the moral tone and character of the collectors' land revenue servants, whose virtue is already of rather a wavering description, would not be much improved by the admission among them of a large body of men, so pre-eminently corrupt as the native officers of the Customs invariably are.

246. In calling for information from the Madras collectors regarding the operation of the present system, we requested them to recommend any change their practical experience might suggest, which would have the effect of relieving the country, without injuring the revenue. Their replies were invariably the same. Though their account of the working of the inland system is as unfavourable as possible, they agree that, coupled with such a condition, it admits of no material improvement. The only important change they recommend, short of total abolition, is the revision of the tariff, the confining of the duties to luxuries. They admit that the revenue would suffer from it immediately, if not eventually, but they attach little weight to this objection, when set against the prodigious relief such a measure would afford to the lower orders. "It is not the amount of the duty," says the principal collector of Tanjore, "which is oppressive, but the universality of its imposition, from which there is scarcely a single exemption but grain; and effectual relief, I am satisfied, can only be afforded by exempting from inland duty all the articles now included in the tariff, except those which, as articles of luxury, are liable to town duty, and a few of the most productive of the rest. This would, of course, involve an immediate loss of revenue; but (to say nothing of the moral effects of annihilating so much petty interference) thus to unshackle the internal trade of the country would give a spur to its prosperity which, in a few years, would in a thousand indirect ways compensate for the loss, I have not the most remote doubt." Though we fully agree with the collector, that a revision of the tariff, such as he contemplates, would relieve the country without eventually injuring the revenue, yet we see no reason to hope that the revision would be more than one of mere form. The whole history of the Inland Customs of India, especially of the Madras territories, compels us to believe, that while the native character continues unchanged, and the pay of the subordinate officers of the Customs is quite inadequate to their situations, they will never be debarred from taking the utmost possible advantage of the power of oppression necessarily placed in their hands, and consequently we have no assurance that articles, nominally exempted from duty, will be exempted in reality. Unless they are so exempted, the country will gain nothing by a revision of the tariff. Those whose relief the collectors have in view are exactly of that class on whom the sayer officers can and do practise oppression with the greatest impunity, as being least able to resist or complain. This power of oppression they would still retain, for the proposed revision of the tariff would not admit of any such change being made in the machinery by which the inland duty is collected as would relieve the poorer classes from the constant molestation of the sayer peons. The confining of the duty to luxuries would not render it less indispensable that the authority of the sayer officers should extend, as at present, into every village, which is the only means of intercepting the trade of an uninclosed and open country, a trade on which from 70 to 80 per cent. of the duties collected are collected on the produce of each district consumed within itself. To confine within certain local limits the authority of the sayer officers, and to relieve any part of such a country as this from their interference, would destroy the Custom revenue. Every spot over which their authority did not extend would become a depôt for smuggling. But wherever their authority extends, the right of search goes with it, which is synonymous with the power of exaction. We are therefore of opinion, that as long as a general inland duty exists, with all the machinery necessary for collecting it, a revision of the tariff will afford the people a very trifling relief, if any at all.

247. The local character of the Madras territories renders it impossible that a general inland duty, though it were only a transit duty and not an excise one, should be other than most vexatious; but no other duty than a general duty will, for the same local reasons, as experience has amply shown, be productive of revenue. The duty must be general to be productive, and if general, it is inevitably most oppressive. The number of persons employed in the collection of the general

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inland duty is necessarily enormous,* and imposes a burden on the country disproportionate to the revenue realized, which, by affecting its general prosperity, injures the revenue derived from other sources. What the charges of collection actually are it is impossible to calculate, because the same persons employed in the collection of the general inland duty are also employed in the collection of the town duties; but if these two branches of revenue were collected by separate establishments, there is no doubt that the charges of collecting the former would bear a far greater proportion to the revenue derived from it than the charges of collecting the latter.

248. Looking on the general inland duty of the Madras territories as most injurious to the prosperity of the country, and occasioning intolerable vexation to all classes of people, and, convinced at the same time that the system admits of no reform that will not materially injure the revenue derived from it, we cannot do less than recommend its complete abolition. We shall endeavour, in a future report, to point out the modes in which the loss of revenue consequent on such a measure may be made good. Should Government see reason to doubt the soundness of our calculations, or the policy of the measures we intend to propose for their consideration, we would recommend that the present system should remain unaltered until the state of the finances admits of the inland duty being dispensed with altogether. The systems that have been successively tried in the Madras territories have, one and all, been put forth as calculated not only to raise the revenue, but to relieve the people of a weight acknowledged to be most oppressive, and they have all had, as regards the people, precisely the opposite effect. The existing system appears to have grown, as of necessity, out of the local circumstances of the country, and to be the only one under which a general duty can be made productive.

BOMBAY SEA CUSTOMS.

249. The Bombay Presidency, as before stated, is bounded throughout the greater part of its length on the west by the sea. The line of coast subject to the Sea Customs laws of that Presidency extends from Goa to Cambay, and round the head of that gulf to Gogo.

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250. The Bombay territories lying along this, averaging about 200 miles in breadth, cut off the dominions of the Nizam, Scindia, Holkar and the Gaekwar, with the states of Sattara and Kolapoor, and the territories of many native chieftains, from all access to the western coast of India above Goa, except through the British seaports. There are some ports on this coast, however, belonging to independent states or to native chieftains, and beyond the control of the Bombay Government, except through the means of a cordon of chokies on the land side of these ports, whilst the Bombay Government have considered themselves debarred, as stated in our secretary's letter of the 4th July 1835, from enforcing the maintenance of a cordon around some of them. This, and the entire freedom of the ports in Kathiawar and Cutch from British interference, has had a material effect in preventing any radical changes in the general administration of the Sea Customs, and it will be found, therefore, that in all essential points the system is nearly the same at present as it was when the greater part of the coast came into our possession in 1817.

251. The Island of Bombay is situated as nearly as possible on the centre of this line, and, possessing the advantage of a fine harbour, has become the entrepôt, not only of the commerce of its own territories, but of the whole of Western India and of the Gulfs of Arabia and Persia, as connected by commercial relations with it and with Great Britain.

252. The documents before the Committee tend to show that the prosperity of Bombay in this respect has been materially strengthened by the low scale of duties hitherto levied, and the simplicity with which they have been always collected at that port.

253. In

* The number of peons and chowkedars alone, exclusive of the Land Customs Establishment of Madras, is between 10 and 20,000. The want of returns from several districts prevents our stating the number with accuracy.

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Sea Customs.

253. In the first place, duties are collected on import only, all export duties having been withdrawn since 1799. The only exception to this was made in 1813, in the case of goods purchased at Bombay and exported on foreign bottoms, which were made thenceforward liable to $3\frac{1}{2}$ per cent. on the invoice value, making, with the original import duty of $3\frac{1}{2}$ per cent., about 7 per cent., which was probably imposed to equalize the import and export duty on the foreign bottoms, as imports on foreign bottoms were at that same period made liable to duty at $7\frac{1}{2}$ per cent., as will be presently shown.

254. So late as 1805, the rate of duty was $2\frac{1}{2}$ per cent. *ad valorem*, modified in the case of foreigners and vessels from certain specified countries by an advance on the prime cost at various rates, and raising the rate of duty to a certain extent, as shown in Appendix (D).

255. In that year, an addition of 1 per cent. was made to the rate of duty, raising it to $3\frac{1}{2}$ per cent.

256. We may here remark, that originally, and so late as the beginning of the present century, the rate of duty on imports and exports by sea at the three Presidencies was $2\frac{1}{2}$ per cent., and that the additional 1 per cent. imposed at each between 1800 and 1805 was intended to cover the expense incurred in protecting trade, by keeping up armed vessels and the Company's marine, now the Indian navy.

257. In A. D. 1813, when the Honourable Court promulgated the Regulation for conduct of the foreign trade, the rate of duty at Bombay upon goods imported or exported on foreign bottoms was raised on imports from $3\frac{1}{2}$ to $4\frac{1}{2}$ per cent., with the advance of 60 per cent., as before, which made the rate of duty $7\frac{3}{10}$ per cent. On exports it was fixed at $3\frac{1}{2}$ per cent. on the invoice value for goods purchased at Bombay, which, with the original import duty, $3\frac{1}{2}$ per cent., averaged about the same as the import duty, or 7 per cent.

258. Changes have been subsequently made at the other Presidencies, effecting a gradual increase in the general rates of duty, but the rates at Bombay have never been enhanced beyond the rates here stated.

259. When, in A. D. 1815, the trade between Great Britain and India was rendered, with respect to some articles, free, and the duty on others was reduced to $2\frac{1}{2}$ per cent., the port of Bombay shared in the benefit of the reduction of duty, which at Bombay, with respect to dutiable articles coming from Great Britain, amounted to 1 per cent., and by a special enactment, published in 1817, the duty on goods coming from foreign Europe on British or registered ships, which in 1815 was at the three Presidencies fixed at 5 per cent., was at Bombay again reduced to $3\frac{1}{2}$ per cent., being the rate of duty levied prior to promulgation of Regulation XIII. of 1815.

260. In A. D. 1834, the duty on cotton was fixed at an uniform rate of 5 per cent. on the tariff valuation, all transit duties on the article being abolished.

261. The duties on imports from the interior of India, and from all ports or places other than those above specified, are charged $3\frac{1}{2}$ per cent. at the invoice value or marked rate, without any advance.

262. A reference to the Appendix will show that, after allowing for the heavier duties on imports on foreign bottoms ($7\frac{1}{2}$ per cent.), and the prohibitory duty on goods imported from foreign European settlements in India ($7\frac{1}{2}$ per cent.), and on Europe goods from the gulfs ($5\frac{1}{2}$ per cent.), that the highest duty of the port is $4\frac{1}{2}$ per cent., the general rate $3\frac{1}{2}$, and the lowest, that on British goods, $2\frac{1}{2}$ per cent.

263. Light as these duties are, they have been further mitigated by admission of certificates from the other Presidencies, and from some of the ports subordinate to Bombay.

264. In 1799 this privilege was granted to goods coming from Bengal, Madras and Malabar, and in 1827 to Penang. Surat has possessed the privilege of granting certificates since 1799, and in 1827 it was conferred on two other subordinates, Bankote to the south and Gogo to the north of Bombay.

Bombay
Sea Customs.

265. In 1833, two more ports in Goojurat, between Surat and the Portuguese port of Damaun were admitted to the same.

266. In A. D. 1815, on the promulgation of the general law framed by the Honourable Court, imports of British goods or of goods originally imported by British ships at any port in the Company's territories, and coming thence under certificate to Bombay or any subordinate, were declared free.

267. And at the same time British free imports were, on import from Bombay at any subordinate, admitted to free entry.

268. The rule originally obtaining at Bombay was, that all goods landed expressly for re-exportation, as well as those transhipped in the harbour, must pay the same duties as other goods, and no drawback or exemption whatever was to be allowed.

Bombay
Sea Drawback.

269. It was, however, modified in A. D. 1815, under the law then promulgated at all the three Presidencies for trade with the United Kingdom, and henceforth the whole duty on indigo, cotton, wool, hemp and sunn, the produce of the British dominions in India, exported to the United Kingdom, was returned in drawback, and so much drawback allowed on export to the same of all other articles as should reduce the amount of duty retained to $2\frac{1}{2}$ per cent.

270. Surat is the next port in importance to Bombay. On our acquisition of the entire revenues of the city in A. D. 1800, the rates of duty were fixed at 5 per cent. with advances on the trade of foreigners and of particular places, in the same manner as described under Bombay. But for many years past, owing to the decline in the trade of the port with foreign places, and increased resort of Surat traders to Bombay, for supply of the port and city of Surat, the rule respecting advances has become of necessity inoperative, and the duty of 5 per cent. is levied at the market rate of the day.

Surat.

271. Surat has since 1799 enjoyed the privilege of certificates on its trade with Bombay, goods having paid duty there of $3\frac{1}{2}$ per cent. are admitted free at Surat. This is held to include goods from the other Presidencies, which have been admitted to entry at Bombay as well as British and all other goods.

272. By an order of Government in 1829, goods imported at Surat were permitted to be re-exported free of Customs or duty of any kind.

273. A port in the west coast of the Gulf of Cambay, opposite the mouth of the Nurbudda, has been for several years a 5 per cent. port, and in A. D. 1827 received the privilege of certificates. It was thereby placed on the same footing as Surat, with respect to Bombay and the Konkan and its own trade with Surat.

Gogo.

274. Two ports immediately north of the Portuguese port of Damaun, and exposed to competition with it, were in A. D. 1833 made 5 per cent. ports, with certificate privileges, obtaining thereby, among other advantages, the exemption from double duties above described in treating of the other ports.

Bulsar and
Bugwara.

275. Imports from Bombay were at the same time made liable to payment of $1\frac{1}{2}$ per cent. on the certificate value, to make the aggregate duty 5 per cent.

276. The ports of Broach and Jumbooseer, lying between Surat and Cambay, are still in the same state as when they first came under the British Government.

Broach and
Jumbooseer.

277. The duties are levied in three different ways; on some articles it is a percentage on the market price, on others a percentage on a fixed valuation, and on many a fixed duty on a certain quantity. The rate of duty in the two first cases is moderate, $3\frac{1}{4}$ per cent. (only 3 per cent. on grain and cloth, the manufacture of the district), and when levied on the quantity, bears equally light upon the trade.

Vide Appendix (D).

278. The rates have undoubtedly been fixed at a former period with reference to the value of the goods, though the fall in the price of all commodities of late years may have rendered the fixed duty now burthensome.

Vide Appendix (D).

279. This mode of levying duty at a fixed rate upon an ascertained quantity, rough as it appears, is yet one which is every day coming more and more into vogue in England. The latest tariff of the port of London exhibits *ad valorem* duties,

Vide Appendix (D)

Bombay
Sea Customs.

duties, rather as an exception to the rule of charging duty, than as the proper standard for levying Customs.

Broach and
Jumbooseer.

280. By the ancient practice, still maintained at these two ports, all goods imported at them for transit into the interior are entirely free of charge for Sea Customs, and pay only a light transit duty.

281. The latter of these two ports was not obtained until A. D. 1817, and with so near a neighbour it would not have been safe to alter the duties at the British port of Broach.

282. The proximity of Cambay, an independent port, has since prevented any change being made at either of them without risk to the revenue.

Dholara and
Bowharee.

283. The remaining ports in Goojurat, belonging to the Honourable Company, are two on the West Coast; the one opened in A. D. 1805, the latter in A. D. 1821, situated on branches of the same creek and having the same town (Dholara) for their common mart; the duties and rules for collecting Customs are in every respect alike.

284. For the convenience of trade, the duty on 12 of the principal staples was originally fixed at a certain sum for a certain quantity, calculated to yield $2\frac{1}{2}$ per cent. at the value of the time when the port was opened. Thus, cotton paid 1 rupee per bale or 2 rupees per candy, grain 1 rupee per candy, &c.

285. The rate of duty on all other articles is very light, $2\frac{1}{2}$ per cent., and is levied on the market value of the goods, as declared monthly by the merchants, but not possessing any certificate privileges, the trade of these ports with Bombay and all others is subject to payment of double duties, that is, on import and export.

286. The object of opening these ports, viz. that of attracting the trade of the independent ports of Cambay and Bhownuggur, between which they are situated, required that the scale of duty should be very light, and it may be here shortly stated, that that object has to a great extent been secured. The revenue derived from the trade passing through them averaging 1,00,000 rupees per annum.

North Konkan.

287. The coast between Goa and Damaun is divided into two districts, meeting at Bombay, and termed North and South Konkan.

288. The whole of the ports in the northern portion are still managed upon the native system, as above described, under the head of Broach, and remain in that respect exactly as they were when that district came under our Government in A. D. 1818, and the rates of duty in most cases high, from 6 to $9\frac{1}{2}$ per cent., are often enhanced by extra cesses of a vexatious and burthensome nature.

289. But in that year, certificates were granted on all goods and produce having paid export duty at these ports, exempting them from duty at the Honourable Company's ports in Goojurat, and in A. D. 1827 considerable relief was given by a Regulation enacting that certificate of payment of import duty at the Konkan ports should exempt the goods from transit duty throughout the Konkan (low country), Dekkan and Kandesh.

290. At Panwell, a port on the continent opposite to Bombay, by ancient custom, goods imported for transit to the interior are free from all charge for Sea Customs, and pay the transit duty only.

291. Certificates from all the Honourable Company's northern ports, except Broach and Dholara, have been admitted at the Konkan ports, in exemption of the import duty upon the manufactories and produce of Goojurat. Such imports are, it is true, still liable to the extra cesses of the ports, and to payment of transit duties, if going inland, but the local consumption of the district has been much relieved by the increase.

292. With these modifications, the Sea Customs of the ports in this district, (North Konkan) are still intricate and very burthensome to trade. This is owing, partly to the excessive weight of the extra dues levied in addition to the regular Customs, and partly to the high per-centage which the rates of the regular duty, when levied as a fixed duty upon a fixed quantity of goods, now bear to the value of the commodity, owing to the great fall in the price of commodities of late years.

years. The latter admits of remedy, but nothing short of abolition can remedy the former evil, and altogether the state of the Sea Customs in this district is much worse than in any other part of the Presidency.

Bombay
Sea Customs.

293. The coast between Bombay and Goa, termed the South Konkan, has five principal ports.

294. On many articles, chiefly grain, timber, oils and other produce of the country, articles of domestic consumption, cattle and cloths, intended for transit and therefore liable to injury by opening, duty is levied at a certain sum upon a certain quantity, but in all other cases the duties are *ad valorem*, from 4 the lowest to 5 the highest rate per cent. These duties are in addition to those of other places whence goods may be imported, or to which they may be exported; but one of the ports, that of Bankat, was in A. D. 1827 admitted to certificate privileges exempting exports from it from duty at other ports.

295. At all the ports above described British goods from Bombay are admitted free of duty, subject on their passage inland to the transit duty of the districts they may pass through.

296. There are two ports in Goojurat immediately south of Surat, and situated in a district of the Gaukwar, under the entire management of the Honourable Company, but of which a half share belongs to the zemindars of the district in which they lie. The duties at them are light, about $3\frac{1}{2}$ per cent.

Nowsaree and
Gundeevee.

297. In a former part of this report, paragraph 250, it was stated, that there exist ports entirely independent of the Honourable Company, and most of which it has been found impossible to enclose with a cordon.

298. These are south of Bombay, the ports of Angria and the Hubshee, and north of it Damaun (a Portuguese port), Cambay and Bhownuggur. At the two latter the Honourable Company possess a small share, at the others none.

299. The port and territory of Damaun are already surrounded with a cordon of chokies, at which the full duties of the nearest British port (5 per cent.), are exacted on all goods or produce imported into or exported from Damaun.

300. But we have before had occasion to report* to the Supreme Government, that the Bombay government have felt themselves precluded from causing the other ports and districts to be so surrounded, in consequence of the existence of ties or engagements of old standing, which the Bombay government feel themselves bound to respect, and which, in their estimation, prevent the British Government from treating the states to which they belong, as foreign powers open to restrictive measures. * Per Secretary Letter, under date 4 July 1835.

301. The Committee will not now discuss the line of conduct which it may hereafter be deemed advisable to pursue, but will confine their remarks to the existing state of things.

302. Under this, the Bombay Government's interference is confined at Cambay and Bhownuggur, the two ports in which it possesses a share, to the management of that share only, under rules of long standing, and which the Bombay Government do not consider themselves at liberty to interfere with for the purpose of alteration.

Cambay and
Bhownuggur.

303. Although, therefore, British goods are carried from Bombay to our own ports when for transit into the interior, because they are there admitted to free entry, yet it is impossible to prevent imports from the gulfs, &c., and exports from the province in which these ports are situated, from finding their way through them in preference to our own ports, because the system at ours is strict, whilst at the others it is modified, and duties are reduced to suit the interest of the trader and induce him to resort thither.

304. The only remedy that can be applied under existing circumstances, is reduction of duty at our ports. This has been done to the utmost extent and with the best result to the revenue, but it is evident that a return to higher duties will again drive commerce from our ports to them as long as they are safe from any coercive measures. It has been thus effected.

305. Two ports have been established between Cambay and Bhownuggur with low duties at $2\frac{1}{2}$ per cent., making, with those of Bombay, to which the exports from them chiefly go, 6 per cent.

306. The export duties at Jumbooseer, a few miles south-east of Cambay, are low, $3\frac{1}{4}$ per cent., whilst the trade intended for transit into Goojurat is altogether free from Seaport Customs.

307. The duties of Gogo, 10 miles from Bhownuggur, are only 5 per cent., and certificates given there exempts from further duty, whilst certificates from Bombay and the Konkons, and from Surat and Bulsar on the opposite coast, entitle imports thence to free entry at Gogo.

308. Further to neutralize the rivalry of that port, goods are now allowed to be exported from Gogo to Bombay in bulk, on payment of duties in the same mode and at the same rate as the Honourable Company's share at Bhownuggur would be levied. By this means, part of the great shawl trade of Bombay now goes through Gogo, but a pernicious privilege enjoyed by the thakoor of having the import and export cargo of one vessel (his own property) exempt from payment of duty to the Honourable Company's share of the Customs, enables him still to convey the most valuable portion of the trade of his port free of duty to us, by sending her on successive trips between his port and Bombay.

309. The general weight of the Sea Customs of the Presidency may be stated thus:—

1st. The Bombay duties are $3\frac{1}{2}$ per cent., and the general trade with Surat, Gogo, Bulsar in the north, and Bankokin, the south, enjoys mutual certificate privileges, whilst British goods and goods imported on British bottoms are at all subordinates admitted free on imports from Bombay.

2d. Between Goa and Bombay, the duties are from 4 to 5 per cent., but goods are liable to duty both at the port of export and of import. One port however, Bankote, enjoys certificate privileges which exempt from such double duties.

3d. Between Bombay and Damaun, the duties from 6 to 9 per cent. Customs, with heavy extra dues.

310. On both portions of this coast, goods having paid duty on import are free from transit duty, and at one port opposite Bombay, goods are allowed to enter free of Sea Customs; whilst goods exported from the ports north of Bombay to Goojurat enjoy the benefit of certificates, entitling them to free entry at all ports but two, and goods from the Goojurat ports under certificate are admitted to free entry.

311. North of Damaun, three ports on the east and one on the west coast, are 5 per cent. ports with certificate privileges. At two out of three remaining ones, the duties are $3\frac{1}{4}$ per cent., and at one of the two the trade to the ports between Damaun and Bombay is carried on under exempting certificates. At both, the imports thence are freed by the same documents; goods entered at them for the interior are free from all charge for import Sea Customs.

312. At the remaining ports north of Damaun, the duties are $2\frac{1}{2}$ per cent. without any certificate privileges.

313. The legislative enactments affecting Sea Customs of the Bombay Presidency have been few, and their direct operation was limited to the two ports of Bombay and Surat until the year A. D. 1827, when a general regulation was passed for the management of the Customs at the subordinates as well as at the Presidency.

314. The first Customs Regulation enacted, was passed in 1799, "principally founded on the Regulation passed by the Bombay Government in 1795, in pursuance of orders of the year preceding from the Court of Directors, and with various subsidiary rules now reduced into form."

315. The rates of duty and the principal features of the system connected therewith, have been before stated (para. 264 of sec. 9), and as a comparison of the

the Customs laws of the three Presidencies will be made in a future report, it will be irrelevant here to enter into a detail of the minor parts of the Regulation.

316. In A. D. 1805, the above Regulation was amended in certain points, and an addition of 1 per cent. was made to the rate of duty.

317. The rules of the port of Bombay remained unaltered from this time till A. D. 1813, when the general regulation passed by the Honourable Court for the conduct of the trade of British India with foreign nations, was promulgated for the three Presidencies. This and the subsequent Regulations, enacted by order of the Honourable Court for the port of Bombay, have been nearly word for word the same as those for the other Presidencies, and a description of them would be a description of the Sea Customs Regulations at Calcutta and Madras.

318. The only enactments of a strictly local nature, passed between 1805 and 1827, were one (II. of 1810) for the regulation of the port of Bombay, embodying the rules for anchoring, port clearances, ballast, docks, pilotage, lighthouse and other dues, and matters arising out of the resort of ships to the port, but not connected with the Customs or the passing of goods; one (VI. of 1811), authorizing confiscation and sale of smuggled goods, conveying, in fact, a power hitherto wanted to legalize the acts of the officers of the Customs within the jurisdiction of the Recorder's, now the Supreme Court; one (VIII. of 1816), defining rules for entering manifests of country boats, and one (II. of 1826), for punishing bribery on the part of the Customs officers.

319. The first Regulation ever enacted by the Bombay Government for subordinate ports was passed in A. D. 1800, for the port of Surat; and after giving a sketch of the changes which had from time to time been made there, fixed the Customs at 5 per cent., and defined the rules under which the Custom-house was to be managed and goods passed.

320. In A. D. 1827, a general enactment was promulgated, at the time when all other existing Regulations of the Bombay Presidency were abrogated by the new code of that year, specially maintaining certain of the Customs Regulations, annulling parts of others, and enacting new rules for the collection of the Customs, and for the guidance of the officers employed therein.

321. It maintained in force,

1st. The Regulations for the port of Bombay.

2d. For the conduct of trade with foreign nations.

3d. And of that with Great Britain.

VI. of 1799 } Sea Customs and Port Rules.
I. of 1805 }
II. of 1810 } Confiscations.
VI. of 1814 }
VIII. of 1816, Manifests of Country Boats.
II. of 1826, Bribery Law.
X. of 1813, VI. of 1818, and II. of 1821.
XIII. of 1815, II. of 1827.

322. It maintained the Regulations for the Bombay town duties, with certain modifications, but continued that for the port of Surat as related to the rate of duties only.

I. of 1803, I. of 1810.
IX. of 1800.

323. Two Regulations affecting the trade in saltpetre were also maintained in force.

VIII. of 1814, V. of 1816.

324. The most essential alteration made by it in the Customs of the port of Bombay, was the substitution of a tariff valuation ascertained by a comparison and average of three years' invoices for goods hitherto valued by those documents, and of the market rate for three years for goods valued by that rule.

325. All articles not entered in the tariff thus framed, were to be valued 1st., according to the invoice value, or 2d., the market rate as before.

326. The excepted articles are chiefly English and European manufactures, and goods of all kinds, country and China manufactures and goods.

327. This tariff is revised every three years by a Committee composed of the Collectors of Sea Customs and Land Revenue of Bombay, with two or more respectable merchants.

328. The 2d chapter of the Regulation defines the rules for the appointment of collectors of Customs, their liabilities &c., for the collection of Customs at subordinates.

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329. The 3d, for punishing offences in native officers of the Customs.

330. The 4th contained the rules for entry, examination, and passing of goods.

331. The 5th enacted rules for the registry and marking of all vessels employed in the country trade of the Presidency, and for raising a revenue by the issue of passes to such vessels.

332. The 6th declared that payment of import Sea Customs at any subordinate seaport on the coast between Goa and Damaun shall exempt from inland transit duty throughout all parts of the Presidency except Goojurat, and laid down rules for passing, entering and comparing by the collectors of Customs and the collectors of the inland districts, of the certificates given by virtue of this rule in exemption of the inland duties.

333. The 7th chapter defined the rules under which exemption from duty might be granted in favour of Her Majesty's navy and the Honourable Company's stores, &c.

334. Chapter 8th legalized the inland duties, as hitherto conducted according to usage, and left them as before in the hands of the collectors of land revenue.

335. The 9th and last chapter defined the rules for conducting confiscations under the Presidency.

336. The system of Sea Customs under the Bombay Presidency, as above described, has undergone revision by a Committee whose report was submitted to the home authorities, and the places detailed in it received their sanction in A. D. 1827.

337. The principal feature of the plan was as follows. At Bombay itself, to retain the duties and exemptions on goods, the produce and manufacture of the United Kingdom, in their present state. To raise the rate of duty at Bombay on goods, the produce of foreign Europe and America, and of all other places than these, to 5 per cent. on British bottoms, and 7 per cent. on foreign bottoms. To make the import duty on all spices, china silks, nankeens, piece goods, not the produce of the Honourable Company's territories, rose-water, saltpetre, sandalwood, wax and wax candles, $7\frac{1}{2}$ per cent., whether on British or foreign bottoms.

338. At subordinates, to make the export duty 5 per cent. and the import duty $6\frac{1}{2}$ per cent., including the duty already levied at the port of export, on production of a certificate of its having been paid. The amount of duty to be levied on the trade between Bombay and its subordinate, therefore, would be 5 per cent. on export, and $1\frac{1}{2}$ on import; when the goods came direct from a foreign port the full import duty of $6\frac{1}{2}$ per cent. would be taken.

339. Other provisions were made respecting the warehousing of goods, which it is not necessary here to enter upon.

340. The above plan, modified by a reduced rate of duty at the northern ports of the Presidency, to meet the rivalry of independent ports within the range, was in course of adoption by the Bombay Government, when the appointment of the present Committee for the four Presidencies caused the suspension of all further measures.

341. In several parts of the report it has been necessary to allude to the farming of the Customs Revenue, and as this has in each Presidency been resorted to in the transit and town duties, and under Bombay in the Sea Customs also, and has had a very perceptible effect upon the revenue of the Customs generally, we think it advisable, without at present entering into a comparison of the farming and umancee system, and the respective advantages and defects of each, to state shortly the extent to which the farming system has been adopted in that Presidency.

342. It would appear to have generally been the policy of the Indian Governments to retain the Sea Customs in their own hands; and this branch of the Customs has never been farmed either under Bengal or Madras.

343. The same was the case at Bombay, until A. D. 1827-28, at which time the urgent calls for reduction of expenditure led the Government to issue imperative orders

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orders for farming the Sea Customs everywhere except at the port of Bombay, whenever a sum equivalent to the average gross revenue of each port could be obtained. In the course of a twelvemonth the whole of the seaports on the coast between Goa and Damaun were let, as well as the seaports between Damaun and Surat, and all those on the west coast of the Gulf of Cambay, leaving in the hands of Government only the ports of Surat, Broach and Jumbooseer.

344. A recurrence, however, to Government management in the case of one or two ports in Goojurat, showed that it was more profitable on that part of the coast to manage the Sea Customs as before by Government officers, and the whole of the ports north of Damaun are so managed at present.

345. The effect of farming the Sea Customs in the remaining portion of the coast has proved exceedingly favourable to the revenue, chiefly because the whole has been taken by one enterprising capitalist, who having all the ports in hand, can make his own terms with the merchants trading at them, and finds it worth his while to bid for particular ports to any amount rather than admit of their falling into the hands of others.

346. The Land Customs of particular districts have been generally, in others only occasionally, farmed out.

347. Under the first head were the Poona and other districts received from the Peshwa, which were farmed in the Peshwa's time, and were continued in that state.

348. The older possessions of the Company in Goojurat came under the second head.

349. In A. D. 1827, as above stated, orders were passed for farming the Land Customs, and accordingly the district still under amancee management were let.

350. The effect was generally an increase of revenue, and in some cases much more than the former gross revenue was realized, owing to the competition; but subsequently the receipts have fallen in successive years more nearly to their original amount; and in some instances it has been found advisable to return to amancee management, in order to keep the revenue from falling below the former average.

351. The same individual before spoken of as holding the Konkan seaports in farm, took the Konkan Customs, and has since extended his range by farming the Land Customs throughout the Dekkan; and by a report from the Resident at Hyderabad, we find that he has made arrangements with the Hyderabad government for the purpose of facilitating the progress of the trade of our provinces through the Nizam's dominions.

352. The immense influence acquired by this man holding in his own hands the whole Sea and Land Customs of the Dekkan and Konkan, that is, the whole Presidency south of Damaun, except Kandish and the Southern Maharatta country, has enabled him to draw the trade which was formerly carried on from some of the Goojurat ports with the interior, through his own districts to the southward, and the revenues both sea and land of the districts immediately south of Surat, have suffered in consequence, and as he is without a competitor, it will be difficult to repress his encroachments.

BENGAL SEA CUSTOMS.

353. The existing Sea Customs system of Bengal may be said to be comprized in Regulation IX. of 1810, and XV. of 1825. The former rescinded all previous enactments regarding Customs, and the latter superseded all the provisions of Regulation IX. of 1810, which had reference to the rate of duty to be levied or the drawback to be allowed on goods imported or exported by sea at any of the ports of Bengal. No enactments substantially altering the Customs laws have been promulgated since 1825; Regulations III. of 1830, and VI. of 1833, merely providing for certain modifications in respect of the valuation of imports by sea, relaxing some of the forms of office, and better securing the revenue from suffering by irregular shipment of goods; Regulation IX. of 1810, may then be said to

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constitute the Sea Customs law of Bengal in its penal and administrative, and Regulation XV. of 1825, in its financial relations.

354. As Regulation IX. of 1810 annulled without exception all enactments relating to Customs then in force, it does not appear to be necessary to enter into any review of the system superseded by that Regulation, or of the various alterations which the Customs law had undergone previously to 1810. It will suffice very briefly to advert to the objects specially had in view in the framing of that Regulation, as they appear from the Report of the Customs Committee, dated 15 January 1809, and to notice generally the character of the changes effected, as they were estimated to affect the revenue and individuals.

355. The primary object sought by the Committee was twofold, to improve the revenue and to afford relief to the people from a system harassing from its complexity, and objectionable from the inequality with which its burthens pressed on different classes. The then existing rules are characterized in the report as essentially faulty, and requiring a complete revision, and the multiplication of taxes levied under the various forms of Customs town duties, stamps on rowannahs, commission and fees to Custom masters is described as not only exceedingly burthensome and vexatious to individuals, but as increasing the cost of collection, which is estimated to amount to about 16 per cent. on the gross collections. The Committee, in the revision they proposed, adopted the following principles.

356. That the burthen borne by the inhabitants of the different provinces should be equalized.

357. That trade should be liberated from impolitic restraint, to the extent of permitting merchandize, having once paid duty, to pass free throughout the territories of the Presidency.

358. That the number of custom-houses and chokees should be reduced to the lowest practicable limit.

359. That in the enumeration of goods liable to inland duty, no account should be taken of articles too little in value and too small in quantity to be productive objects of taxation; that articles not enumerated should be exempt from duty, and that the duty on enumerated articles should be fixed at such rates as the goods were able to bear in the then existing state of commerce.

360. That goods of those particular descriptions which are only imported by sea, should be allowed free transit through the territories subject to the Presidency; and that the mere fact of their bearing the character of sea imported goods should be taken as proof that they had paid duty.

361. That with certain exceptions specially provided for, goods subject to importation or transit duties should not also be liable to town or consumption duties.

362. That stamps on rowannahs, fees and commission to Custom masters should be abolished; and that all the duties collected under various denominations should be consolidated into one tax, to be levied once for all, after which free transit should be allowed to the taxed article.

363. That goods should be rated in the tariff at a fixed valuation in all practicable instances, rather than ad valorem.

364. By adhering to these principles, the Committee considered that the increased revenue which it was desirable to realize would be obtained in the most unobjectionable manner, and that the relief afforded to the people by the substitution of a simple and well-regulated system of taxation for one of complexity, inequality and annoyance, would compensate for some augmentation of direct impost, preventing their suffering by the change, and leaving them payers in the aggregate of no more under the new, than was paid by them under the old system.

365. The rates of duty leviable and of drawback to be allowed under the modified system established by Regulation IX. of 1810, having been set aside or superseded by subsequently enacted Regulations, it is unnecessary to detail them. It is sufficient to notice that the existing rates of duty on exports and imports were previously to the promulgation of this Regulation, with few exceptions, 3½ per

3½ per cent. Customs and 4 per cent. town duty levied generally ad valorem. Regulation IX. of 1810 fixed the export and import duties at 7½ per cent., ordinarily in some cases at 5, and in others at 10 per cent.; a few, such as bullion, horses, teak, timber, opium purchased at the Company's sales, &c., were exempted from duty, and goods the produce of Nipal or Oude were, in accordance with subsisting treaties, assessed with inland duty at the rate of 2½ per cent., but were subjected to an additional duty of 2½ per cent. on exportation by sea. The general tendency was to raise the rate of taxation; no distinction was made between British and foreign bottoms, nor were the rates of duty affected by the origin of goods; duties were levied sometimes according to the invoice valuation, at others ad valorem, and at others again according to a fixed valuation. The following is an outline of the administrative provisions of Regulation IX. of 1810.

366. Goods having once paid import or transit duties, are not liable to further taxation whilst passing within the Bengal Presidency, nor are they subject to duty on exportation by sea thence, unless specially enumerated as chargeable with export duty.

367. Every vessel on arriving in the port is to receive a tide-waiter on board, to ascertain particulars, and a sworn manifest is to be delivered in by the master or supercargo. No goods to be landed, except at the custom-house, and with the collector's authority, under pain of confiscation, and the duties to be paid, or security for their payment to be given, before the landing of the goods. Original invoices to be produced when goods imported are subject to invoice valuation; and if not produced, or if when tendered, deemed open to suspicion, the market value of the articles, with the addition of the prescribed per centage, where any is prescribed to be taken in calculating duty.

368. British ships importing at the foreign settlements to pay duties in the same way as if they imported at Calcutta.

369. European and other goods from sea imported into Calcutta from the foreign settlements, to be assessed as if imported by sea, and under foreign colours.

370. Goods for exportation to be shipped only after passing through the custom-house; they must be accompanied by an invoice, stating the Calcutta market value according to which duty is to be levied; and if such invoice is not forthcoming, or is open to suspicion, the goods are to be assessed according to the market value, deducting one-tenth, the proprietor of the goods being at liberty, with the assent of the Board of Trade, to transfer the goods to the Government at the rate at which they have been assessed.

371. Excess of quantity above that entered in the invoice, renders the goods liable to confiscation; goods found in course of shipment or transit for exportation, without the collector's permit, liable to confiscation; and even such as are entitled to free export or import must be entered at the custom-house.

372. Goods transhipped without the collector's permission previously obtained, or taken to any ship except that for which they were passed, are liable to double duties; arms, ammunition and military stores not to be exported without the permission of Government.

373. Besides the cases in which drawback is specifically allowed, all goods imported expressly for re-exportation are entitled to a drawback amounting to two-thirds of the duty paid on their importation, no claim to drawback being admitted unless all the custom-house forms have been observed. No drawback is allowed on re-exportation of a portion only of a package. Claim to drawback is not barred by the lapse of any period between importation and exportation.

374. Certificates that goods have paid import duty at other Presidencies do not entitle merchandize to exemption from import duty, with the exception of copper and other goods brought from Madras, with certificates that they were taken from Government in payment of advances due on contracts with the Company, or that they have been purchased at the Company's warehouses which are entitled to free import.

375. We do not consider it necessary to enter more particularly into the custom-house rules, the above sketch being sufficient to show the general principles on

on which the system of 1810 was founded, and the character of its administration.

376. With respect to the financial results of the system introduced in 1810, it may be observed as affording some indication of the extent to which the Committee's views for the improvement of the revenue went, that in their report they estimated the entire Customs Revenue under the new arrangement at 56,83,708 rupees, whilst the proceeds of the system to be superseded amounted to 51,16,371 rupees.

377. The first essential alteration effected in the Sea Customs law, as established by Regulation IX. of 1810, was that introduced by Regulation III. of 1811, the object of which was to give a preference to British vessels over foreign shipping, by imposing, however, duties on the latter, and by securing the carrying trade of India to the former. The duties levied on exports and imports on foreign bottoms were raised to double the rates chargeable on the trade conveyed on British bottoms. The principle, which was that foreigners should be twice as badly off as our own countrymen, was followed up in regard to drawback, and when half of the duty originally paid was under Regulation IX. of 1810 refundable on exportation by sea, the claim to such refund was now limited to exports on British vessels. In like manner, when the drawback formerly allowed exceeded half the duty paid, so much only was now made refundable to exporters on foreign bottoms, as would leave the duty ultimately retained double what would have been retained if the export had been effected on a British vessel, and so on. The enactment for excluding foreigners from the Indian carrying trade, provided that foreign vessels should be cleared out from a British Indian port only direct to their own countries, and it restrained their proceeding from such port of clearance to any foreign European settlement in India, or any port belonging to an Indian or Chinese power. Security also was taken for enforcing the delivery of cargo loaded on board a foreign vessel at a British Indian port, at the country to which such vessels belonged only.

378. Regulation I. of 1812 modified the provision of Regulation IX. of 1810, which fixed the duty leviable on cotton at 12 annas per maund, whether cleaned or uncleaned, to the extent of drawing a distinction between the two sorts, leaving the former subject to the existing rate of duty, and the latter to four annas per maund.

379. The system of levying duties according to fixed valuation was, in regard to several articles, set aside in favour of an ad valorem rating.

380. Horses, which were by Regulation IX. of 1810 exempted from import duty, were subjected to taxation under certain modifications.

381. The claim to drawback on exportation by sea of goods brought from the interior, was limited to cases where rowannahs covering the goods were produced along with the application for refund.

382. The restriction of the claim to drawback to goods intended for re-exportation was removed, and refund was allowed to all goods to which a rate of drawback was assigned, whether declared for re-exportation or not.

383. Provision was made that piece goods, not covered by rowannahs, were to be treated as the manufacture of Oude, and to be subjected to the extra duty on exportation leviable on the goods of that country.

384. Exportation of woollens, whether of European or other origin, to China was prohibited.

385. Regulation XIX. of 1812 extended the ad valorem system of rating to all articles excepting indigo, raw filature and Bengal wound silk, the duties on which alone were to be taken according to a fixed valuation.

386. Regulation XII. of 1813 provided for the levy of a duty of 3 or 6 per cent. according to flag, on the export of coin and bullion, either to Europe or America, these articles having hitherto been left free under whatever circumstances conveyed.

387. Regulation XIV. of 1813 liberated horses from the duty to which they were subjected by Regulation I. of 1812, it having been found that the objects of political

political* economy proposed to be accomplished by the establishment of those duties will not be promoted by those means.

388. Regulation VI. of 1814 provided for the treatment of indigo brought for exportation by sea, unaccompanied by rowannahs, as the produce of Oude, and consequently for its liability to the prescribed export duty. The settlements on the Hooghly having ceased to be in the possession of foreign powers, were placed on the same footing with the rest of the British territories.

389. In extension of the provision that goods to be entitled to drawback must be accompanied by rowannahs, the obligation to produce the goods themselves for identification with the rowannahs was imposed on claimants.

390. Regulation IV. of 1815 effected very important alterations in the Sea Customs law established in 1810.

391. With a view to encourage the exportation from the United Kingdom of the staples and marine stores of Great Britain, it was provided that woollens of all sorts, metals of all sorts in a manufactured state, and canvass, cordage and marine stores, being the produce or manufacture of the United Kingdom, which were hitherto assessed with duties of 5 and 10 per cent., should be exempted from duty on importation, provided they were imported from Great Britain on British registered or Indian built ships.

392. It provided also, that all other articles similarly imported, and being the produce or manufacture of the United Kingdom, should, instead of being subject to the existing duties, be assessed at the rate of 2½ per cent.; wines and spirits were excepted from this provision, and were left subject to the duties already established.

393. Further, it was provided that articles, the produce or manufacture of foreign Europe, if imported on British registered or Indian built ships, were to pay duty at the rate of 5 per cent.

394. The above specified duties having been once paid at any port in British India, the goods paying were not to be subjected to any further tax in transit from port to port, but were entitled to a certificate from the port of payment, which should bar further claim to duty, on entering any other British Indian port.

395. With regard to exports, it was provided that indigo, cotton wool, hemp and sunn, the produce or manufacture of British India, should, on exportation by sea to Great Britain, on British registered or Indian built ships trading with the United Kingdom, according to the Acts of Parliament, be entitled to drawback equal in amount to all duty paid on the articles.

396. Indigo of Oude or other foreign native country to be entitled to no greater drawback than that allowed to the produce of British India, and then only on its exportation by sea to the United Kingdom.

397. It was further provided, that all other articles liable to duty under existing Regulations, and exported by sea according to the foregoing conditions, should receive such drawback as would leave the amount of duty actually retained 2½ per cent.

398. The provision of Regulation VI. of 1814, which rendered it obligatory on claimants for drawback to produce the goods for identification with the rowannahs, was set aside, but the condition that rowannahs must be forthcoming in support of claims to refund was maintained.

399. It is needless to remark, that these important changes must have had a very sensible effect upon the revenue, and that the calculations on which the financial estimate of the Committee which sat in 1808 was founded, must have been greatly disordered by the new enactments. Not only were a large class of articles

* What those objects were is not distinctly stated, but this persuasion of the inutility of restrictions does not appear to have extended to the enactment discouraging the exportation of specie, for Regulation XIII. of 1813, remained in force. It was however suspended by an order of Government, dated 29th of March 1822, and was finally superseded by the provisions of Regulation XV. of 1825, which liberated specie from all restrictions both as respects importation and exportation.

articles which were looked upon as legitimate objects of taxation, and were regarded as likely to be productive, entirely exempted from duty both on import and on export, but the rates of duty to be levied on import, and the amount to be retained on export, were, with respect to a vast number and variety of articles, lowered. The effect of these modifications was, in reality, to reduce the taxation of the export and import trade with Great Britain to rates of which the maximum was $2\frac{1}{2}$ per cent. These rates fell so far short of those assumed in the scheme of 1810, and the other changes effected made such inroads into that scheme, that its integrity was destroyed, and the Committee which framed it must be absolved from all responsibility for its financial results, so far as the Sea Customs Revenue is concerned. It does not belong to us to inquire into the causes which led to the adoption of the alterations adverted to, nor to offer an opinion whether the loss to the revenue, and the unquestionably disadvantageous position in which the produce and manufactures of India, heavily taxed by the inland system, were placed in coming into competition with free or lightly taxed articles, produced by the most improved machinery, were counterbalanced by the impulse which may have been communicated to British commerce and industry, and by the accomplishment of objects of national policy. We shall only remark, that the alterations disturbed materially the uniformity of the system, and that they caused taxation to operate with a very unequal pressure at the same time that they dried up some considerable sources of revenue.

400. Regulations XX. of 1816 provided for the admission of American ships to trade with British Indian ports according to the terms of a convention entered into between Great Britain and the United States.

401. Regulation XV. and XVI. of 1817 were enacted for the protection of the salt and opium monopolies. Salt manufactured at places beyond the limits of the Bengal Presidency was subjected on importation by sea to a duty at the rate of three rupees per maund; opium under similar circumstances was chargeable with duty at 24 rupees per seer. The latter of these duties was entirely prohibitory, and the former was nearly so as respects general trade.

402. Regulation XXI. of 1817 extended the exemption from duty, accorded by Regulation IV. of 1815 to unmanufactured metals, the produce of the United Kingdom, imported on British registered or Indian built ships trading under the provisions of the Acts of Parliament, to all metals, whether wrought or unwrought, of British origin so imported. It also set aside the provision of Regulation IX. of 1810, which admitted free of import duty, copper and other goods brought from Madras with certificates, showing that they were taken from the Government in payment of advances due on contracts with the Company, or that they were purchased at the Company's warehouses. It introduced another important innovation into the Customs system of 1810, by establishing the principle that goods imported on a British bottom into any British Indian port, and afterwards re-exported to any place within the Bengal Presidency, should have free entry at the latter, provided the rate of duty claimable there on the goods did not exceed that which had been retained at the former port. In case of the duty leviable at the latter place of importation exceeding that which had been retained at the former, the difference only was to be taken.

403. It further provided that the additional duty leviable on export of goods the produce of Nepal and Oude, under existing Regulations, should be remitted, provided the exportation was to the United Kingdom; the claim to drawback, however, on such cases to be so limited as to leave $2\frac{1}{2}$ per cent. of duty actually retained; and, in the event of no more than $2\frac{1}{2}$ per cent. inland duty having been levied, to be disallowed. It ruled, moreover, that in regard to goods not subject to transit duty, no higher duty than $2\frac{1}{2}$ per cent. should be levied on their exportation to the United Kingdom.

404. In these alterations the same anxiety to promote British interests which characterized the provisions of Regulation IV. of 1815 is observable; but both in that Regulation and in this the effect of such changes on the interests of India seems to have been overlooked, or, at least, very partially adverted to. If the system of Sea Customs established in 1810 was one in which due regard was had to the interests of both countries, and there certainly does not appear to be any ground for supposing that the trade of India received more favourable consideration

sideration from the Committee than the commerce of Great Britain; the introduction of modifications, having for their object the especial advantage of one class, was calculated not only to reproduce the inconveniences of inequality and partiality, the remedy of which was one of the chief purposes of the Committee, but it must have tended to work the much more serious injury of depressing one class of interests without benefiting the other to a countervailing extent.

405. Regulation V. of 1820 imposed a general Customs duty on tobacco, which, under existing Regulations, had been assessed only on importation into Chittagong and Balasore. The duty to be levied was fixed at four annas per maund, whether on exportation or importation by sea; the transit duty was fixed at the same rate, but it was provided that duty should not be chargeable twice; payment of transit duty entitling the article to free export, and payment of import duty ensuring it free transit.

406. Provision was made that a drawback to the amount of all the duty paid was to be allowed on the exportation of tobacco to the United Kingdom on British bottom.

407. Regulation V. of 1823 reduced the transit and sea import duty leviable by Regulation IX. of 1810 on piece goods (cotton, silk and mixed), the manufacture of the British Indian territories, from $7\frac{1}{2}$ to $2\frac{1}{2}$ per cent.

408. It provided that the above descriptions of piece goods, whether the manufacture of British India, Oude or other foreign state, which had once paid either the transit or import duty specified, should have free export from any port in the Bengal Presidency, provided they were exported to Europe on British bottom; if exported to Europe on foreign bottom, an export duty of $2\frac{1}{2}$ per cent. was made chargeable; if exported to places not in Europe, they became liable to an export duty of $2\frac{1}{2}$ or $7\frac{1}{2}$, according as they were exported on British or foreign bottom. Piece goods brought for exportation, unprotected by rowanahs, or without proof of the payment of sea import duty, became assessable with a duty of $2\frac{1}{2}$ per cent., in addition to what they would be liable to if their previous payment of import or transit duty were proved.

409. The object of these provisions apparently was to place the piece goods of India on the same footing with those of Great Britain, the latter having, since Regulation IV. of 1815 was passed, been favoured by the Customs laws to a degree which might have enabled them to drive the former out of their own market, even had the influence of British machinery been less overwhelming than it was. This act of consideration for the manufacturers of Indian piece goods came too late to do them much service; but the relief, such as it was, was only partial, for there still remained the crying inequality of Indian copper, steel, quicksilver, &c., taxed at the rate of 10 per cent., whilst those of Great Britain were free, and the generality of Indian produce and manufactures, bearing a burthen not only more than double that imposed on the bulk of British imports, but heavier even than that borne by the goods of foreign Europe. The no less striking injustice done to India in the heavy taxation which pressed upon her export trade to China, and to other places eastward of the Cape of Good Hope, compared with the burthen imposed on her export trade to Great Britain, remained also unredressed.

410. We now come to Regulation XV. of 1825, which exhibits at one view the present Sea Customs system of Bengal, so far as the rates of duty leviable on exports and imports, and the amount of drawback claimable on re-exportation, are concerned. A treaty concluded between the Governments of Great Britain and the Netherlands had rendered some modification of the existing enactments regulating the conditions under which foreign trade was to be carried on, necessary; and occasion was taken to embody all the provisions of Regulation IX. of 1810, and of subsequent Regulations then in force regarding rates of duty and drawback, together with such modifications as were about to be introduced into the system, in one comprehensive enactment; this Regulation, therefore, is to be considered rather as a re-casting of the old law than as the construction of a new system, excepting in so far as the accomplishment of the object immediately in view, the placing foreign trade on a more favourable footing, was effected; in other respects, the main provisions of the Customs law previously enacted were preserved unaltered, although they were presented with improved arrangement, and

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in a form better adapted for easy reference. We shall accordingly take Regulation XV. of 1825 as our basis in the brief survey we propose to take of the prominent features which characterize the system of Sea Customs now in force, premising, however, that we do not, in this place, profess to enter into a minute examination, to detail every exception, nor to point out each inconsistency and inconvenience which may be discovered in the working of the system, our end being merely to direct observation to the general principles of the scheme under which the Sea Customs Revenue is collected.

Imports.

411. Imports by sea are classed under three heads; 1st, Those the produce of the United Kingdom; 2d. Those of foreign Europe and the United States of America*; 3d. Those of places other than Europe and America.

412. Of the imports under the first head, some, viz., metals, woollens and marine stores, are exempt from duty on importation; the rest are, with scarcely any exceptions, chargeable with a $2\frac{1}{2}$ per cent. duty. In determining the goods subject to this rate of duty, origin alone is regarded, and the quarter from which the articles are brought is not taken into consideration. Regulations IV. of 1815 and XXI. of 1817, admitted to free entry or to the lower rate of duty such British goods only as were imported on British ships trading between the United Kingdom and India, according to the Acts of Parliament. Now, British ships generally are entitled to the benefit of those favourable terms; the extension of the privilege has, of course, had the effect of increasing the aggregate of goods admitted free and at the low rate of duties.

413. The imports under the second head are, with few exceptions, subject to duty at the rate of 5 per cent. on importation.

414. Imports under the third head are, with two or three exceptions, liable to duty either at $7\frac{1}{2}$ per cent. or at 10 per cent.; the higher rate is levied on metals, spices, gums, drugs, tea, alum, pepper, &c.; the lower is levied on China goods and Straits produce generally, on oils, ivory, perfumes, betelnut, piece goods manufactured beyond the Company's territories, and a variety of other articles. Piece goods manufactured within the Company's territories are chargeable with import duty at $2\frac{1}{2}$ per cent. only; sugar, ghee, turmeric, and all unenumerated articles, are subject to duty at 5 per cent.; some few articles, as tobacco, sugar and ghee are, in addition to Customs, subject to a town duty of 10 per cent. on importation.

415. It is to be observed that all the above rates are applicable to imports under the three heads only when importation is on a British bottom; when it is on a foreign bottom, the principle adverted to in a former part of this report is adhered to, viz., that British shipping is to be encouraged by the imposition of double burthens on foreign vessels; thus, when goods are entitled to free import on British bottoms, they are subject to $2\frac{1}{2}$ per cent. duty on importation on foreign vessels; when $2\frac{1}{2}$ per cent. is levied on the importation on a British vessel, 5 per cent. is collected on a similar importation on foreign bottom, and so on till the maximum rate of 10 or 20 per cent., according to bottom and destination, is reached. This last-mentioned high rate of duty for the most part acts, as it was no doubt intended to do, as a prohibitory duty on trade carried on under a foreign flag between British India and places to the east of the Cape of Good Hope.

Exports.

416. The general principle applied to exports is, that they are to be subjected to a certain rate of taxation before leaving the country. This rate varies according to the place to which goods are to be exported, and according to the vessel on which the exportation is effected; thus, goods exported to Europe or America on a British bottom, must have paid $2\frac{1}{2}$ per cent.; on a foreign bottom 5 per cent., duty. Goods destined for other places must, if exported on British bottoms, have paid 5, $7\frac{1}{2}$, or 10 per cent., according to the import or transit duty assigned to them in the schedule; and if exported on foreign bottom, they must have paid double those rates. From the application of this principle results the rule, that when goods intended for exportation have paid precisely the regulated rate of taxation

* Under this head, the British Colonies in America and in places west of the Cape of Good Hope, are, we believe, constructively, although they are not specifically included.

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taxation in the shape of import or transit duty, they are entitled to free export; when they have paid less than the regulated rate, the difference is exacted as export duty; and when they have paid more, it is refunded in the form of drawback; and such is the operation of the law, except in a few cases for which special provision is made; for example, cotton piece goods, manufactured within the British Indian territories, which, on proof that the regulated transit or import duty has been paid, are entitled to free export without regard to their destination or to the bottom on which they may be conveyed. Here, however, as in former provisions of the Customs laws, a preference is given to British over Indian interests; for the only goods, excepting those specially exempted from duty, which are permitted to leave the country without having been taxed at the rate of $2\frac{1}{2}$ per cent., are the produce or manufactures of Great Britain which have been imported, paying $2\frac{1}{2}$ per cent., of which two-thirds are claimable as drawback on re-exportation of the goods to Europe or America on a British vessel.* Thus, in cases of this description, one-third only of the $2\frac{1}{2}$ per cent. duty is actually retained, whilst Indian produce or manufactures of a similar sort, and assessed at the same rate of import or transit duty, cannot be exported under similar circumstances without having paid the entire $2\frac{1}{2}$ per cent. duty.

417. The rates of export duty levied on the principle we have explained, apply only to goods covered by rowannahs, and giving proof that the established land duties have been paid. In the absence of such documents, exports duty is levied equal to the transit duty to which the goods are liable, minus the drawback to which they would have been entitled.

418. A transshipment of goods in port is regarded as identical with an import and re-export of the goods, and subjects them to the conditions annexed to those two operations.

419. The general principle which regulates the allowance of drawback on goods exported by sea, is the same which we have already defined in explaining the circumstances under which export duties are levied, viz., that a certain rate of duty, varying according to the destination of the exported goods and the flag under which they are conveyed, is to be retained; if less than that rate has been realized, an export duty equal to the difference is to be levied; and if more has been taken, the difference is to be refunded. In estimating, however, a claim to drawback in the case of goods originally imported by sea, a third element enters into the calculation, which is, the quarter or country from which the articles were brought. From this compound rule of reckoning results a system exceedingly cumbrous and deficient in simplicity; for there are no less than eight contingencies to be provided for. There are two directions (with different rates of drawback) in which goods may be exported, viz., to Europe or America, and to other places; and in each of those directions the export may be effected in one of two ways, viz., on a British or on a foreign bottom. Thus there are six varieties of export. But the mode of import, which forms a consideration in the calculation, may have been either on a British or on a foreign bottom. There are, therefore, eight cases. In practice, we believe, the complexity is not so great as it appears to be, for the same rate of drawback is applicable to several of the contingencies, and some of the cases provided for seldom or never occur. Still there is enough of intricacy and complication about the drawback provisions to occasion no inconsiderable perplexity and annoyance, as well to those who administer as to those who are subjected to them. There is besides this striking defect in the system, that whilst a rule is prescribed for the guidance of the collector in the calculation of drawbacks and export duties, he is left without the means of applying it, so as to ensure fulfilment of the intentions of the legislature. The destination of goods is a constituent element in the determination of the rate of export duty to which the goods are liable, or the amount of drawback to which they are entitled. Yet the collector is unable to assure himself that a vessel, clearing for America, and taking advantage of the comparatively high drawback or low export duty assigned to exportations to that country, will not land her cargo

Transshipments.

Drawback.

* This construction of the law was first affirmed by Regulation XV. of 1825. Previously to its enactment, it had been held that the provision of Regulation IV. of 1815, for the retention of $2\frac{1}{2}$ per cent. on goods re-exported, precluded refund when no greater amount of duty than $2\frac{1}{2}$ per cent. had been paid.

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cargo at Batavia, and thus evade the comparatively high export duty which would have been levied had she cleared for that place, or benefit by a larger amount of drawback than the regulations authorized.

420. We do not consider it necessary to go into detail regarding the rates of drawback allowed, having already adverted to the main provisions of the system, and to the general operation of the law; neither do we deem it requisite to separate the cases of goods which are of country produce or manufacture from those which are imported by sea, because the general principle stated is applicable to both; we shall merely notice some cases which are recognized as exceptions from the general rules: cotton, cleaned or uncleaned; indigo, the manufacture of the British territories in India; and tobacco, are entitled to drawback equal to the entire duty paid, if exported to Europe or America on a British bottom. Articles which have been assessed with both Customs and town duty are entitled to refund of the whole of the latter duty on exportation by sea, in whatever direction and under whatever flag conveyed.

421. No drawback is claimable on salt or opium howsoever exported, and whatever duty may have been levied.

422. It is to be observed, that no claim to drawback can be established in the absence of proof that import or inland duty has been paid on the goods claiming drawback. This proof consists in the production of rowannahs in the case of goods from the interior, and in the quotation of import register numbers in the case of sea-imported articles.

Certificates.

423. Goods imported, with certificates showing that they have already paid the established import duty at some other British Indian port, are entitled to free entry, provided the duty to which they would have been subjected at the last place of importation is not greater than the rate which was actually paid at the first port; if it is greater, the difference between the two only is levied.

424. This rule is an extension of the principle partially recognized by Regulation XXI. of 1817. The provision of that Regulation admitted goods conveyed on British bottoms only to the benefit of certificates.

Bonding.

425. Bonding forms no part of the Sea Customs system, as established by the Regulations. It has been allowed in some particular cases, as indigo and rum. With respect to the former, the permission to bond was not found to afford the facilities which it was intended to offer to this description of produce, and the order under which it was authorized has been superseded. At present, we believe, bonding is confined entirely to rum, under certain circumstances, and subject to specific restrictions. But the practice is so limited, both in respect to the articles to which it has been made applicable, and to the parties who have desired to avail themselves of the permission which has been accorded, that it does not seem necessary to advert to it more particularly in describing the Sea Customs system as it now exists.

426. In this description of the Sea Customs of the Bengal Presidency, we have endeavoured to divest the subject of every perplexity, and if we have in any degree succeeded, it must not be supposed that the system appears equally plain to those who have not unravelled it in the manner we have done. On the contrary, it seems to the general observer a mass of inextricable confusion, which is increased on approaching the point where the Sea Customs touch upon the Inland Customs, by the confused relations which exist between the two systems. In illustration of this part of our subject, we cannot do better than quote the sentiments of the present members of the Board of Customs.

427. Extract of Letter from Acting Secretary Board of Customs, Salt and Opium, to the Secretary Customs and Post-office Committee, dated 15th July 1835.

Para. 11. "The Committee will gather, from the recapitulation of cases in the preceding paragraphs, perhaps, as much as from anything that has yet been written on the subject, the unparalleled perplexity occasioned by the joint operation of our export and transit duties, with their concomitant embarrassments of proportions of drawback or proportions of export duty, according to flag and destination, the whole forming a mass of confusion which has probably never been equalled in

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in any Customs code in the world, and from which it is heartily to be hoped the labours of the Committee will deliver commerce, the Custom-house, and this office."

428. Extract of Letter from Acting Secretary Board of Customs, Salt and Opium, to the Members of the Customs and Post-office Committee, dated 31st July 1835.

Para. 18. "The cases now placed before your Committee are a few, taken almost at random, from, it may be said, hundreds nearly or quite as perplexing, which have arisen and are arising daily out of our imperfect Sea Customs laws. The conjoint operation of our transit duty and sea duty system, and, above all, the taxation of goods, not only according to flag, but according to place of produce and place of import or export. The embarrassment arising can hardly be conceived by those who are not surrounded by it daily and hourly; and not only is it discreditable to the Customs system of this great port, placing all the officers of the department in a most unpleasant and humiliating position, but the merchants have a right to complain, and do complain bitterly. The Custom-house cannot pass an order; the case is so new and perplexing, it is referred to the Board; the Board seeks, generally in vain, for any clue or general principle for its guidance amongst the loose and confused laws which it is expected to administer. The records are searched in hopes of discovering a precedent, or some analogous case; finally, some vague general rule is endeavoured to be applied, because it appears to protect the revenue without actual inequity towards the merchant. Perhaps the merchant submits to it to save himself greater trouble; perhaps he refuses to recognize it as law, and then we are obliged to seek for some other forced construction of our miserable Regulations, lest a precedent should be established to the injury of the just claims of the state, just in themselves, but rendered odious, and often compromised by the mode in which they are sought to be enforced. In the meantime, hours, days elapsed, the market falls, intending purchasers refuse to abide by their conditional bargains, while we are seeking to decide a point upon which the commercial community have a right to demand that the law should be so explicit, or the general principle so clearly laid down, as to admit of the settlement of the question at issue in 10 minutes."

429. Extract of Letter from Acting Secretary Board of Customs, Salt and Opium, to R. Walker, Esq., Officiating Collector of Customs, Calcutta, dated 6 November 1835.

Para. 7. "The Board intend to draw the attention of the Customs Committee to this case, as one out of many which may be brought forward, to show how commerce is embarrassed and the Custom-house perplexed from the existing system of discriminating duties, especially in reference to place of production, which has frequently to be traced through nearly every quarter of the globe, and which, when such is the case, can seldom be known until after the lapse of two or three years. Such features in a Custom law are more worthy of a barbarous nation than a great civilized commercial community, and while they entail endless vexation on commerce, they are no less rife with all the elements of confusion and perplexity to your office and this Board."

MADRAS SEA CUSTOMS.

430. We have next to advert to the Sea Customs system of the Madras Presidency.

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431. The Regulations for this department (as well as that of Inland Customs) were first embodied in a regular code in the year 1803; but there are traces of earlier rules and regulations in a manuscript compilation,* which the kindness of the present Governor of Madras, Sir Frederick Adam, has placed at our temporary disposal,

* Report on the Sea and Land Customs under the Presidency of Fort St. George, drawn up in the year 1809 by Mr. James Cumming of the Revenue and Judicial Departments of the India Office (for Board of Control), from the "Revenue and Judicial Despatches, the collection sent up to the India Office as accompaniments to the drafts of letters by the Court of Directors, to be transmitted to Fort St. George, and the printed regulations, the authorities being in every case cited in the margin." Page 182, 216.

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disposal, and of which, in the sea department, it may be useful, with reference to the regulations of the other Presidencies at former periods, to offer a short analysis at this time.

432. The records of the India Office do not go further back than the year 1784, but they afford evidence of the Custom-house Regulations of Madras having been revised in 1781.

433. A further revision took place in 1786. The chief feature of the Regulation then adopted is the imposition of a duty on imports at Madras "of 5 per cent., at a moderate fair valuation, regulated by the market price of the day, after deducting, according to long-established usage, 10 per cent. on goods imported by Christians, and 20 per cent. on goods imported by any other denomination of merchants, in consideration of their paying certain small fees to the watching poligars, town conicopoly, different pagodas and charitable institutions, with a drawback of 4 per cent., calculated in the manner above specified, on goods re-shipped, the owners thereof making affidavits to the identical property so landed and exported again."

434. This rate of duty, 5 per cent., was considered too high at the time by the most intelligent and respectable merchants of the place, and though no alteration was then made in it, the duties on imports were reduced in the latter end of 1789, in consequence of representations from the merchants, to the rates which existed when the duties were rented, "but what these duties were when rented, or when they were rented," adds Mr. Cumming, in a marginal note, the compiler of these papers has not been able to ascertain.

435. The Court of Directors appear to have turned their attention, at a somewhat later period, to the impolicy of keeping up any distinction of import and export duties at the several Presidencies, and, in consequence of instructions sent out to Madras in the early part of the year 1794, directing the Government of that Presidency to furnish the Bengal Government with a statement of all duties collected at the Presidency of Fort St. George, and when they should receive a return from Calcutta of what was paid for each article in Bengal, to regulate their imports accordingly, a series of correspondence took place between the two Governments, and the arrangements and regulations of that of Bengal having been communicated to the Madras Government on the 27th of May 1795, a Regulation was passed by the latter, on the 27th November in that year, "for the collection of Customs upon imports and exports by sea at the port of Madras and at the subordinate ports, except at Nagore," where the duty upon imports of every description was fixed at 1 per cent., of which the following is an abstract:

IMPORTS.

Imports.

436. The rate of duty, $2\frac{1}{2}$ per cent., levied ad valorem, that is to say, 15 per cent. to be added to the invoice price, and the duty collected on the aggregate sum, with the following exceptions: The advance on the prime cost of goods imported from Europe, on ships under foreign colours or from the foreign settlements into Madras, to be 60 per cent.; on China goods the advance was fixed at 30 per cent.; on goods imported by ships from Macao, on the account sales delivered in on oath; or on an advance of 40 per cent., where the owners refuse so to authenticate their account sales; the duty being in each instance collected on the aggregate.

437. The duty on the investments of the captains and officers of the Company's ships to be levied on the amount of their invoices, without adding the usual per centage.

438. Batavia arrack to be assessed at 30 pagodas per leaguer; Bencoolen arrack, free of duty; also, all goods imported from Bengal under certain exempting certificates, and the duty on goods the produce or manufacture of the Company's possessions under the Madras Presidency, fixed at 1 per cent., with other provisions of minor importance.

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439. The rate of duty on exports two-and-a-half per cent. ($2\frac{1}{2}$), without any deduction from the prime cost, on all goods, those noticed in the margin excepted, which were all exempt from duty.

440. This Regulation of 1795 was followed by a Resolution of Council, in 1796, to allow a drawback of one-half the amount of duty paid on importation, on the exportation of the same goods by sea, and satisfactory proof of their identity being adduced by the shipper.

441. The new system was generally approved by the Court of Directors, who in the year 1798 directed the Madras Government to levy an additional duty of 1 per cent. on the imports and exports by sea, at the Presidency and the subordinates, in order to meet the increased expense of putting the marine establishment of Bombay on a respectable footing. A similar duty, and for the same purpose, was ordered to be collected in the Bengal and Bombay territories; but it was not till the end of 1800 that the additional duty took effect at Madras.

442. Thus matters stood until the year 1803, when by Regulation IX. of that year a general duty of 6 per cent. was established on articles imported by sea into Madras, on British or Asiatic vessels, or American vessels, and of 8 per cent. on goods imported on foreign vessels (American excepted), or from foreign settlements, according to a tariff of the average market wholesale prices of all commodities established on the most equitable grounds and on the most accurate information. Several articles were, however, exempted from these duties, and amongst others grain, which if imported from Bengal was left duty free, and in other cases was made subject to a duty of 3 per cent. Particular duties, regulated according to quantity, and not value, were imposed on betel, tobacco, gunjah, bang and godack. Goods transhipped in the Roads were made liable to the same rate of duty with which they would have been charged if imported, and all export duties were withdrawn, except in the case of foreign vessels, goods exported by them being subjected to a duty of 2 per cent. on their value computed at the tariff prices.

443. Regulation XI. of 1803 imposed a general duty of 6 per cent. on goods exported from any of the subordinate ports, on British, or Asiatic or American vessels, and of 8 per cent. on goods exported on foreign ships, or from foreign settlements; goods transhipped in the Roads being in all cases dealt with as goods exported. Goods imported on British or Asiatic vessels, or American vessels as before, were declared free of duty, but those on foreign vessels or from foreign settlements were made liable to the same rate of duty as on export, viz., 8 per cent.

444. The provisions of this Regulation contained nearly the same exceptions as those of Regulation IX. for Madras itself, grain included, which was declared free from all duties, whether import or export, except in the province of Cavara, where it was made chargeable with an export duty of 3 per cent., and the subsidiary arrangements of each, for the regulation of official forms, and other details of a general nature, are as much in unison as local circumstances permit.

445. By Regulation XIV. of 1808 a duty of 5 per cent. was imposed on all grain imported into Madras by sea, according to the tariff prices assigned to the several species therein enumerated.

446. Regulation XV. of 1808 transferred the superintendence of the collection of the Sea Customs, which had previously belonged to the Board of Revenue, to the Board of Trade. The exemption from duties on goods imported by sea at the subordinate ports, on British or Asiatic or American vessels, allowed by Regulation XI. of 1803, was at the same time abolished, and goods so imported were made liable to a duty of 6 per cent., unless it should appear from regular certificates that an import duty had been paid on such goods at any other port under the Presidency of Fort St. George, in which case the certificates were declared to exempt such goods from further demand; and it was enacted that betel-nut, pepper, cardamoms and sandal-wood, which had been made liable by section XIV., Regulation XI. of 1803, in the Land Customs Department, to the payment of a

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haulut duty in the provinces of Canara and Malabar, according to a rate to be determined by the collector, under the orders of the Board of Revenue, subject to the confirmation of the Governor in Council, should, with the addition of rice and paddy, be charged in Canara with a particular duty on exportation by sea, which should also apply to the same articles, with the exception of rice and paddy, and the addition of nutmegs and cassia, on like exportation from Malabar, the rate of duty to be determined in the same mode as the haulut duty already noticed.*

447. It was further declared, with reference to the provisions of existing Regulations for ascertaining the value of all articles imported or exported by a tariff, that as it might occur that the value of many commodities could not, from their nature, be accurately determined by any tariff, that collectors should in such cases have authority to levy the duty on a fair computed valuation of the articles, or on the account sales, if the articles should be sold at the places where the duty might be demandable; and power was given to the collectors to suspend the operation in particular cases of Section XXV. of Regulation IX., and Sections XVII. and XIX. of Regulation XI. of 1803, rendering articles of merchandize transhipped from one vessel to another in the Roads of Madras, and of the subordinate ports respectively, chargeable "with the same duty to which such articles would have been liable, if imported," but requiring the collectors, at the same time, to report the reason of their so suspending it, for the information and orders of the Board of Trade.

448. The Customs system of the Madras Presidency, both by sea and land, underwent a further revision in 1811, and several Regulations were passed in the following year, with a view to its improvement.

449. The rates established by Regulation IX. and XI. of 1803, and several of the provisions of Regulation XV. of 1808, are repealed by Regulation II. of 1812, in the Sea Customs Department, and a general import duty of 8 per cent. is established on goods imported by sea on British or Asiatic vessels, as well at Madras as at the subordinate ports of that Presidency; and an export duty of like amount on goods exported from subordinates; but in respect to Madras itself, no export duty is to be levied there except on goods exported on foreign vessels, and on the articles of cotton, which is made liable to an export duty of 8 per cent., whencesoever exported, being however, at the same time, declared free from all duty on import.

450. The certificate of the payment of the general inland duty of 5 per cent. is to be received in part payment of the duties due on exportation by sea, but as the valuation of the goods is usually higher at the place of exportation than where the inland duty was paid, the amount subsequently collected is not limited to the difference between 5 & 8 per cent. on the original valuation, and the rowannah or certificate produced can only, therefore, be considered as a voucher for so much money paid in the shape of inland duty, in diminution of the 8 per cent. leviable at the place of exportation on the tariff value there. This mode of reckoning the amount of duty already paid on any goods, as a payment in part of a higher duty to which they may subsequently become liable, is a prominent feature of the present Customs Regulations of the Madras Presidency.

451. Grain which, by Regulation XIV. of 1808, was subjected to a duty of 5 per cent. on importation by sea at the port of Madras, is exempted from that duty by this Regulation when imported from ports or places under the Presidency of Fort St. George, and declared liable to an export duty of 3 per cent. only at the subordinate ports.

452. There

* There is a considerable degree of ambiguity in this section of Regulation XV. of 1808 at the present time. It has evidently not been considered incompatible with Section XIV. Regulation II. of 1812, or it would have been expunged from the revised Code of the Madras Presidency. The latter Regulation says, that "all articles liable to sea duty shall be enumerated in a list to be submitted to Government by the Board of Trade, and that no duty shall be levied, except on articles so enumerated." It is possible that the first enactment, Regulation XV. of 1808, was intended to refer to value only, and not to enumeration, the articles themselves forming a portion of those included in the tariff, and leaving the amount at which they should be rated for duty to be ascertained in the manner specified in that Regulation; but this is not the construction given to this rule in practice; for, notwithstanding the subsequent enactment of 1812, duty is levied at the port of import or export on all articles not included in the tariff at the market value of the day.

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452. There are several other provisions respecting an additional duty of 2 per cent. on piece goods imported into Madras, above a certain value, for the use of the place. Drawback to the extent of two-thirds of the amount of duty deposited on the importation of goods expressly declared for re-exportation, to be allowed if re-exported within six months, certain other formalities being duly complied with. Exemption in favour of goods imported at any of the subordinate ports, on British or Asiatic vessels, from ports subject to the Presidency of Fort St. George, from the import duty of 8 per cent., on the production of a certificate showing that sea duty, whether of import or export, has been once levied on such goods and other minor matters; and it is declared that the duties leviable on betel, tobacco, ganjah, bang, goodack, opium and betel-nut imported by sea into Madras, shall be the same as the duties provided by Regulation III. of 1812, no doubt, though not so expressed, to be levied on the importation of these articles into Madras by land, and that areca-nut, classed under the term kootlapunkee or raw nuts, shall, on importation at Madras by sea, be charged with duty at the same general rate as other articles, viz., 8 per cent.

453. It is hence evident that betel-nut and areca-nut are not considered the same article by the Madras Regulations. In what the distinction consists, we are not able exactly to determine, though we think it likely that the former term may be applied to the nut in its prepared, and the latter in its natural state, and it would be unnecessary to notice the distinction here, were it not that we find on turning to the Regulation in the land department (III. of 1813) for information respecting the rate of duty to be collected on the six above enumerated articles on importation into Madras by sea, that whilst areca-nut is specifically mentioned in that Regulation and taxed at a rate considerably exceeding the duty leviable on it in the sea department, viz., 2,016 and 12 per cent. on the nerie valuation according to quality, and the duties on betel, tobacco, ganjah, bang, goodack and opium, regulated as before on quantity and not value, the article of betel-nut is altogether omitted in the Regulation in question.

454. The provisions of Regulation XI. of 1803, as modified by this Regulation, are extended to the provinces of Malabar and Canara, subject to certain special rules, of which the following are the most important:—

455. The levy of a particular duty on exports by sea of rice, paddy, betel-nut, pepper and sandal wood in Canara, and on exports of the same articles, with the exception of rice and paddy, and the addition of nutmegs and cassia in Malabar, under the rules established by Regulation XV. of 1808, is again provided for. The exemption declared in clause third, Section X. of this Regulation, in favour of goods that have paid the sea duty at any of the ports under the Madras Presidency, is to operate in respect to imports into Canara and Malabar to the extent only of the duty actually paid, and it is in consequence enacted, that goods so imported shall be charged with the full duty of 8 per cent. on the tariff of the province, the certificate of the general inland duty under Regulation I. (of 1812, though not so stated), and the sea duty under this Regulation having been paid, being received in part payment. All grain, except rice and paddy, are exempted from import or export duties within the provinces of Canara, and a rule so extraordinary is applied to these specified articles in the first instance, and all other articles in the sequel, that we quote it verbatim: "Rice and paddy conveyed by sea from one port to another within the province of Canara, shall be charged with the regular export duty at the port whence they are first exported, and the exporter shall be furnished with an unstamped certificate, entitling him to re-export the same quantity duty free, if carried away in 15 days. The same rules shall be applicable to all other articles exported from one port, professedly to be landed at another."

456. The provisions of this Regulation, as applicable to Malabar, are then extended to the port and settlement of Cochin and its dependencies, and it is stated in conclusion, that the rules contained in Sections XIX., XX., XXI., XXII., XXIII., XXIV., XXV. and XXVI. Regulation I. (i.e. of 1812 as before), relative to the confiscation of goods, the appropriation of the proceeds, the infliction of punishment for defrauding the Customs, the process to be observed against native servants in the department of Land Customs and others, for unauthorized exactions, as also in the cases of embezzlement of the public money, or improper detention

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of papers and accounts, and the mode of trying and determining complaints against European officers employed in the collection of the Customs, are hereby extended to the department of Sea Customs at the outports, and the rules contained in Sections XIV., XVI., XVII., XVIII., XIX., XX. and XXI., Regulation III., to the department of Sea Customs at Madras.

457. Regulation IV. of 1812 embodies in a Regulation of the Madras Government certain rules established by the Court of Directors in pursuance of the powers vested in them by the Act of 37 George 3, cap. 117, for the conduct of the trade of foreign nations with the territories immediately dependant on the Government of Fort St. George. Its principal provisions are those which render goods imported or exported on foreign bottoms subject to double the amount of duties payable on goods imported or exported on British bottoms, *i. e.*, goods so imported at Madras or any of the ports subordinate thereto, are liable to a duty of 16 per cent. on their value. According to the tariff, goods exported from the port of Madras on vessels of the above description are liable to a duty of 8 per cent., and from the outports subordinate to the Madras Presidency, of 16 per cent. on the value of such goods according to the tariff of the port, but in the latter case, the certificate of the general inland duty having been paid is to be received in part payment. Goods transhipped in the roads of Madras and of the subordinate ports from one vessel to another, being vessels of foreign Europe or America, to be charged with duties at the same rate as if the goods had been imported. Power is given to the collectors to suspend the operation of this rule under certain circumstances, and the duty on raw hides exported on such vessels is fixed throughout the Madras territories at 8 pagodas per 100.

458. Regulation I. of 1813 is a Regulation for Madras only, deferring the import and excise duties on all spirituous liquors manufactured to the eastward of the Cape of Good Hope, which may be imported by sea or land into Madras, and for preventing the clandestine sale of such liquors, the principal feature of which is the enactment, in addition to the general duty of 8 per cent., of a particular import duty not exceeding 150 pagodas per leaguer, to be determined from time to time by the Governor in Council, provisions being at the same time made for a drawback to the full amount of the particular duty so paid on re-exportation of the same liquor by sea or land, and for the control of the sale of spirituous liquors generally.

459. Regulation II. of 1816 is the first Regulation framed under the authority of the Court of Directors and Board of Control for encouraging the exportation of the staples and marine stores of Great Britain to the territories of Fort St. George. Its provisions in respect to the import of certain articles from Great Britain free duty, or at a duty of $2\frac{1}{2}$ per cent. or 5 per cent., if the produce of foreign Europe, as the case may be, are similar to those established at the other two Presidencies of Bengal and Bombay about the same period; and it is in like manner enacted, that "if the established duties on the goods in question, as previously specified, shall have been paid at any port subject to the British Government in India, no further duty shall be levied on their transit from port to port within the same territories;" but it is also declared in a subsequent part of this Regulation (Section XI.), in precise terms, that nothing therein contained is to be construed to affect the inland and transit duties payable under the provisions of Regulations I. II. and III. of 1812.

460. As regards exports, the rules in respect to drawback on exportation to the United Kingdom of cotton wool, hemp and sunn, the produce of any part of India, and of indigo the produce of the Madras territories, to the full amount of duty paid thereon, are also the same as at the other Presidencies; but on indigo the produce and manufacture of the territories of any native power, the return of duty made to the exporter is only to be equal to the amount of drawback allowed on indigo the produce and manufacture of the British territories, although the duty levied may have been greater.

461. All other articles similarly exported, to have such return as shall reduce the duty already received to $2\frac{1}{2}$ per cent. on the tariff valuation at the place of export.

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462. Regulations II. and III. of 1818 are also Regulations passed with the sanction of the Court of Directors and Board of Control, and for the protection of the Honourable Company's salt and opium monopolies. By the former, a duty of 100 pagodas per garce is imposed on all foreign salt imported by sea into any port or place within the limits of the territories subject to the Government of Fort St. George, and by the latter, a duty of 40 rupees per viss on all foreign opium so imported or exported within the same limits. Like protecting Regulations were established at the other Presidencies about the same period.

463. Regulation IV. of 1819 imposes, with the sanction of the Court of Directors and Board of Control, on goods imported from or exported to any foreign settlements adjoining to the territories subject to the Presidency of Fort St. George, on vessels under British or Asiatic colours, the same rate of duty as if the goods had been exported or imported on vessels under foreign colours, to be paid and levied under the same rules and provisions as are applicable generally to the payment and collection of the duties, denominated Government Customs, on goods and merchandise imported or exported by sea.

464. Regulation VI. of 1819, which relates solely to the trade of foreign nations with the British possessions in India, was framed, like Regulation IV. of 1812, of which it repeals some of the provisions, by the Court of Directors, on the 31st December 1817, under the powers vested in them by the 37 George 3, chap. 117, and rescinds Regulation I. of 1817, dated 20th January 1817, which had been passed by the Government of Fort St. George, in modification of certain parts of Regulation IV. of 1812.

465. The only important part of this Regulation (VI. of 1819), in reference to Customs dues, is section IV., which confirms the rules in force at its date, by declaring that nothing in the said Regulation shall be considered to affect the provisions contained in the existing Regulations for defining the duties to which the trade of foreign nations is and shall be subject at the ports and settlements of the British nation in the East Indies.

466. The remaining sections relate to the entry and hospitable reception of foreign European ships of all nations in amity with His Majesty, whether they have settlements of their own in the East Indies or not, and define the rights of trade belonging to such ships respectively, according to the circumstance of the case, more extensive privileges being conceded to those nations having settlements of their own in this country than to such as are without them; the trade between the British possessions in India and the United States of America is declared to be regulated by the convention of commerce between Great Britain and the United States of America, signed at London on the 3d July 1815, the third article of which, given at length, is to the same effect as the preceding parts of this Regulation, having reference to foreign states not having possessions in the East Indies, and provides generally that the vessels of the United States shall be treated on the same footing as the most favoured European nations.

467. Regulation VIII. of 1819 was passed by the Government of Fort St. George (on its own responsibility it is believed, as the preamble is silent in regard to other authority), for the purpose of modifying and explaining certain parts of Regulation II. of 1816, (which has the sanction of the Court of Directors and Board of Control,) and of other Regulations then in force, for the collection of Customs.

468. It extends the exemption from duty contained in Regulation II. of 1816 to sundry other articles, as particularly enumerated, and generally to all articles coming under the description of wrought or unwrought metals, being the produce or manufacture of the United Kingdom of Great Britain and Ireland. It enumerates various articles declared to be marine stores within the meaning of Regulation II. of 1816, and declares them free of duty, if imported in the manner prescribed by that Regulation, and rescinds all Regulations or parts of Regulations that exempts the commerce of the Honourable Company, or goods purchased at their sales, from payment of duties.

469. Section V. of this Regulation having in the construction that has been given to it in some of the provinces of the Madras Presidency, and possibly in all

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of them, had the anomalous effect of conceding to goods originally imported by sea on British or Asiatic vessels into any of the ports belonging to the British Government in India, and afterwards conveyed by sea to Madras, or the subordinate ports of the Madras Presidency, certain certificate privileges not recognised by any of the earlier enactments of the Madras Government, by which such goods are exempted wholly or in part from the duties leviable under previous Regulations of that Government, and of imposing in other instances on goods imported from Great Britain, according to the provisions of the Acts of Parliament for regulating the direct and circuitous trade between the United Kingdom and India, into ports in the territories subject to the British Government in India, additional duties on their subsequent transit by sea to ports of the Madras Presidency, contrary to the letter and spirit of Regulation II. of 1816, we think it right to quote the section in question, at full length.

First. "All goods which may be originally imported by sea on British vessels, or on vessels belonging to native inhabitants of the British territories, or to subjects of native powers of Asia, at any port in the territories subject to the British Government in India, and shall afterwards be re-exported to Madras, or any port immediately dependant on this Presidency, shall, in cases in which the duty, established by the Regulations of this Government at the port where the said goods are last imported, does not exceed the amount of the duty retained at the port into which they were first imported, be exempt from all further duty on such last importation, on the production of a regular certificate from the proper officer of the amount so paid and retained at the port of original importation.

"Second. In like manner, in cases in which the duty established at the port where the goods are subsequently imported, may exceed the amount retained at the port of original importation, the difference only will be levied on such subsequent importation."

470. The grant of drawback to the full amount of duty paid on indigo, the produce of the territories belonging to the Presidency of Fort St. George, conceded by Regulation II. of 1816, is extended to indigo the produce of any part of the British territories in India, and it is declared, in modification of the drawback arrangements of the Regulation just mentioned, that in all cases in which an export duty is payable under the existing Regulations on goods which have previously paid an inland duty, such export duty shall be altogether remitted on the exportation of such goods to the United Kingdom; provided, however, that such a drawback only shall be allowed as shall reduce the amount of duty retained to $2\frac{1}{2}$ per cent., and where the inland duty shall not exceed that rate no drawback shall be allowed. In the case of goods not subject to any transit duty the prescribed export duty on their exportation to Great Britain or Ireland is to be reduced to $2\frac{1}{2}$ per cent.

471. Schedules are annexed to this Regulation, showing the rates of duty payable and of drawback allowed on the several articles of commerce therein specified.

472. Regulation VII. of 1831 repeals, by authority of the Court of Directors, in virtue of the powers vested in them by Acts of Parliament there cited, the Regulation passed by them on the 31st December 1817 (VI. of 1819, of the Madras Code), and enacts that all ships of foreign European nations, and of the empire of Brazil, are to be hospitably received, and to be allowed to trade in all British ports and places in the East Indies, and to be cleared out for any port or place in the East Indies, or direct for the country to which they belong, leaving the trade between the British possessions in India and the United States of America under the Regulation, as before, of the convention of commerce between Great Britain and America, signed at London on the 3d July 1815, and the duties on the trade of foreign nations subject to all existing and future Regulations at the ports and settlements of the British nations in the East Indies.

473. We are informed by a letter from the Chief Secretary to the Madras Government, of the 31st October 1834, that in addition to the Regulations we have quoted, a set of rules was passed by the Governor in Council, under date the 1st May 1820, for regulating the export duties on foreign vessels, and for allowing drawback in certain cases, and that these rules are still in force, so far as they are applicable

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applicable at the outports, but that they were superseded in respect to Madras by new tables of duties and drawbacks, authorised by Government, under date the 30th September 1831, which have been acted upon from that time. Of these rules, and a Government advertisement of the 13th February 1821, reducing the rate of duty on cotton exported, the following are the most important features:

474. Goods exported from Madras in foreign European or American bottoms are to be chargeable only with the aggregate rates of duty specified in the table annexed to the rules, to be adjusted by drawback or additional duty, as the case may be. On this principle, if the goods shall already have paid a duty exceeding the tabular rate, the difference is to be allowed as drawback; if the duty already paid upon the goods shall not amount to the tabular rate, the difference shall be paid as export duty; provided always, that such export duty upon cotton piece goods and sugar shall never exceed five per cent., and upon other articles eight per cent.

475. Goods exported from the subordinate ports on foreign European or American vessels are to be charged only with the rates mentioned in the table, according to the tariff of the port, but the certificate of inland or sea import duties shall be received in part payment.

476. Piece goods manufactured entirely of cotton exported on British or Asiatic vessels from Madras, or from the subordinate ports, are in like manner to be subject only to a duty of $2\frac{1}{2}$ per cent., and shall be allowed such a drawback as may reduce the duty already received to that rate.

477. The mode of obtaining a drawback and forms to be attended to are then described, and goods passing from the Company's territories into the settlements of foreign Europeans, under Section IX. Regulation I. of 1812, and Regulation IV. of 1819, are declared subject to the modifications of the present rules.

478. The advertisement of this date reduced, from the 1st March following, the export duty upon cotton wool, shipped on British or native vessels at Madras, or at any of the ports subordinate thereto, from 8 to 5 per cent., at a valuation of rupees 100, or rupees 80 per candy of 500 lbs., according to the province of production, leaving that to Great Britain free as before, and cotton exported to any of the foreign European settlements adjoining the Madras territories subject to the same duty as if it had been exported on vessels under foreign colours.

479. It was the intention of the Board, says the Secretary to the Madras Board of Revenue, in a letter to the Chief Secretary to Government of the 25th of that month, having reference to the Bengal Regulations XV. of 1825, transmitted to that Board with Mr. Secretary Macleod's letter of the 25th November 1825, that not only the same reductions of duty on foreign trade as had been made in Bengal should be made here also, according to the orders of Government, but that, agreeably to the suggestions of the Supreme Government referred to in Mr. Martin's letter, the duties and drawbacks upon exports by sea generally should be assimilated to those in Bengal, as nearly as the different circumstances would admit. The Secretary further states, that instructions for the formation of tables for this purpose were duly communicated to the collector, but that it appears that from some unaccountable misunderstanding these instructions had only been acted on in respect to piece goods, although general tables had been prepared by Mr. Hadow, the former collector, at the time revised.

480. These tables, as revised by Mr. Ashton, the deputy collector in charge, and the Board of Revenue, are then submitted for the approval of Government, with an intimation that the principles of the Bengal tables have been followed as closely as possible, and the assimilation made as completely as the nature of circumstances will admit, and that any irregularities that may be discovered in practice can easily be rectified after the new rates of duty and drawback have been in operation at the Presidency for a year, when it will be advisable to make a new Regulation, as originally contemplated.

481. It may be right to add, that no Regulation on this subject has, however, been passed up to the present date, and as this circumstance renders the rules for duties and drawbacks now in force at the port of Madras accessible to those only who happen to reside at, or to frequent that place, and that the rates of duty levied, and of drawback allowed, differ from those established in Bengal, though the rate retained by Government on exportation by sea is nearly the same in both

1st May 1820.

On 30th Sept.
1831.

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cases, we submit as succinct an account of three schedules, accompanying the letter from the Chief Secretary to the Madras Government, of the 31st October 1834, and their practical operation, as the variety of articles and cases to be provided for will permit.

Schedule No. 1.

482. Schedule No. 1, shows the rates of duty chargeable on goods imported by sea into Madras from places not subordinate thereto, and has reference in the first instance to goods the produce or manufacture of the United Kingdom.

483. Of these, animals, bullion and coin, pearls and precious stones, are free of duty, whether imported on British or foreign bottoms.

484. Opium is chargeable with a duty of 40 rupees per viss for $2\frac{1}{2}$ lbs., salt of 350 rupees per garce of $9,256\frac{1}{2}$ lbs., and tobacco of 8 annas, or half a rupee, per viss, under whatsoever flag imported.

485. Marine stores, metals, wrought and unwrought, and woollens, which are free on British bottoms, are subject to a duty of $2\frac{1}{2}$ per cent. if imported on foreign bottoms.

486. Spirituous liquors and wines pay 8 per cent. on British bottoms, and 16 per cent. on foreign bottoms.

487. All other articles, the produce and manufacture of the United Kingdom, are charged with $2\frac{1}{2}$ per cent. in the one case, and 5 per cent. in the other.

488. In the second case, viz., goods the produce of foreign Europe, of His Majesty's colonies in North America and West Indies, or of the United States of America.

489. Animals, bullion and coin, pearls and precious stones, opium, salt, tobacco, spirits and wines, follow the rule laid down in the previous instance, and all other articles the produce of the country above enumerated, are subject to a duty of 5 per cent. in English bottoms, and 10 per cent. in foreign ones.

490. In the third and last case noticed in this Schedule, viz. goods the produce and manufacture of places other than the United Kingdom, foreign Europe, His Majesty's colonies in North America, and the West Indies, or the United States of America.

491. Animals, bullion and coin, cotton wool, pearls and precious stones, and opium purchased at the Company's sales are free of duty, whether in English or foreign bottoms.

492. Foreign opium and foreign salt pay the duty formerly noticed of 40 rupees per viss, and 350 rupees per garce, under whatsoever colours imported.

493. Spirits and wines as before are chargeable with a duty of 8 per cent. on British, and 16 per cent. on foreign bottoms; and the former article pays an excise duty of 350 rupees per leaguer in every case, if manufactured to the eastward of the Cape of Good Hope.

494. Piece goods, the manufacture of the Honourable Company's territories, $2\frac{1}{2}$ per cent. and 5 per cent., and piece goods the manufacture of territories other than the Honourable Company's, and hemp or sunn, 8 per cent. and 16 per cent., according to flag as above; grain of all kinds, (at Madras only) 5 per cent., whether on English or foreign bottoms.

495. Tobacco, if warehoused for re-exportation, 8 per cent. and 16 per cent., otherwise it is in every case chargeable, together with other enumerated articles, with a particular duty, as follows:

Tobacco, 1st sort	-	-	-	-	8 annas per viss.
" 2d sort	-	-	-	-	7 ditto - ditto.
" 3d sort	-	-	-	-	6 ditto - ditto.
Godavk	-	-	-	-	4 ditto - ditto.
Ganjah	-	-	-	-	rupees 3 14 annas per viss.
Bang	-	-	-	-	1 8 ditto - ditto.
Betel leaf	-	-	-	-	1 $\frac{1}{4}$ anna per bundle of 400 leaves.
Betel-nut boiled, 1st sort	-	-	-	-	20 per cent.
2d sort	-	-	-	-	16 - ditto.
3d sort	-	-	-	-	12 - ditto.

All

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Schedule No. 2.

All articles not included in the above, 8 per cent. on a British, and 16 per cent. on a foreign bottom.

496. Schedule No. 2 shows the drawbacks allowed on re-exports, and first on articles the produce and manufacture of the United Kingdom.

497. Animals, bullion and coin, marine stores, and metals, wrought and unwrought, pearls and precious stones, and woollens, being free from import duty, cannot of course have any drawback to receive, and salt and opium are excluded from a participation in that indulgence.

498. Spirituous liquors and wines are entitled to a drawback of 2, 3, 5, $5\frac{1}{2}$, 10, 11 or $13\frac{1}{2}$ per cent., seven different rates, as in Bengal Code, according to the flag and country of original importation and subsequent re-export.

499. Tobacco, to a return of all duty in excess of $2\frac{1}{2}$, 5 per cent., or 10 per cent., and all other articles to a drawback, equal to one-third or two-thirds of the duty paid on importation, as the case may be, under the explanation already given of flag, country, destination, &c.

500. Secondly, on articles the produce or manufacture of foreign Europe, His Majesty's colonies in North America, and the West Indies or the United States of America.

501. Animals, bullion and coin, pearls and precious stones, opium and salt, spirituous liquors and wines and tobacco, are all enumerated articles governed by the same drawback rules as in the first branch of this Schedule, whilst all articles not included in the above list are entitled, as before, to a return of one-third or two-thirds of the import duty paid, according to the circumstances of each particular case.

502. Thirdly, on articles the produce or manufacture of places other than Europe, or the United States of America.

503. Animals, bullion and coin, pearls and precious stones, opium and salt, as before, no drawback allowed.

504. Hemp or sunn, in some cases 3 per cent. in others $5\frac{1}{2}$, 8, 10, 11, 16 per cent.

505. Grain of all kinds, no drawback or drawback of $2\frac{1}{2}$ per cent., as the rules may apply; piece goods generally, the manufacture of the Company's territories in India, no drawback, the import duty being only $2\frac{1}{2}$ per cent.; piece goods, the manufacture of other places, 3 per cent., $5\frac{1}{2}$, 11 or $13\frac{1}{2}$ per cent.

506. Spirituous liquors and wines (as in the two former branches of this Schedule), 2 per cent., 3, 5, $5\frac{1}{2}$, 10, 11 or $13\frac{1}{2}$ per cent., and the former article, if manufactured to the eastward of the Cape of Good Hope, the whole amount of excise duty, 350 rupees per leaguer of 150 gallons levied on importation.

507. Tobacco, gooduck, ganjah, bang, betel leaf and betel-nut, return of all duty in excess of $2\frac{1}{2}$ per cent., 3, 5 or 6 per cent., as the rules may determine.

508. All articles not included in the above list are in this third branch of the Schedule under consideration (No. 2), regulated by a principle of calculation different from that adopted towards unenumerated articles in its two former branches, inasmuch as the drawbacks recoverable in the present case are determined by a per centage of 2, 3, 5, $5\frac{1}{2}$, 10, 11 and $13\frac{1}{2}$ per cent. of the amount of import duty paid (as in the case of wines and spirituous liquors throughout), according to circumstances, instead of a specific portion, one-third or two-thirds of such import duty, as before, entailing as a matter of course on the public officers who administer the law, and the individuals who are governed by it, all the trouble and perplexity that have been described in our observations on the Bengal Code, when treating of the Sea Customs Regulations of that Presidency.

509. Schedule No. 3 exhibits the rates of duty chargeable, and drawbacks allowed on articles, the produce and manufacture of the country, imported by land into Madras, and exported by sea to places not subordinate. Opium 40 rupees per viss for $2\frac{1}{2}$ lbs. without drawback.

151.

I 4

510. Goat

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510. Goat skins, return of all duty in excess of 2½ or 5 per cent., according to flag and destination.

511. Articles not enumerated above, which have paid inland, transit or low duty, not chargeable with export duty or entitled to drawback, except in the case of exportation, in foreign bottoms, to places other than those in Europe, His Majesty's colonies in North America or the West Indies, or United States of America, when, if the duty already paid does not amount to 10 per cent., so much is to be levied as is requisite to make it up to that rate, and a drawback allowed of all duty collected in excess of 10 per cent. where the amount already realized by Government exceeds that rate.

512. Subject to the exceptions contained in Schedule No. 1, in respect to free goods and enumerated goods paying a duty of 2½ or 5 per cent., according to circumstances, the prohibitory duties on salt and opium and excise duty on spirituous liquors manufactured to the eastward of the Cape of Good Hope, the present Sea Customs law of the Madras Presidency, as applicable to the Port of Madras itself, may be said to be comprised, as noted at the foot of that Schedule, in an import duty of eight (8) per cent. levied on all goods imported on a British bottom, and sixteen (16) per cent. in a foreign bottom, the certificate of export duty paid at the subordinate ports of that Presidency, and of import duty paid on goods originally imported in British or Asiatic vessels, at any port in the territories subject to the British Government in India, being received in part payment, with drawbacks on re-export varying from (2½) two and a half to (13½) thirteen and a half per cent. on import value according to flag and destination, the general principle being to retain, in the case of foreign ships, double the amount of duty retained in that of British ships, after adjustment of drawback, following the scale laid down in Schedule No. 2.

513. No export duty is leviable on goods exported from Madras, in British or Asiatic vessels, except on the article of cotton under Section IX. Regulation II. of 1812, as modified by the orders of the 21st February 1821, and on opium under Regulation III. of 1818, as further noticed in Schedule No. 3, but goods exported on vessels of foreign Europe or America, are chargeable with an export duty of eight (8) per cent.

514. With respect to the subordinate ports, the rates of duty on imports, whether in British or foreign bottoms, are the same as at Madras; but in the former case, *i. e.*, British or Asiatic vessels, if the goods are imported from ports subject to the Presidency of Fort St. George, certificates of export or import duty having once been levied on such goods, are by Regulation II. of 1812 declared to exempt them from the payment of the import duty of 8 per cent.; and this privilege, as it relates to certificates of import duty paid, is extended, under the same provisions as at Madras, to goods originally imported in British or Asiatic vessels at any port in the territories subject to the British Government in India.

515. The rates of export duty leviable on goods exported from the subordinate ports are the same as those imported (*viz.* eight (8) per cent. on British, and sixteen (16) per cent. on foreign bottoms), certificates of the general inland duty having been paid being however received in part payment of the sea export duty in both cases.

516. It has been stated when describing the several provisions of Regulation II. of 1812, in a former part of this Report, that a particular duty is levied in Malabar and Canara, on certain enumerated articles noticed in the margin,* but as the regulation only provides for the mode in which the rate of duty shall be fixed, without mentioning the actual rate to be collected, and the documents we have hitherto received do not afford any information whatever on this subject, we are unable, until we receive replies to communications addressed to the principal collectors of those provinces some weeks since, to say more on this head than that it appears by a statement forwarded to the Board of Revenue at Madras by the principal

* In Malabar: Betel-nut, pepper, cardamoms, sandal wood, nutmegs, cassia.
In Canara: Rice, paddy, betel-nut, pepper, cardamoms, sandal wood.

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principal collector of Canara, bearing date the 28th April 1830, that alterations had been made from time to time in the rates of duty leviable on the enumerated articles of that province (as well as on others not enumerated, in express contravention in the latter case of existing Regulations), and that the rates of force on the undermentioned ones at the date of the statement in question, were, without distinction as to flag or destination, in all cases as follows:

Rice	-	-	-	-	-	-	-	3 per cent.
Betel-nut	-	-	-	-	-	-	-	35 per cent.
Pepper	-	-	-	-	-	-	-	15 per cent.
Sandal Wood	-	-	-	-	-	-	-	10 per cent.
Cardamoms	-	-	-	-	-	-	-	20 per cent.

517. Having thus taken a brief review of the sea customs system of the Madras Presidency from the year 1781 to the present time, and reduced the principal provisions of past and existing Regulations into as concise a form as a due regard to the correct understanding of them would permit; it remains for us to offer a few observations on their general character and effects, as a prelude to the suggestions we shall have to submit to the consideration of Government at a future period, in correction of the most obvious defects of the existing code, and the furtherance of more systematic arrangement in time to come.

518. That these defects attracted the early attention of the authorities in England, and were in due course brought to the notice of the local Government, is sufficiently established by the 35th paragraph of the report of the Madras Committee of 1817-18 and 1818-19, to that Government, of the 12th May 1818, in which they write as follows: "The Court of Directors have remarked, and it must be admitted, not without sufficient reason, a great want of simplicity and perspicuity in the Customs Regulations of this Presidency. This defect may be ascribed partly to the very complicated nature of the system of Customs established in 1812, and partly to the circumstance that the Regulations respecting Customs, which had previously been passed, were not altogether rescinded on the introduction of that great change, as was done in Bengal in the year 1810 on a like occasion, but such of their provisions as were not considered either inconsistent with the new system or objectionable on other grounds were allowed still to remain in force.

519. Of the correctness of the above opinion ample evidence has been afforded in the abstracts we have already given of the Regulation of the Madras Government, and additional proof might be adduced did we think it necessary to enter on further details at this time, nothing having been done in the interim towards the removal of the defects in question. There is scarcely a Regulation from which any idea can be formed, except at the cutcherry of the collector or the subordinate chokies, of the sums leviable by its provisions. In most of the Regulations the tariff by which the value of all goods is to be governed, is to be framed by the collector under the orders of the Board of Revenue, subject to the confirmation of the Governor in Council; in others the rates of duty are left to be settled by a similar process, and there are but very few cases indeed in which a merchant or private individual can, under such circumstances, gather from the Regulations themselves, or learn by any other mode than actual inspection of the tariffs exhibited at the several Customs-houses and chokies, what will be the amount of duties to which his goods will be subjected in the Madras territories, whether by sea or land. Reference is constantly made in the Regulations of the Sea Customs Department to those of the Inland Customs Department, and *vice versa*, for information explanatory of the provisions of each; to the great inconvenience of the public, as well as of the officers of Government to whom the collection of the Customs Revenue is confided by them in the Madras Presidency.

520. These are all serious defects inherent in the Customs system at present in force in those territories; there are others of less importance, which in the belief that a general remedy will be applied to all at no distant periods, it does not seem necessary to particularize at present; though it is right to mention that the evils of the existing system have been much augmented by the vague and unsatisfactory terms in which the intentions of Government have been reduced to the form of law, giving room in many instances for interpretations of doubtful validity.

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validity, and by a departure in others from provisions on which no difference of opinion could exist by those whose especial duty it was to see those provisions strictly and impartially observed in every case.

521. It may perhaps be contended, in excuse of such deviations from the law that it would be inconvenient to make a fresh enactment for every modification that a change of circumstances may render necessary. To any such objection the answer is simple and conclusive. The Regulations now in force impose that necessity on Government where the rights of individuals are concerned, and especially where any new tax or burden on commerce is to be created; besides which it may fairly be doubted whether the changes which have been recommended by the heads of departments, and approved by the Boards of Trade and Revenue, would have received the sanction of Government if that mature deliberation which belongs to questions of repeal had been duly observed, and the measures so recommended fully canvassed by Government.

522. In elucidation of the remarks we have made in the preceding paragraph, and confirmation of their correctness, we must observe that it is provided by Section XXII. of Regulation I. of 1812 in the Inland Customs Department, made applicable to that of Sea Customs by Section XX. of Regulation II. of 1812 already noticed, that "no collections whatever, either as customs duties, commission fees, or under any denomination whatever, shall be levied by any of the officers employed in the custom-houses or chokies, excepting such collections as may be authorized by this Regulation or by any other Regulation which shall be hereafter enacted in the prescribed manner;" and that within a year of the passing of the two Regulations in question, viz., on the 20th April 1813, the Government of Madras was induced at the suggestion of the Principal Collectors of Malabar, supported by the recommendation of the Board of Trade, to issue an order authorizing, in direct contravention of the law, the levy of a fee of one-half rupee on every certificate in the English language, granted for exports to Bombay, in payment of additional establishment alleged to be required for preparing the same; which has continued to be collected to the present time.

523. In like manner, but without, we believe, having in this instance the approval of the Board of Revenue, to whom the control of the Customs Department had been entrusted in the interim, or the sanction of Government, the period of six months allowed by Section VI. of Regulation II. of 1812, for the re-export of goods imported by sea, was reduced at one time in the province of Malabar to three months; thus depriving the merchant whose goods might be imported immediately before the setting in of the south-west monsoon, of the possibility of benefit from the section in question; since it is well known throughout India that all intercourse with the western coast by sea is cut off during that season, say for full four months in the year to the smaller descriptions of country craft, and for nearly five months to ships of burthen frequenting that quarter.

524. On cotton and cotton thread, which by Regulation I. of 1812, Section XIV., are declared to be exempt from the inland duty of five per cent., except on crossing the frontier, to the territories of native powers, or the settlement of foreign European nations, deposits were for a series of years required in the Coimbatore collectorate, under an arrangement between the collector of that province and the adjoining one of Malabar, to the full amount of the duty in question; rahdaree chits were then granted, and the amount so levied was retained in deposit, until a document furnished in exchange for the rahdaree chit by the renter in Malabar was delivered at Coimbatore, certifying that the cotton or cotton thread specified in the rahdaree accompanying such consignments had been brought to Malabar.

525. Alterations have also been made in the tariffs of some districts from time to time without due authority; and in others the tariff valuations differ so materially as to preclude the possibility of any satisfactory explanation of the discrepancies, and to excite surprise that such discordant values should have received the approval of the Revenue Board, and through its recommendation the sanction of Government.

526. A comparative statement, exhibiting the difference between the tariff of Coimbatore and the land tariff of Malabar (that in the sea department being in most

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most of the instances cited the same as the land one) in certain articles of commerce therein enumerated, forwarded to us by the Principal Collector of Coimbatore, under date the 20th January 1835, will be found annexed (Appendix E.) The distance between the Huzoor station of Coimbatore and the town of Paulghautcherry is only 33 miles. From Walliar, on the confines of Malabar and Coimbatore, Paulghautcherry is only 16 miles. Yet it will be seen by the column we have added to the statement under review, that the valuations of several articles in the two tariffs vary from 11 to 25, 50, 100, 200, 300, 400, and in one instance even 500 per cent.

527. The article of indigo is valued in the tariff of Cuddapah at 580 rupees per candy of 500 lbs. At Madras, distant about 150 miles, the same indigo is valued at 1,000 rupees per candy; and these discrepancies might be greatly multiplied were it necessary or desirable to enter on a minute examination of the various tariffs now in operation in the Madras Presidency.

528. Our observations on the Madras Customs Code have already exceeded the limits to which we had hoped to confine them, but we cannot conclude without noticing the injurious effects of the sea export duty system, as at present administered, on the trade of Malabar, and it may be on the other maritime provinces of the Madras Presidency, and this without any departure from the strict letter of the law by the officers of Government.

529. The country in the interior of Malabar is mountainous throughout its whole line from south to north, and the plains between the foot of the hills and the coast are intersected by rivers or arms of the sea, at every six or eight miles; all of these are navigable, some for many miles, and the roads being few and much out of repair, and the footpaths even impracticable in many parts for beasts of burden, the rivers may be considered the natural highways of commerce in that quarter.

530. The sides of the hills are freed from jungle by burning different portions in succession, and by this arrangement the whole of the mountain track is brought into cultivation about once in every 10 years. On such land hill-paddy is grown; cotton is sown in the same ground amongst the paddy, and it is natural to suppose that this cotton, with the articles of pepper, cardamom and many others, the produce of the interior, would find their way to the warehousing ports on the coast, or places of eventual consumption in the province, by the streams in question; but such is not the case in reality, for the rivers are rendered unavailable for the purpose of commerce, by the mode in which the export duties are collected in this quarter. No sooner do goods arrive at the mouth of a river in progress to the sea, than they are charged with a duty of 8 or 15 per cent. according to the nature of the articles in transit, whether intended to be landed at some place on the sea coast for consumption within the province, or warehoused at one of the principal shipping ports of the same for future exportation by sea. The consequence of this state of things is that the produce of the province, which might be conveyed much more cheaply and speedily from place to place by water, is to be seen daily carried along the coast on the heads of coolies by land, to avoid the onerous charge imposed on them by the export duty as now realized there.

531. One instance of the actual working of this system will suffice at present, since its operation is in a great measure the same throughout the whole province.

532. Immediately to the north of Tellicherry, and about as far distant from that port as Tolly's Nullah is from the Custom-house at Calcutta, is an estuary encircling the small island of Durmapatam, into which several streams discharge themselves at different points. The southernmost outlet is scarcely more than a mile from Tellicherry, and the channel by which a large portion of the produce of the surrounding country would be conveyed to that port, there to be sold or warehoused for eventual shipment to Bombay, the Gulfs of Persia and Arabia, England and elsewhere, were it not for the operation of the export Regulations as described above; but under existing circumstances, traders in general, and particularly those of small capital, find it more to their advantage to convey their merchandize from the interior to Tellicherry by land, in the manner already

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described, than to forward it in larger quantities, and with much less trouble and inconvenience, in boats or canoes by means of the rivers and the sea.

533. That the correction of this particular evil, consistently with a just regard to the realization of the revenue derivable from the sea-borne trade, will not be unattended with difficulty we are bound to admit; but it nevertheless is due to the public that its existence be noticed, in order that means may if possible be devised of alleviating, if not entirely removing the grievance, in any new arrangement for the Sea Customs Department of the Madras Presidency.

534. It only remains for us to state that we purpose in our next Report in this department, to submit a succinct account of the financial results of the existing Customs systems of the four Presidencies, and of the several branches of collection of which the aggregate revenue is composed.

We have, &c.

(signed) *J. H. Crawford.*
W. R. Young.
H. Borradaile.
H. Babington.
C. E. Trevelyan.

Customs and Post-Office Committee, Calcutta,
27 January 1836.

(signed) *G. J. Siddons,*
Honorary Member.

(signed) *T. J. Taylor,*
Secretary.

(True copy.)

(signed) *H. Torrens,*
Offg. Depy. Secy. to Govt.

APPENDIX.

Appendix (A).

Appendix (A.)

Referred to in LETTER from the Customs and Post-office Committee, dated
27 January 1836.

EXTRACTS from the Report of the Bombay Customs Committee.

1. ANY plan for simplifying the transit dues, and rendering them less burthensome to the trade of the country, must embrace the entire abolition of all extra exactions, which are, on account of Government, demands in kind, in addition to the rahdario dues, such as modthee, comgee, &c., and gudaee, a kind of note-fee, being a pice or two taken as a check at those nakas in a purgunna which are passed after the dues have been paid at one of them; and on the part of individuals, either perquisites which the nakadars and peons, &c. are allowed to levy from those who have to pay duties, to make out their pay; or the huks of hukdars, who claim certain dues generally in right of performance of some duty, such as looking after the collections, or keeping the accounts of the muhal.

Goojurat Collector's
Report.

2. I would recommend abolition of all such collections, chiefly because the relief afforded in this way would be equal to four times the amount if given by reduction of rates, in consequence of the great vexation to the trader from a number of collections by different persons, and the abuses it leads to, by over-exaction. The gudaee has been long abolished in the Kaira districts, and in some of the Amedabad ones, and the dues in kind are strictly double dues upon the same article. The pay of nakadars should be paid by the farmers, to whom a proportionate allowance might be made from the present amount of their farms, under the name of charges, being a scale of fixed pay for his people at places where such perquisites have been hitherto taken. The huks of the hukdars it would be very difficult to ascertain, but a rough estimate might be taken of the average receipts of each person, and a commutation allowed him. In purgunnas where the transit dues are already light, the huks of the hukdars might be consolidated with the Government dues; but in general I would advise their abolition, keeping in view the relief of our own purgunnas rather than those of foreign states.

3. In the number of the places at which "rahdaree" duties are levied consists their chief characteristic and principal objection.

Revenue Commis-
sioner.

4. The most objectionable, and, I believe, at the same time the least profitable part of the land Customs as they now exist, is that portion of the system of transit duties which subjects the ryot to pay for the transfer of the produce of his land, or of his industry, from village to village, and makes demands (which cannot but be somewhat troublesome) on the small quantities of household and other necessary supplies which he is occasionally obliged to procure from the cusbah (market or principal town of a purgunna); nakas recurring at intervals of a few coss are scattered (though not in great numbers) through the purgunnas, so situated as to intercept the communications between village and village. Some of these nakas do not affect the trade through the purgunnas, and some expense will be saved by their reduction.

5. In reference to the remarks in the 36th and 37th paragraphs, I beg strongly to recommend the total abolition of all irregular petty huks and payments, such as "moothee," "change," "dustooree," "guddee," "sooparee," &c. They are liable to be made pretenses for unjust and vexatious exactions by Custom-house officers, sepoy, &c., and have the bad effects of mystifying and confusing the rates chargeable. A number of these exactions have already been abolished by our Government, but some of them continue to exist in a few places.

6. The huks received by zemindars from customs in Goojurat are small, and where they are not already commuted for fixed annual payments, I would so fix them, on the average amount of the last 10 years.

7. The frequency of stations for levying customs must, no doubt, act as a considerable clog on traffic of the country, but not perhaps to the extent which would at first sight be imagined.

Southern Mahratta
Country, acting
Principal Collector.

8. The principal merchants, in whose hands is the greater part of the trade carried on along the great lines of communication, enter into agreements with the farmers for the unmolested passage of their merchandize, advancing a sum of money at the opening of the season on account of duties, and settling for the remainder at regular intervals. An agent attending each drove of bullocks, they are allowed thus to pass without detention, it being sufficiently well known what description of goods each merchant deals in, as well as the bunjara or carrier he is in the habit of employing.

Appendix (A.)

9. Another mode of conducting this portion of the trade of the country is through the class of persons called Hoondee Karees, who engage in the same manner with each farmer, and contract for a certain sum to deliver goods entrusted to them by the merchant safe at their destination, the sum paid them by the merchant including insurance and land customs.

10. To the petty trader, it is true, whose business is chiefly carried on along the cross roads, the frequency of the nakas is more vexatious, and must operate disadvantageously in checking the interchange of commodities; even this class, however, frequently pay commutation, noticed by Mr. Elliot, denominated "karuck," for the transit duties leviable within the range of bazars they are in the habit of frequenting; whilst the resident shopkeeper, supplying himself with the articles of his trade from the neighbouring kusba town, and confining his transactions to the immediate circle of villages by which he is surrounded, can have no reason to complain at the demand made on him according to immemorial usage at the intervening custom naka.

11. On the whole, though there is much that is objectionable in the present system of levying and collecting the transit duties, it would be difficult in a country the topography of which is such as this zillah, surrounded and intersected by foreign and jageer territory, and with the innumerable and conflicting claims which would be made by the native chieftains and others to suggest one that would be less objectionable, or as popular it is believed, in general, with the trading community.

12. The same objection does not exist to a partial alteration in the "Sthul Bhirttee," or to a reduction in the rate when found too high. The abolition altogether also of the cess denominated "phuskee," a duty in kind levied on each basket of grain brought by the ryot to market, and an imposition of modern introduction, I would beg leave most strongly to recommend, as falling heavily on the cultivation of the soil, already sufficiently taxed.

13. The whole amount of this class levied in the collectorate is, rupees 1,213, but this includes a sum exacted from the petty shopkeeper, despicable in its amount, but most vexatious in its realization; it would accordingly, I think, be most desirable to remit it.

14. The several kinds of duties of fixed amount, derived from certain persons, places, or occasions, are 19 in number, of which four only are general, the remainder being local and of small amount. The former are:—

- I. Bazar bysak.
- II. Karuk.
- III. Chittee peisa.
- IV. Fuskee.

15. The first and last are market fees; the former, levied on the site of each temporary stall in the street, averaging about one pice per week for each trader visiting the bazar with one bullock. The latter is a contribution in kind, as a handful of grain, &c., taken from all retail dealers in grain, grocery, &c., on some one article in the stall, at the pleasure of the renter. Permanent shops and general traders are exempted from both these demands.

16. Karuk is a commutation for the transit duties paid by small traders who visit a certain range of bazars in the purgunna. This, when once settled, continues unchanged from generation to generation, and the renter is unable to revert to his original claim on the actual transit.

17. The fee called chittee pisa is taken on the receipt granted for the duty of each purgunna; it was originally the right of the puakee, but an additional demand has of late years been made by the renter on his own account; this is now credited in the gross receipts, and is considered an unjust and vexatious innovation.

18. The only part of the duty which sometimes affects the ryots is, that on sale for Sthulbhurtee, where it happens to vary considerably in amount in the same neighbourhood; in that case, the grain which has paid the heavier demand is unable to compete in the common market with that which has paid the less. Instances of this kind are rare, but complaints are more general against a practice of modern introduction, that of levying fuskee, or a duty in kind, on the small baskets or head loads of grain which the ryots are in the habit of carrying to the nearest market; this is both contrary to former usage, and operates hardly by diminishing the very small quantity carried by each person for sale; and such remainder coming in competition with grain brought under more favourable circumstances (as in large quantities, or by great dealers), the duty falls on the ryot, not on the consumer.

19. The remedy most naturally suggesting itself is the abolition of the minor fuskee duties entirely, which, it is estimated, would reduce the present revenue about 314 rupees. The abolition of the sthulbhurtee duties would entail a diminution of rupees ; but this is a more difficult question, interfering both with ancient usage and with the rights of individuals, zemindars and village officers being entitled to a share of this portion of the duty, whether levied on the produce of the government, or of their enam lands; but to a larger amount in the latter than in the former case.

Sub-Collector Hoon-
bly Southern Mahe-
ratta Country.

20. Every village on the high roads or bye roads, wherever goods are carried, have a right to a portion of the article passing by. I will explain the old and new custom of levying these irritating customs:—Under the former government, a karkoon used to be placed at some large

Appendix (A.)

large villages on the road, who levied the rate payable at the intervening smaller villages, giving a pass note for free transit through them. This came something near the present more liberal and sensible plan of concentrating duties, collecting at once, where they can be collected, all that is equitable, and leaving the trader at his will to go where he likes; but besides government, a number of village officers in every hamlet has his huk or phuskee, or right, some a handful, some half, some several, and so on; so that, although freed by the above mode, adopted by the native government, from much annoyance, the trader had still heavy contributions to pay on his line of bullocks, as they wound their way into the village bazar.

21. Besides the plan formed of levying transit duties, there is another subject too which will come under your consideration; viz. village rights. There are old usurpations granted by the Peshwa and others to many individuals; if a poor ryot bringing a bag of rice into the bazar, palete, coolcurnee and other mamdars have a right to a certain quantity; the same with wood, fruits, &c. &c. A ryot brings two maunds of rice into the bazar of Belgaum—

- | | |
|--------------------------------|--------------------------|
| 1. The farmer takes his share. | |
| 2. The shetee of the town | - - - - - 1/4 of a seer. |
| 3. Palete | - - - - - 1/4 of a seer. |
| 4. Coolcurnee | - - - - - 1/4 of a seer. |
| 5. Chelwerdee | - - - - - a handful. |
| 6. Buswee | - - - - - a handful. |
| 7. Tularee | - - - - - a handful. |
| 8. Junguns of Gosavees | - - - - - a handful. |
| 9. Junguns of Byragees | - - - - - a handful. |
| 10. Fakeers of Belgaum | - - - - - a handful. |
| 11. The Pultun shetee | - - - - - a handful. |

And several others have rights of the same kind; and if to all this you add that he has had to pay to government a heavy rent on his crop, you will have something like a fair idea of the pressure on the labour of the poor, which keeps them in their present degraded state. There have been partial orders to stop this taking of handfuls in some places; but the custom still obtains as a right, and can only be put a stop to by a decided general order.

(True Extract.)

Customs and Post Office Committee,
Calcutta, the 27th January 1836.

(signed) T. J. Taylor, Secy.

(True Copy.)

H. Torrens,
Offg. Dy. Secy. to Govt.

Appendix (B.)

Referred to in LETTER from the Customs and Post-office Committee, dated
27 January 1836.

Appendix (B.)

(No. 1079.)

From G. H. Smith, Esq., Collector of Customs, North-western Frontier, Delhi, to
T. J. Taylor, Esq., Secretary, the Post-office and Customs Committee, Calcutta, dated
8 December 1835.

Sir,

I AM at length enabled to reply to your letter, No. 122, dated the 16th of September last, calling upon me "to furnish as complete a description as possible of the custom preventive system lately established on the Western Frontier, as it now exists, detailing the several class of officers employed, and the rates of salary drawn by each; the limits within which each class of officers carries on its functions, the nature of their duties, the checks which are in force with a view to secure their activity and integrity, and any other particulars which, in my opinion, are required to furnish a complete view of the system now in force."

2. The committee are, of course, aware that I have charge of two lines of preventive chokies, the one designated the North-west Frontier, the other the Hurrianah Line; the first intended to collect the duty on goods passing from our territories east of the Jumna to the Punjab and protected states lying to the westward, and the other the cross trade, which passes from north to south, and *vice versa*, across the narrow tract of country which forms the Hurrianah district.

3. The sketch map* which will accompany this Report will show the relative position of these

* Will be sent by Dāk Bangy.

Appendix (B.) these two lines, the jurisdiction of each controlling officer, the respective beats of the patrolling officers, and the situation of each ghat and chokie, distinguishing the different classes which are closed from those which are open for the transit of dutiable goods.

4. That portion of the North-west Frontier over which I exercise a general control is a double line, commencing at Kalsee in the Doon, and extending to Koilah Ghat, a little below Muttra, is about 250 miles in length, and has been divided into three districts; the first, or most northern division, has been placed under Mr. Money, at Saharunpore, and extends to Lelohan Bridge on the canal, which is in the same parallel as Paneeput; the second, and most extensive division, commencing at Kernaul and extending to Dunkour, is controlled by myself; and the third, from that point to a few miles below Muttra, is under Mr. Wilmot, who is stationed at Hodul.

5. The two deputies stationed at Saharunpore and Hodul conduct the whole of the details of their respective divisions, according to instructions they receive from me. To obviate unnecessary delay, they report direct to the Commissioner cases of seizure; all correspondence on general subjects, accounts, &c., pass through my office, and appeals from their decisions are made to me.

6. The whole line has been divided into nine beats, averaging from 25 to 30 miles for each patrolling officer; of whom, two are stationed in the northern or Saharunpore division, four in the central or Delhi, and three in the southern or Hodul division.

7. The patrolling officers have salaries of 300 rupees a month, and an establishment of the strength noted in the margin, besides which they have each two or more sowars,* which I have placed on the Sudder establishment, in order that they (the sowars) may be distributed as circumstances might seem to render necessary.

8. The first duty of the patrols is to prevent goods passing through their beats without, or in excess of their rowannahs; to endorse all rowannahs passing through that part of the line which they control; to check and report to the collector any misconduct on the part of the subordinate chokie officers, over whom they exercise a general control; and to superintend the warehousing and removal of goods temporarily stored in their jurisdiction. A set of rules, which I drew out for their guidance, marked No. 1, is appended.

9. There are three classes of chokies, of which two are open and one close. The first class, the establishment of which is noted in the margin, are open to every description of dutiable goods, and have been selected chiefly with reference to the salt trade. They are 22 in number, of which four are situated in the northern, eight in the centre, and ten in the southern division.

10. There are 28 second class chokies, the strength and cost of which I also note in the margin, which are open for the transit of all dutiable articles, except salt, shawls and indigo, which are, without subjecting the trade to any inconvenience, limited to the first class chokies. Of the second class, eight are in the northern, ten in the central, and ten in the southern division.

11. At each pathway, ferry, bridge, ghat, and ford or pass on the two lines, where there is any probability of illicit trade being conveyed, a jemadar on six rupees, and two chupprassies on four rupees each, are stationed; and at these posts no dutiable goods can pass, they being strictly preventive. There are altogether 208 of these posts; viz. 50 in the northern, 90 in the central, and 68 in the southern division.

12. The officers attached to all the chokies are directed to patrol occasionally at night along the line of their respective beats, to prevent salt being carried over in small quantities on head loads. The patrols have a discretionary power over the third class chokies, as respects removing them from one post to another, as circumstances may seem to call for. They are also empowered to draft a man from each chokie, and divide the force thus raised in small bodies to patrol about at night. This plan has been found to be attended with great advantage, as from the numbers employed it prevents combination; and, in collisions with smugglers, renders success more certain than when two or three only are employed.

	Non:	Rs.	Rs.
Superintendent	-	200	
Darogha	-	25	
Mohurrur	-	10	
25 Chupprassies, at 4 rupees	-	100	335
Darogha	-	25	
Mohurrur	-	10	
25 Chupprassies, at 4 rupees	-	100	135
		Rs.	470
Superintendent	-	200	
Mohurrur	-	15	
44 Chupprassies	-	176	
		Rs.	391

13. Independent of the establishment already adverted to, there are two salt muhal, the Noh and Borarie, which have separate establishments attached to each, of the strength and cost noted in the margin; and for the control of the trade which is carried on with Delhi, there is a superintendent and establishment, as per margin, whose principal duty is to control the import of salt and shawls into the city, and the export of gold and silver lace, the greater portion of which, without this additional check, would escape without payment.

14. When

* In most cases chupprassies have been substituted for sowars, numerical strength being found indispensable when opposed to the large bodies of men who sometimes head-load smuggling by night.

14. When the Barrielly and Furruckabad custom-houses are abolished, which must be shortly the case, they being quite unnecessary, the collections which will be realized on that portion of the north-west frontier line which I control will amount, on the most moderate calculation, to 15 lacs of rupees a year. The statement which is annexed in the margin shows the cost of the whole establishment, Sudder and Mofussil, to involve an outlay of 13,064 rupees a month, or 1,56,768 rupees a year, so that the cost of collection will amount to about 10 1/2 per cent., which, considering the nature and extent of the line to be guarded, I do not consider exorbitant.

	SUDDER:	Rs.	Rs.
Saharunpore	-	402	
Delhi	-	1,232	
Hodul	-	520	2,154
	MOFUSSIL:		
9 Patrols, at 300 rupees	-	2,700	
1 Native Assistant to ditto	-	50	
1 Darogha	-	30	
22 Superintendents, at 50 rupees	-	1,100	
28 Daroghas - at 20	-	560	
31 Mohurrurs - at 15	-	465	
29 Mohurrurs - at 10	-	290	
51 Weighmen - at 6	-	306	
208 Jemadars - at 6	-	1,248	
600 Chupprassies - at 4	-	2,400	
5 Sowars, transferred with Muttra Chokies, at 20 rupees	-	100	
Delhi City Gates	-	391	
Noh Muhal	-	335	
Borarie	-	135	861
	TOTAL Monthly Cost	-	Rs. 13,064
	TOTAL Annual Cost	-	Rs. 1,56,768

15. The annexed copy of the rules for the guidance of the patrols and district officers generally will show the Committee the checks which are in force to ensure the activity and integrity of the Customs establishment placed under my charge; I will not, therefore, unnecessarily occupy the time of the Customs Committee by recapitulating what is there so fully detailed. During eight months in the year I pay frequent visits to every portion of the line, which enables me to check any acts of irregularity which are brought under my notice.

16. I annex in the margin a list of the staples which are liable to duty on passing this frontier. The articles included in sec. 12, Regulation 9, of 1810, not enumerated, are allowed to pass without question, except when brought within the limits prescribed by paragraph 1, sect. II. of the same Regulation; viz. two coss of the Delhi custom-house. Copy of the report which I sent to the Sudder Board on the completion of the north-west frontier line, from which the above information is chiefly extracted, marked (A), is enclosed for the information of the Committee.

Salt of every description.
Shawls.
Cotton piece goods when more than five in number, or 10 rupees in value.
Tobacco, when more than 20 seers.
Sugar, when more than five seers.
Iron, when more than one maund.
Alum.
Safflower.
Assafoetida.
Dry Ginger.
Sal-ammoniac.
Indigo.
Gotah Kinariac.
Copper piece of native manufacture, and spices, which include hur, buhara, ovlah, coriander, souf, ajwain, zeerah, white and black pepper, pcepul, cinnamon, cloves, clachces, nutmegs, thozepaut, saffron, pcepplamoad, musk, kaleezeerah and camphor.

17. The Hurrianah line, which controls the trade passing between the Punjab and Seik states and protected states, and which was abolished in 1833, as involving an outlay greater than its receipts, was re-established in May last.

18. The articles enumerated in the margin only are subjected to duty on passing this line, which was principally intended to bring under contribution the salt trade passing from Samber Deedwana and Sooltanpore into the protected Seik states. Samber and Deedwanah salt, which on passing the north-west frontier line is subjected to a duty of 1/8, pays one rupee only on passing the Hurrianah line, provided it is intended for the Seik states; if, however, it is carried across the north-west frontier, the old rate of duty is adhered to.

19. It is a single line at right angles with that on the north-west frontier, extending from Bowanah, a bridge on the Shah Nehr, to Raniah, on the borders of the Bikanew country, and is about 250 miles in length.

20. For its control there is a superintendent (Mr. Lumley, an old and trustworthy patrolling officer) on a salary of 599 rupees, including establishment. The preventive establishment consists of seven posts of the first class, seven of the second, and nineteen of the third, of the strength and cost noted in the margin; in addition to which there is a force of 30 Barreitch irregular horse and 50 Burkundazes at the disposal of the superintendent, in order that he may station them on such parts of the line where forcible smuggling may be apprehended.

1st CLASS CHOKIE:			
Patrol	-	200	
Darogha	-	30	
Mohurrur	-	15	
Weighman	-	5	
20 Burkundazes, at 5 rupees	-	100	
		430	7 = 3,150
2d CLASS CHOKIE:			
Assistant Patrol	-	100	
Jemadar	-	6	
10 Burkundazes	-	50	
		156	7 = 1,092
3d CLASS CHOKIE:			
Jemadar	-	6	
4 Burkundazes	-	20	
		26	19 = 494
Superintendent and Establishment	-	599	
50 Extra Burkundazes, at 5 rupees	-	250	
		Rs. 4,736	
	TOTAL Monthly Cost	-	Rs. 5,585
	TOTAL Annual Cost	-	Rs. 67,020

21. A code of instructions, which I drew up for the guidance of the subordinates employed on the establishment, marked No. 2, is annexed for the information of the Committee.

22. The position of the line, and the relative situations of the different posts, are all indicated in the map, and the cost of the whole establishment entertained, amounting to a yearly outlay of 67,020 rupees, is indicated in the marginal note opposite paragraph 20.

Appendix (B.)

23. The concluding paragraph of your letter is so comprehensive, and I have so much to suggest for increasing the efficiency of the present system, that I shall defer replying to it at present, and make it the subject of a separate report.

I have the honour to be, &c.

Customs, North-west Frontier, Dehli,
8 December 1835.

(signed) G. H. Smith, Collector.

No. 1.

RULES for the Guidance of PATROLS and the DISTRICT ESTABLISHMENT of the Double Preventive Line.

THE patrol's authority extends over the whole of the subordinate officers employed in his beat, and he is to be considered responsible that they perform their respective duties according to the rules which may from time to time be laid down for their guidance. Before entering on the duties of the patrols themselves, it will be as well to explain that of their subordinates.

THE OFFICERS ATTACHED TO OPEN CHOKIES.

1. It is essential that all superintendents, darogahs and other subordinate officers attached to open chokies, shall always be in attendance at their posts, for the purpose of examining, weighing and taking care of dutiable goods which may pass; after examination should the goods be found to correspond with the rowanah, it will be their duty to endorse it, and make a corresponding entry in the register, in the way prescribed in the Hydaytnamah with which they have been furnished; the endorsement* itself and the entry in the register must be clearly and distinctly written.

2. After endorsing the rowanah and entering it in the register, no time is to be lost in transmitting it to the patrol for his counter-signature, which being obtained, the goods will be allowed to move past the chokie.

3. If any goods should be brought to the chokie without, in excess of, or not corresponding with, the rowanahs, the deposition of the owner, or humrahie, ought to be taken immediately, in presence of two respectable witnesses, whose signatures will be attached.

4. This deposition and a furd talashee, accompanied by an urzee, stating all particulars connected with the case, ought to be sent to the collector, intimation being given to the patrol of the circumstance.

5. Should the seizure take place near the Sudder Custom-house, the goods themselves, and if it be salt, the carriage and owners should be sent; should it, however, be at a distance, this will not be necessary until specific orders are received on the subject. In cases where the carriage is sent, it will be proper to put the chokie seal on the manes or tails of the animals, whether they be camels, buffaloes, bullocks, cows, ponies or asses, to prevent their being changed by the way.

6. No dutiable goods to be allowed to cross at any chokie, except those which by the following rules the chokie is open to.

First class chokies are open for all descriptions of dutiable goods.

Second class chokies are open for all goods, except salt, shawls and indigo, the transit of which is strictly to be confined to chokies of the first class.

Third class chokies are strictly preventive, and are closed to every kind of dutiable goods.

7. The functions of all chokies stationed at a greater distance than two coss from the city of Delhi, will be confined to the following articles:—

Salt of every description;

Shawls;

Cotton piece goods, when more than five pieces or 10 rupees in value;

Tobacco, when more than 20 seers;

Sugar, when more than five seers;

Iron, when more than one maund;

Alum;

Goolmasfur or Safflower;

Assafetida;

Dry Ginger;

Sal-ammoniac;

Indigo;

Gotah Kinaree;

Copper Pice;

And

* The endorsement must specify the quantity, description of goods, date of arrival at the chokie, probable time in which the dispatch will reach the second line, and eventually its destination, number of carts, &c., used as conveyance, names of the humrahie and malik mall, and number and description of the packages in which the goods may be.

Appendix (B.)

And spices, which include hur, baharah, owl, coriander, souf, ojwain, geerah, white and black pepper, peepul, cinnamon, cloves, elachees, nutmegs, thazapat, saffron, peeplamood, musk, kalazeerah and camphor.

And all district officers are strictly prohibited from detaining, on any account whatever, any goods except those specified.

8. In the evening of every day or early next morning, a daily return, drawn out according to the annexed form, is to be transmitted, either by the public dak, or chokie by chokie, to the Sudder office.

9. No goods are to be detained on account of any alleged excess under four per cent.

10. At the expiration of each month, a list of the seizures made in it, and an abstract of the goods which have passed according to the accompanying forms to be sent to the collector; the register will be transmitted at the same time, brought up to the end of the month and duly signed and sealed; the entries of the succeeding month to be made in the second register, which will supply the place of the one sent to the Sudder office.

11. All rowanahs with exports, i. e., going from east to west, or reaching the second chokie, to be returned to the Sudder office.

12. No property covered by a maafee rowanah to be passed without distinct orders previously obtained from the collector on the subject.

13. Returns to be made on the backs of all perwanahs sent from the Sudder office.

14. All chokie officers being immediately subordinate to the patrols, it is necessary that information of all that occurs at their respective chokies should be sent to them; they must also obey the orders of patrolling officers in every case where they are not opposed to existing rules to the contrary.

15. All oppression, extortion or unnecessary delay, proved against any chokie officer, will lead to his immediate punishment and dismissal from office.

16. The head officer of each chokie will be held responsible if he fails reporting any misconduct on the part of any one subordinate to him; they will also prevent the boatmen at ferries from practising extortion, and will report all cases where such is attempted; they will also take care and see that all boats attached to their respective ghauts are moored close to their chokies at night, and not removed except when it may be absolutely necessary.

17. Every attention should be paid by all the Custom officers to the state of the communications, roads, bridges, ferries, &c., and intimation should be given to the collector in cases where repairs, &c. are urgently required.

18. The chokie officers should also keep watch that no goods be smuggled across the line in the vicinity of their chokies; and in all cases where seizures are made in the neighbourhood, should be ready to afford aid when required.

19. When public letters, attached property, &c., are brought, chokie officers should forward them to the next chokie with all practicable speed.

20. Care to be taken of the records, and scales and weights belonging to each chokie, and the arms and the accoutrements of the chupprassies to be forthcoming at all times and in good order.

CLOSED CHOKIES.

1. The jemmadars and chupprassies at the closed chokies to be constantly on the alert, and not allow any kind of dutiable goods to cross the line in their vicinity; on the requisition of the patrol, two of the persons stationed at the chokie will be ready to accompany the patrol force formed out of the officers of the closed chokies.

2. The jemadars will be responsible that all have their arms and accoutrements in good order.

PATROLS.

1. The patrol will have a fixed place of residence to be determined by the collector, from which he will never be absent for a longer period than 24 hours, except on emergency. His jurisdiction will extend to the space between the two lines, except when goods of which he may be in pursuit may be taken across the boundary, in which case he is at liberty to pursue and capture them. He will exercise a vigilant control over the whole of the chokies situated in his jurisdiction. On rowanahs, accompanied by the usual furd talashee and sample of property reaching him, he will first carefully examine the face of the rowanah in all its details, paying especial attention to the date, number and signature of the collector. After he is satisfied that it is not a forgery and that the number and date are correct, and have not been fabricated or altered, he will proceed to examine the endorsements on the back of the rowanah; if he finds all right, he will countersign it, enter it in his register and

Appendix (B.)

and return it to the chokie from whence it came, taking care that as little delay as possible occur between its reaching him and its retransmission.

2. Should, however, he find that it does not correspond with the goods, or be in any other point of view objectionable, he will report the circumstance to the collector.

3. All reports must be accompanied by a single rowanah,* except in those cases provided for in the letter from the Sudder Board, of the number and dates noted in the margin.

4. With respect to imports the following rules have been adopted: all goods short of 100 in amount or number to be accompanied by a single rowanah; for every hundred in excess an additional rowanah to be allowed as far as 10 rowanahs, which is the greatest number that can be allowed for a single dispatch; thus, for 1,000 maunds of salt 10 rowanahs can be used; for 900 pieces of cloth 9, and so on.

5. In the event of any goods being found proceeding by a different route than that specified in the endorsement, the patrol will report the fact to the collector; should, however, application in the first place be made to him to alter the route (in the rowanah), he is at liberty to do so. The same rule applies to carriage, which the patrol can alter on application being made, reporting his having done so to the collector in this as well as the former case.

6. Should application be made to a patrol to make any goods furodh between the lines, he will adopt the following precautions:—

He will first compare the property with the rowanah, and in the event of it corresponding in all respects, take a muster of it, which will be deposited in his office. He will then endorse the rowanah, stating where the property is stored, &c.; this endorsement will be duly entered in a register kept for the purpose, and the rowanah itself will be carefully deposited amongst the records of his office; on application being made to take up the goods they must be carefully identified before the rowanah is made nekas.

7. No functionary, except a patrol, is allowed either to warehouse goods, or to authorize their being taken up again.

8. In cases where, from press of business, it may be necessary to employ a subordinate, it will be a great check should the patrol, on passing through any place where goods are alleged to have been made furodh, make inquiries, and satisfy himself that the transaction has been a *bonâ fide* one; for this purpose he should constantly refer to the register, which ought to be of small dimensions, so as to admit of being easily carried.

9. Should the owner wish to dispose of any portion of the property so deposited, and take it across either of the lines, it will be necessary for him to apply for atraafee rowanahs; but should it be intended to be conveyed within the space included between the two lines, the patrol can write off the quantity so removed on the back of the rowanah, on application being made to him previous to its being removed.

10. In any case where any error or flaw is detected in the rowanahs, arising from any circumstance unconnected with trickery or knavery on the part of the beopary, the patrol will exercise his discretion in allowing the goods covered by the rowanah to proceed or not; in the former case, he will take security from the owner for the full value of the merchandise.

11. The patrol should always be on the alert, and proceed at once to any part of his line where he conceives malpractices prevail. It will be necessary for him to conceal his movements from every one, including his own servants; patrolling at night is particularly enjoined.

12. He will of course examine all dutiable goods which he may meet with when out, and, if found correct, endorse the rowanah, and enter them in his register; should he fall in with any unprotected with legal rowanahs, it will be necessary to ascertain by what chokie they passed, and to secure the register of that chokie, with the view of preventing any rowanahs from being entered at a period subsequent to the attachment.

13. On arriving at a chokie his first duty will be to examine the register, to see that it is properly brought up, and that there are no alteration or erasures, which fact, together with the day and hour of his visiting the chokie, he will insert in the registers for the information of the collector. He will then examine every despatch that may be standing at the chokie, muster the establishment, see that they are clean in the persons, that they wear their badges in a conspicuous way, and that their arms and accoutrements are in good order; he will at the same time inspect the records of the chokie, the scales and weights, &c.; make inquiries regarding the communications, and report every circumstance that may be necessary to the collector.

14. Power has been vested in the patrols to take up any number of men stationed at the closed chokies to patrol in bodies, always leaving one, however, at the post. Under no circumstances is he to take any part of the establishment kept up at the open chokies, which have duties quite distinct from those officers stationed at the closed ones.

15. Under

* This does not apply to rowanahs taken out below Allahabad, where a different rule of practice obtains, but refers more especially to the custom-houses at Cawnpore, Agra, Furrakabad, Barielly, &c. &c.

Appendix (B.)

15. Under no circumstances ought a smaller body of men to be employed in patrolling than 10, both with reference to mutual support and to prevent collusion. The individuals composing the gangs ought constantly to be changed for obvious reasons.

16. All applications regarding leave, resignation or exchange to be made to the patrol in whose jurisdiction the applicant may be stationed, who is empowered to grant leave, as far as one month, to all jemadars and chupprassies; * all applications from the higher class of officers will be referred to the collector for his orders, as also those regarding exchange or resignation from the subordinates.

* On their furnishing a substitute.

17. The pay of their respective establishments will be transmitted to the patrols, who will be held responsible for its proper distribution; receipts will in all cases be taken and transmitted to the collector, where there is an excess or decrease to be reported; and in the former case the balance to be sent.

18. In all cases where goods are confiscated, the whole amount of the proceeds of the sale, after deducting the Government duty, has been assigned to the informers and seizers.

19. When confiscation shares are sent for distribution to a patrol, he will take care to give one moiety of the bonus to the informer should there be one, and the other half to be distributed amongst the Government servants actually employed at the capture, in rateable shares proportioned to their relative pay; care to be taken that the shares to which informers may become entitled be always punctually paid, to insure their giving good information.

When the patrol is concerned, he will receive one-half of the seizer's share, the rest to be divided as above directed.

20. The chupprassies who are in immediate attendance ought always to be employed on patrol duties, the direction they are to take being laid down by the patrol, without any previous warning being given.

21. In cases where resistance is anticipated from smugglers going in large gangs, assistance should be applied for to the police; and should resistance be shown, the patrols are enjoined to carry their point at all risks. When smugglers of salt are captured on these occasions, it will be advisable, when the case occurs at a distance from the Sudder Custom-house, to make over the parties to the police.

22. On intimation being given of salt exceeding five maunds being stored in a house situated between the lines, it will be necessary to take the deposition of the informer, after which the search must be made in presence of a police officer, and the rule of practice generally adhered to which is laid down in the proclamation.

23. All patrols are expected to report regularly, at the commencement of each month, the duties they have performed during the one which has just expired; this report will be a sort of diary, in which will be entered an account of the duties performed each day, the chokies visited, the points which were patrolled, and will indicate distinctly what work was performed on each day. In these reports all subjects of general interest will be contained, and they will serve as the best indicators possible of the efficiency or otherwise of the writer; it is scarcely necessary to add, that it is expected that they will be a faithful record of all that has been done. This report will be accompanied by statements in the annexed forms, showing in abstract what seizures have been made, and what rowanahs endorsed during the month which will be under review.

(signed) G. H. Smith, Collector.

No. 2.

RULES for the Guidance of PATROLS and the DISTRICT ESTABLISHMENT of the New Rohtuk Line.

THE patrol's authority extends over the whole of the subordinate officers employed in his beat, and he is to be considered responsible that they perform their respective duties according to the rules which may from time to time be laid down for their guidance; before entering on the duties of the patrols themselves, it will be as well to explain that of their subordinates.

THE OFFICERS ATTACHED TO OPEN CHOKIES.

1. It is essential that all darogahs and other subordinate officers attached to open chokies shall always be in attendance at their posts, for the purpose of examining, weighing and taking care of any † salt which may pass. After examination, should the salt be found to correspond in every respect with the rowanah, it will be their duty to endorse § it, and make a corresponding entry in the register, in the way prescribed in the heedaytnamah, with which they have been furnished. The endorsement itself, and the entry in the register, must be clearly and distinctly written.

2. After

† These rules were written when salt only was liable to duty on passing the Hurrianah line.

§ The endorsement must specify the quantity and description of salt, date of arrival of the dispatch at the chokie, probable time in which it will reach the second line, and eventually its destination, number of carts, &c., used as conveyance, names of the humralis and malik mal.

Appendix (B.)

2. After endorsing the rowanah, and entering it in the register, no time is to be lost in transmitting it to the patrol for his counter-signature, which being obtained, the despatch will be allowed to move past the chokie.

3. If any salt should be brought to the chokie without, in excess of, or not corresponding with, the rowanah, the deposition of the owner or humrahie ought to be taken immediately, in presence of two respectable witnesses, whose signatures will be attached.

4. This deposition, and a furd tulashee, accompanied by the salt and its conveyance, and an urzee, stating all particulars connected with the case, ought to be sent to the patrol in whose beat the seizure may have been made, intimation being given of the circumstance to the collector.

Modified by orders communicated subsequently.

5. In every case where the persons concerned, either in forcibly smuggling salt, or clandestinely conveying it past a Custom chokie, are apprehended, they must be made over without delay to the magistrate, with depositions of witnesses, &c.

6. In forwarding to the patrol attached despatches of salt, it will be proper to put the chokie seal on the manes or tails of the animals carrying it, whether they be camels, buffaloes, bullocks, cows, ponies or asses, to prevent their being changed by the way.

7. In the evening of every day, or early next morning, a daily return, drawn out according to the annexed form, is to be transmitted either by the public dawk or chokie by chokie, to the Sudder office, and a duplicate of the same to the patrol.

8. At the expiration of each month, a list of the seizures made in it, and an abstract of the salt which has passed, according to the annexed forms, to be sent to the collector; the register will be transmitted at the same time, brought up to the end of the month, and duly signed and sealed; the entries of the succeeding month to be made in the second register, which will supply the place of the one sent to the Sudder office.

9. Answers to be written on the backs of all perwanahs sent from the Sudder office.

10. All chokie officers being immediately subordinate to the patrols, it is necessary that information of all that occurs at their respective chokies should be sent to them. They must also obey the orders of patrolling officers, in every case where they are not opposed to existing rules to the contrary.

11. All oppression, extortion or unnecessary delay, proved against any chokie officer, will lead to his immediate punishment and dismissal from office.

12. The head officer of each chokie will be held responsible if he fails reporting any misconduct on the part of any one subordinate to him.

13. Every attention should be paid by all the Custom officers to the state of the roads, and intimation should be given to the collector in cases where repairs, &c. are urgently required.

14. The chokie officers should also keep watch that no salt be smuggled across the line in the vicinity of their chokies; and in cases where seizures are made in the neighbourhood, should be ready to afford aid when required.

15. When public letters, attached property, &c. are brought, chokie officers should forward them to the next chokie with all practicable speed.

16. Care to be taken of the records and scales and weights belonging to each chokie; and the arms and accoutrements of the chupprassies to be forthcoming at all times, and in good order.

CLOSED CHOKIES.

THE assistant patrols, jemadars and chupprassies, at the closed chokies, to be constantly on the alert, and not allow any kind of salt to cross the line in their vicinity. On the requisition of the patrol, two or more of the persons stationed at the chokie will be ready to accompany the patrol force, formed out of the officers of the closed chokie.

2. The assistant patrols and jemadars will be responsible that the chupprassies attached to their respective chokies have their arms and accoutrements in good order.

PATROLS.

THE patrol will have a fixed place of residence, to be determined by the collector, from which he will never be absent for a longer period than 24 hours, except on emergency; he will exercise a vigilant control over the whole of the chokies situated in his jurisdiction. On rowanahs, accompanied by the usual furd tulashee, and sample of property reaching him, he will first carefully examine the face of the rowanah in all its details, paying especial attention to the date, number and signature of the collector. After he is satisfied that it is not a forgery, and that the number and date are correct, and have not been fabricated or altered, he will proceed to examine the endorsement on the back of the rowanah. If he finds all right, he will countersign it, enter it in his register, and return it to the chokie from whence

Appendix (B.)

whence it came, taking care that as little delay as possible occur between its reaching him and its retransmission.

2. Should, however, he find that it does not correspond with the despatch, or be in any other point of view objectionable, he will report the circumstance to the collector.

3. In the event of any despatches of salt being found proceeding by a different route than that specified in the rowanahs, the patrol will report the fact to the collector; should, however, application in the first place be made to him to alter the route specified in the rowanah, he is at liberty to do so. The same rule applies to carriage, which the patrol can alter on application being made, reporting his having done so to the collector in this as well as the former case.

4. In any case where any error or flaw is detected in the rowanah, arising from any circumstance unconnected with trickery or knavery on the part of the beopary, the patrol will exercise his discretion in allowing the salt, covered by the rowanahs, to proceed or not. In the former case, he will take security from the owner for the full value of the despatch.

5. The patrol should always be on the alert, and proceed at once to any part of his line where he conceives malpractices prevail. It will be necessary for him to conceal his movements from every one, including his own servants. Patrolling at night is particularly enjoined.

6. He will, of course, examine all despatches of salt which he may meet with when out, and if found correct, endorse the rowanahs, and enter them in his register: should he fall in with any unprotected with legal rowanahs, it will be necessary to ascertain by what chokie they passed, and to secure the register of that chokie, with the view of preventing any rowanahs from being entered at a period subsequent to the attachment.

7. On arriving at a chokie, his first duty will be to examine the register to see that it is properly brought up, and that there are no alterations or erasures; which fact, together with the day and hour of visiting the chokie, he will insert in the register for the information of the collector.

8. Power has been vested in the patrols to take up any number of men stationed at the closed chokies to patrol in bodies, always leaving one, however, at the post: under no circumstances is he to take any part of the establishment kept up at the open chokies, which have duties quite distinct from those officers stationed at the closed ones.

9. Under no circumstances ought a smaller body of men to be employed in patrolling than 10, both with reference to mutual support, and to prevent collusion. The individuals comprising the gang ought constantly to be changed, for obvious reasons.

10. All applications regarding leave, resignation or exchange, to be made to the patrol in whose jurisdiction the applicant may be stationed, who is empowered to grant leave as far as one month to all jemadars and chupprassies, on their furnishing a substitute; all applications from the higher class of officers will be referred to the collector for his orders, as also those regarding exchange or resignation from the subordinates.

11. The pay of their respective establishments will be transmitted to the patrols, who will be held responsible for its proper distribution. Receipts will in all cases be taken and transmitted to the collector; where there is an excess or decrease to be reported, and in the former case the balance to be sent.

12. In all cases where salt is confiscated, the whole amount of the proceeds of the salt, after deducting the Government duty, has been assigned to the informers and seizers.

13. When confiscation shares are sent for distribution to a patrol, he will take care to give one moiety of the bonus to the informer, should there be one, and the other half to be distributed amongst the Government servants actually employed at the capture, in rateable shares, proportioned to their relative pay; care to be taken that the shares to which informers may become entitled be always punctually paid, to ensure them giving good information.

When the patrol is concerned, he will receive one-half of the seizer's share, the rest to be divided as above directed.

14. The chupprassies who are in immediate attendance ought always to be employed on patrol duties, the direction they are to take being laid down by the patrol, without any previous warning being given.

15. In cases where resistance is anticipated from smugglers going in large gangs, assistance should be applied for to the police; and should resistance be shown, the patrols are enjoined to carry their point at all risks. When smugglers of salt are captured on these occasions, it will be advisable, when the case occurs at a distance from the Sudder Custom-house, to make over the parties to the police.

16. All patrols are expected to report regularly at the commencement of each month the duties they have performed during the one which has just expired. This report will be a sort of diary, in which will be entered an account of the duties performed each day, the chokies visited, the points which were patrolled, and will indicate distinctly what work was performed on each day. In these reports, all subjects of general interest will be contained, and they will serve as the best indicators possible of the efficiency or otherwise of the writer. It is scarcely necessary to add, that it is expected they will be a faithful record of all that has been done.

Appendix (B.)

They will be accompanied by statements in the annexed forms, showing, in abstract, what seizures have been made, and the number of rowanahs endorsed during the month which will be under review.

17. Right of search to the southward of the Rohtuk line is limited to two coss, but extends on the northward as far as the British territory goes.

(signed)

G. H. Smith,
Collector.

CIRCULAR.

SUPPLEMENTARY RULES to be appended to the Code of Instruction, Persian as well as English, which has been furnished for the Guidance of the Patrols and District Establishments of the Hurrianah Preventive Line.

1. It having been brought to the notice of the collector that the preventive establishment on the Hurrianah line harass and exasperate the people living in its vicinity, by subjecting them to vexatious interruption and search, their attention is called to the rule contained in the 11th paragraph of the Instructions for the guidance of patrols, in which it is declared that "all oppression, extortion or unnecessary delay proved against any chokie officer will lead to his immediate punishment and dismissal from office."

2. The object of the preventive line lately formed in the Hurrianah district is to levy a duty on the *bonâ fide* trade of the country, and not to interfere with articles of small value, and evidently intended for private use and consumption; moreover, it is the duty of the establishment to confine their attention to the trade which crosses the line, and not interfere with what is carried on between one village and another.

3. The patrols and assistant patrols will explain this to the native portion of the establishment, and at the same time intimate that any cases of oppression or unnecessary delay, or undue assumption of authority, will, on being substantiated, subject them to punishment.

4. The patrols will always exercise a discretion in releasing any articles of small value which may be attached by any of the subordinate officers.

5. No salt of above one seer in weight however, ought, under any circumstances, to be allowed to pass the line without payment of duty.

6. Personal search ought never to be used, except when there is reason to suspect that the individual has smuggled property concealed about his person.

7. That part of the concluding paragraph of the instructions which have been furnished, prescribing the extent of the right of Custom interference, has been modified, and this extent is now limited to two coss on the southward, and to the whole of the British territory north of the Hurrianah line.

Customs, N. W. F. Delhie,
23 June 1835.

(signed)

G. H. Smith,
Collector.

CIRCULAR.

From G. H. Smith, Esq., Officiating Collector, to the Patrols on the Rohtuk Line,
dated 13 June 1835.

Sir,

AGREEABLY to orders received from the Sudder Board of Revenue, I beg to inform you that the following articles will now be considered dutiable, and must be protected by proper rowanahs in their transit, as cross the Hurrianah line,* viz.:

Salt of every description;

Shawls;

Cotton piece-goods, when more than five pieces, or ten rupees in value;

Sugar, when more than five seers;

Tobacco, when more than twenty ditto;

Iron, when more than one maund;

Alum;

Cotton;

Gulmasfar;

Dry Ginger;

Sal-ammoniac;

Assafoetida;

Indigo;

Gotah Kenarree.

Copper

* Modified by the Board's orders of the 23d of June 1835, which make dutiable on the Hurrianah line only five articles; viz., salt, sugar, shawls, indigo and cotton.

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Copper pice of native manufacture, when more than 100.

Spices, which includes hur, bakarah, owlah, coriander, souf, ajwain, zeerah, white and black pepper, peepul, cinnamon, cloves, elechees, nutmegs, thazepaut, saffron, peeplamood, mushk, kaleezeerah and camphor.

You will have the goodness to communicate the necessary instructions to your assistant and subordinate establishments.

Customs, N. W. F. Delhie,
13 June 1835.

I have, &c.

(signed) G. H. Smith,
Officiating Collector.

(True Copy.)
(signed) G. H. Smith,
Collector.

EXTRACT of a Letter from the Secretary to the Sudder Board of Revenue to the Address of the Officiating Collector of Customs, Delhie, dated Allahabad, the 3d July 1835.

Para. 3. I AM directed to take the present opportunity of informing you, for your guidance, and that of the subordinates in your department, that it is the duty of every person on the preventive establishment to prevent the passing of contraband goods across his line; that if attempts be made to pass such by actual force, it is their business to resist, and in such a case the responsibility will lie on the authors of the illegal violence. That if the preventive see or hear of smugglers, it is their duty to pursue them, and to take from them contraband goods and carriage; if resisted by force, it is their duty not to desist, but to use every exertion to fulfil their duty; and if assaulted, they are at liberty to use arms in their own defence, and the responsibility will be on those who illegally assaulted them; but when no resistance or violence is used, the limit of their duty is to seize the contraband goods and carriage; they are not to attempt to seize persons nor to use arms; and if it shall be proved that any man of the preventive service has wantonly or unnecessarily wounded or slain any person, he will of course be responsible to the law of the land for his own act; having exceeded the legal limit of his duty, he cannot plead his orders as any protection.

4. It is very necessary, the Board observe, that you should both understand and explain to all concerned this very obvious distinction, on which the success of the object committed to you so much depends. The preventive establishment are safe so long as they keep to the rule laid down for them, and will find efficient support and protection; but if they wantonly indulge in conduct alike inhuman and illegal, the responsibility will lie on their own heads. There is nothing new in the rules now laid down, which are merely those of common sense and common justice. The 3d paragraph of the Commissioners' letter, No. 112, which is transcribed on the margin, is precisely to the same effect, and the Board are only surprised that the practice should have been so ill regulated as it appears to have been.

(True Extract.)

(signed) J. G. Deedes,
Secretary.

(True Copy.)
(signed) G. H. Smith,
Collector of Customs.

(A)

(No. 559.)

From G. H. Smith, Esq., Officiating Collector of Customs, North Western Frontier, Delhie, to J. G. Deedes, Esq., Secretary to the Sudder Board, Allahabad, dated 22 November 1834.

Sir,

I HAVE now the honour to report on the final settlement of the preventive arrangements along the whole of the frontier subject to my jurisdiction.

2. This report would have been furnished at a much earlier period had not various modifications taken place as the system adopted by the Board developed itself.

3. Without entering into any discussion to prove the necessity that exists for each description of check which has been adopted, and which former correspondence has sufficiently established, I shall, in the present address, merely give an outline of the arrangements which have taken place, which will be further illustrated by a statement that will be appended showing the strength and cost of the establishment, Sudder and Mofussil; and, by a map now in course of preparation, which will show the extent and position of the jurisdiction of each controlling officer, the respective beats of the patrolling officers, and the situation

Appendix (B.)

situation of each ghat and chokie, distinguishing those which are closed from those which are open for the transit of dutiable goods.

4. The line which I have charge of, commencing at Kalsee, in the Doon, and extending to Horal, is about 200 miles in length, and has been divided into three districts. The first, or most northern division, has been placed under Mr. Money at Saharunpore, and extends to Selohun Bridge, on the canal, which is in the same parallel as Paneeput; the second and most extensive division, commencing at Kurnaul and extending to Dunkour, is controlled by myself; and the third, from that point to Horal, is under Mr. Gubbins, of Goorgoan.*

5. The whole line has been divided into seven beats averaging about 30 miles each for patrolling officers, of whom two are stationed in the northern or Saharunpore division, four in the central or Delhie, and one in the southern or Goorgoan division.

	Rs.	6. To each of the patrolling officers is attached the establishment noted in the
1 Mohurrer -	15	margin, besides which they have two or more sowars each, which I have placed on
10 Chupprassies -	40	the Sudder establishment, in order that they (the sowars) may be distributed as cir-
	55	cumstances might seem to render necessary.

7. The patrols exercise a general control over the whole of the chokie officers stationed in their respective beats, and have a set of rules for their guidance, of which a copy marked (A.) is appended for the approval of the Board.

8. Of the seven patrols who have been entertained, the appointment of two have already been sanctioned by Government, viz. one for Paneeput (Mr. Lunley, who has had the situation 18 years), and one for the eastern bank of the Jumna, Mr. Goulding, who has been lately transferred from that duty to a beat west of the Jumna, the propriety of which arrangement was suggested in the fourth paragraph of the Board's letter to Government, No. 9, dated 25 March last.

9. The sanction of Government is still wanting to the appointment of five with their establishments, amounting altogether to 1,775 rupees a month; they have been entertained in lieu of 11 native patrols, whom I found utterly unworthy of trust. The appointments of two patrols for Saharunpore and one for Goorgoan, on the present footing, have already been approved of by the Board in their letters, No. 9, dated 7 March, to the address of the Commissioner of Meerut, and No. 23, of the 3d June last, to my address.

10. To each of the patrols I have assigned a salary of 300/ a month, which I find is the least sum for which I can obtain persons of sufficient respectability to hold so responsible an appointment. I would propose, that in the event of the system being found to answer the expectations which have been formed regarding it, that after three years' service their salaries should be raised to 400 rupees a month. I had at first intended to propose a lower rate of salary, considering that an active patrol would realize a considerable sum monthly from his share of confiscations; a short experience, however, has shown, that under an efficient system, smuggling is only attempted in small quantities, and at night, so that the seizures now made amount to so trifling a sum as not to deserve being taken into consideration.

11. I beg to submit a list of the patrols I have now on the establishment; from the experience I have had I consider that I have every reason to be completely satisfied with the insecton I have made. There were two instances in which I found it necessary to remove individuals whom I had appointed, for misconduct, but I have since been fortunate in obtaining persons of a much higher grade, to hold the situations.

12. There are three classes of chokies, of which two are open and one is closed.

	Rs.	13. The first class of chokies, the establishment of which is noted in the margin,
Superintendent -	50	are open to every description of dutiable goods, and have been selected chiefly with
Mohurrer -	15	reference to the convenience of the salt trade; they are 16 in number, of which
1 Weighman -	6	four are situated in the northern, eight in the centre, and four in the southern
8 Chupprassies -	32	division; for each ghat on the Jumna there is a corresponding chokie on the second
	103	line, with the exception of Raj Ghaut, in the Doon, where, from local causes, that
		additional check is unnecessary; so that there are altogether eight routes by which
		salt† and every other description of dutiable articles can be conveyed across our frontier.
		Besides these, the check which the Sudder talashee affords has enabled me to confer upon
		the 2d class chokies in the centre division the functions appertaining to those of the
		first class without incurring the additional expense; this is effected by allowing salt, &c.,
		the transit of which is limited to the first class chokies, to pass through Rohilla Khanke Surai
		and its corresponding ghat, provided it undergoes the examination of the Sudder talashee;
		this is a convenience to the trade, and involves no additional expense.

14. I have

* Mr. Gubbins' jurisdiction is much too limited, being only about 30 miles in extent; it is however proposed that an addition be made to it by extending it to Muttra, which is a desirable arrangement, for many reasons which I have already urged.

† The transit of salt has always been limited in respect to the places at which it was allowed to cross; previous to the late arrangements there were only four ghats on the Jumna, in the Delhie jurisdiction, open to this staple.

Appendix (B.)

14. I have thought it necessary to fix the salary of superintendent of first class chokie at 50/, to enable me to secure the services of Europeans or East Indians at those chokies where it would be unsafe to trust to native agency.

15. There are 22 second class chokies, the strength of which I also note in the	1 Darogah -	Rs. 20
margin, which are open for the transit of all dutiable articles except salt, shawls	1 Mohurrer -	10
and indigo, which are, without subjecting the trade to any inconvenience whatever,	1 Weighman -	6
limited to the first class chokies. Of the second class chokies, eight are in the	4 Chupprassies -	16
northern, 10 in the centre, and four in the southern division.		52

16. At each pathway, ferry, ghaut and ford on the two lines where there is any probability of illicit trade being conveyed, a jemadar on six rupees and two chupprassies on 4/ each are stationed, and at these posts no dutiable goods can pass, they being strictly preventive. There are altogether 174 of these posts, viz., 50 in the northern, 90 in the centre, and 34 in the southern division.

17. The officers attached to all the chokies are directed to patrol about, along the line of their respective beats at night, to prevent salt being carried over in small quantities on head loads. The patrols have a discretionary power over the third class chokies as respects removing them from one post to another, as circumstances may seem to call for.

18. At the first glance the number of these posts may appear too great; such, however, is not the case. The Jumna is fordable throughout eight months in the year, and so is the Dooab canal, which indeed is generally dry altogether for about four months in the year; this renders a connected line of posts absolutely indispensable.

19. The want of a strong natural preventive boundary on which to establish our chokies will of course add greatly to the expense; lower down, however, the Jumna affords a good natural obstacle, and the expense attending a line there ought consequently to be less.

20. Independent of the establishment already adverted to, there are two salt	Superintendent -	Rs. 100
mehauls which have a separate establishment attached to each; they are of the same	Darogah -	25
strength and cost; I allude to the Ghazeeabad and Noh mehauls, to both of which	Mohurrer -	10
there is the establishment noted in the margin; the cost of the two amounts to 470/	25 Chupprassies -	100
per mensem.		235

21. I have proposed in my letter to the address of the Commissioner of Meeruth,	Boraree:	Rs.
dated 3 July, that the manufacture of the salt in the Ghazeeabad mehaul should be	Darogah -	25
put a stop to, that the establishment should be transferred to Boraree; as Boraree	Mohurrer -	10
is situated between the Jumna and Delhi canal, it might be superintended by the	25 Chupprassies at 4 rs.	100
patrol of that part of the line. The duty of superintendent could be performed by		135
the patrol of that part of the line whose head quarters are close at hand, and I	Noh:	Rs.
recommend that the 100 rupees thus saved should be added to the appointment of	Superintendent -	200
the superintendent of the Noh mehaul, whose present salary, 100 rupees a month,	Darogah -	25
is quite inadequate to the responsibility and trust reposed in him. I have no further	Mohurrer -	10
modification to propose regarding the Noh mehaul, which will be most efficiently	25 Chupprassies at 4 rs.	100
controlled with its present establishment modified as above proposed. For facility of		335
reference I note the cost of the establishments in the margin as I propose they		

22. Regarding the arrangements which have been made in introducing a system	Noh:	Rs.
of this nature, and in forming the different classes of chokies, much trouble has	Superintendent -	200
been taken to fix them at such points as to suit the convenience of the trade in	Darogah -	25
general, and the only consolation I have for the delay which has occurred from causes	Mohurrer -	10
over which I have had no control, in sending in this report, is the assurance that it	25 Chupprassies -	100
has contributed to render the selection I have made much more conducive to the		335
general convenience of the public than would have been the case had I been hurried	Boraree:	Rs.
in fixing their relative situations.	Darogah -	25
	Mohurrer -	10
	25 Chupprassies -	100
		135

23. It is possible that experience may still show the necessity of some modification of the plans which have been adopted; at present I see no necessity of any change whatever, the arrangements which have taken place having given, as far as I can judge, universal satisfaction.

24. When the Meeruth, Bareilly and Furrakabad custom-houses are done away with, which must shortly be the case, they being quite unnecessary, the collections which will be realized on my present line of frontier will amount, on the most moderate calculation, to 12 lacs of rupees a year; the statement which is appended shows the cost of the whole establishment, Sudder and Mofussil, to amount to little more than 10,000 rupees a month, or one lac and twenty thousand a year; so that the cost of collecting will amount to about 10 per cent., which, considering the nature of the line to be guarded, I do not consider exorbitant. After a short time, when the trade becomes in a more healthy state, it is probable that a considerable reduction may be effected; at present, I consider the whole of the establishment I have entertained as absolutely necessary for the security of the custom revenue.

I have, &c.

(signed) G. H. Smith,
Offg. Collector.

Customs, N. W. F. Delhie,
22 November 1834.

Appendix (B.) STATEMENT of the STRENGTH and Cost of the CUSTOMS ESTABLISHMENT entertained on the North Western Frontier, under the new Preventive Arrangements.

	Cost of each Class of Chokies.	Cost of each Establishment, Sudder and Mofussil.	Total Cost of each Custom House.
Saharunpore, or Northern Division :	<i>Rs.</i>	<i>Rs.</i>	<i>Rs.</i>
Sudder - - - - -	- - - - -	342	
Mofussil :			
Four 1st class chokies, at 103 rupees - -	412		
Eight 2d class ditto, at 52 „ - -	416		
Fifty 3d class ditto, at 14 „ - -	700		
Two patrolling officers and their establishments, at 355 rupees - - - - -	710		
		2,238	2,580.
Delhi, or Centre Division :			
Sudder - - - - -	- - - - -	802	
Mofussil :			
Eight 1st class chokies, at 103 rupees - -	824		
Ten 2d class ditto, at 52 „ - -	520		
Ninety 3d class ditto, at 14 „ - -	1,260		
Four patrolling officers and their establishments, at 355 rupees - - - - -	1,420		
One jemadar - - - - - 30 rupees			
Twenty sowars - - - - - 400 rupees			
	430	4,454	5,256.
Goorgoan, or Southern Division :			
Sudder - - - - -	- - - - -	342	
Mofussil :			
Four - 1st class chokies, at 103 rupees -	412		
Four - 2d class ditto, at 52 „ -	208		
Thirty-two 3d class ditto, at 14 „ -	448		
One patrolling officer and establishment -	355		
		1,423	1,765.
Chokie Noh :			
One superintendent - - - - -	- - - - -	100	
One darogah - - - - -	- - - - -	25	
One mohurrur - - - - -	- - - - -	10	
Twenty-five chupprassies, at 4 rupees -	- - - - -	100	
			235.
TOTAL Monthly Cost of the new Preventive Line - - - - -	- - - - -	- - - - -	9,836
Proposed Additions—Boraree :			
One darogah - - - - -	25		
One mohurrur - - - - -	10		
Twenty-five chupprassies - - - - -	100		
		135	
Proposed addition to the salary of the superintendent at Noh - - - - -	- - - - -	100	
			235
TOTAL Rupees - - - - -	- - - - -	- - - - -	10,071

LIST of PATROLLING OFFICERS on the New PREVENTIVE CUSTOMS ESTABLISHMENT attached to the Northern, Centre and Southern Divisions.

Appendix (B.)

DIVISION.	Names of Patrolling Officers.	Amount Salary per Mensm.	REMARKS.
		<i>Rs.</i>	
Northern or Saharunpore Division.	Mr. J. W. Wright -	300	Appointed 1st August 1834.
	Mr. F. R. Blewitt -	300	Appointed 1st January 1834.
	2 mohurrers, at 15 rs.	30	
	20 chupprassies, at 4 rs.	80	
Centre, Delhie Division.	Mr. G. P. Lumley, sen.	300	In the situation the last 18 years.
	Mr. H. Delaroche -	300	Appointed 20th June.
	Mr. G. P. Lumley, jun.	300	Appointed 1st November 1834.
	Mr. J. Goulding -	300	Appointed 1st March 1834.
	4 mohurrers -	60	
Southern or Goorgoan Division.	40 chupprassies -	160	
	Mr. E. M. Gwatkin -	300	Appointed 1st June 1834.
	1 mohurrer -	15	
	10 chupprassies -	40	
TOTAL Sonat Rupees - - -		2,485	

(E. E.)

(signed) G. H. Smith, Offg. Collector.

(True Copy.)

(signed) G. H. Smith, Collector.

(True Copies.)

H. Torrens,
Offg. Depy. Secy. to Govt.

Appendix (C.)

Referred to in LETTER from the Customs and Post-office Committee, dated 27 January 1836.*

Appendix (C.)

*p. 6.

(No. 168.)

From G. Blunt, Esq., Officiating Collector Government Customs, Agra, to T. J. Taylor, Esq., Secretary to the Customs and Post-office Committee, Calcutta, dated 15 January 1836.

Sir,

In submitting the accompanying Report called for by your letter of September last, I have the honour to submit the following explanation of the delay which has taken place in forwarding it. On the arrival of the letter, several alterations were taking place in my line, and were then under reference. Soon after its arrival, and before a reply was received, I was obliged to go into camp for the purpose of visiting my line, and meeting Mr. Bowring on the Chumbul, and consulting regarding the formation of the new line through Bundelcund. From the Chumbul I went to Hahabad; and since my return, about a month ago, I have been confined with fever and ague, followed by a severe attack of rheumatism, which has almost prevented my attending to any business.

Agra Custom-House,]
15 January 1836.]

I have, &c.

(signed) G. Blunt,
Officiating C. G. C.

Appendix (C.)

(No. 167.)

From *G. Blunt*, Esq., Officiating Collector of Government Customs, *Agra*, to *J. W. Taylor*, Esq., Secretary to the Customs and Post-office Committee, *Calcutta*, dated 15 January 1836.

Sir,

In reply to your circular letter, No. 122, I have the honour to submit the following statement of the preventive system established on the western frontier, subject to this custom-house.

2. The two divisions of Kosee and Muttra, formerly under the jurisdiction of this custom-house, having in December 1834 been transferred to the Horul custom-house, it will not be necessary for me to refer to them.

3. The line of country subject to the jurisdiction of this custom-house extends (taking the windings of the river) about 250 miles from Koela, the termination of the Horul jurisdiction, to the junction of the Chumbul and the Jumna at Kutcherree Ghat. Through this tract of country, two preventive lines of posts have been established; the first, or the river line, being on the right bank of the Jumna, and the second, or the frontier, along the Bhurt-poor and Dholpoor frontier and the left bank of the Chumbul, from where it enters the Company's territories below Kheragurh, the distance between the two lines varying from 10 to 15 miles.

Patrol	-	-	Rs. 300
2 Suwars	-	-	40
1 Mohurrir	-	-	15
8 Chupprassees	-	-	32
			387

4. This tract of country has been divided into five patrol divisions, each division being placed under the superintendence of a European patrol, with pay and establishment as mentioned in the margin; and on each of the lines throughout the division, certain ghats and chokies have been left open for the transit of goods, and certain posts have been closed, the number of the closed and open chokies being fixed with reference to the exigencies of the trade passing through the division.

1 Superintendent	-	-	50
1 Mohurrir	-	-	15
1 Weighman	-	-	6
6 Chupprassees	-	-	24
			95
			Rs. 30
1 Darogah	-	-	30
1 Mohurrir	-	-	10
1 Weighman	-	-	6
4 Chupprassees	-	-	16
			62
			Rs. 20
1 Parogah	-	-	20
1 Weighman	-	-	5
2 Chupprassees	-	-	8
			33
			Rs. 6
1 Jumadar	-	-	6
6 Chupprassees	-	-	8
			14

5. The open chokies or ghats are classed under three heads, with reference to their importance and to the description of merchandise which pass through them. The first class, or superintendent posts, with an establishment as mentioned in the margin, are open for the transit of salt and all other merchandise. In the Dehlie line, shawls and indigo are also confined to the superintendent or first class ghat chokies; but as only very small quantity of shawls, and of indigo especially, pass through this district, and the latter chiefly for the consumption of dyers within the two lines, I did not consider it necessary for the due attention to realization of the revenue to shackle the trade unnecessarily. The second class chokies, with an establishment mentioned in the margin, are open to all goods except salt. The third class chokies, with the establishment as per margin, are open to the same kind of goods as the second class, but are placed on a smaller scale on this account, that though they are necessary for the convenience of the trade, yet the annual average of merchandise passing by those routes will not warrant a larger expenditure. The closed posts have each the establishment as per margin, and are closed to the transit of all dutiable articles.

6. In each of the patrol divisions the choice and even the number of the open and closed posts have been left to traders themselves, and on my commencing any new division, all the traders of the neighbouring marts were summoned before me and desired to consult amongst themselves, and inform me what posts they wished to be kept open, as affording greater facilities to the trade, and their wishes have been in every instance attended to. As they have always made choice of the most frequented routes, as affording the greater facilities of better roads and easiness of access, and leading through the several halting-places where fodder for their cattle, &c. was more easily procurable, the evil of shackling the trade (passing through the country between the two preventive lines), by confining it to particular routes, has been in a great measure obviated.

7. Having above described the nature of the posts established on the two lines, I proceed to point out the manner in which merchandise is searched, and the delays to which it is necessarily liable in passing the two frontier lines. On the arrival of merchandise from the eastward, or at the Jumna line, at any of the open posts, the goods are searched by the superintendent or darogha, as the case may be, and a furd tulashee, or search-bill, is made out after actual weighing of a certain per-centage of the several packages in the presence of the beoparee or humrah, to which search his signature, with that of the head officer and the weighman are attached, and on comparing it with the ruwannas, should the goods, the sort mentioned in the ruwannas, &c. be found to agree, the ruwannas, after being registered in the chokee registers, are then forwarded to the patrol for counter-signature, the goods being detained at the ghat until the said ruwannas be returned duly endorsed. On the ruwannas being brought to the patrol, he of course examines it and the furd tulashee, and enters it in his register; should, however, any discrepancies appear, he of course will make the

Appendix (C.)

the necessary inquiries; should the goods be for foreign export, and consequently be intended to pass the second or the frontier line, the beoparees proceed with them, and on arrival at the second line, on the head officer satisfying himself that the despatch agrees with the ruwanna, and that the said ruwanna has the two endorsements of the officer of the river post and of the patrol, the ruwanna is again endorsed, entered on the register, and the goods allowed to proceed; the ruwanna, however, being of no further use in a foreign territory, is detained and returned to the patrol, by whom it is returned to the Sudder office with his ten daily reports, and should it appear to have been duly registered in the several chokee registers, copies of which are received daily and monthly from the chokees, at the Sudder office, it is cancelled.

8. On the arrival of goods on the western or frontier lines, the same process is gone through, with this exception, that the ruwannas are not detained on the goods again passing the river line. In the event of any goods passing only one line for the purpose of being warehoused, or ferad in any of the marts between the two lines, the ruwannas receive a ferod jaree, and on their being again removed must receive another endorsement from the patrol, who of course satisfies himself regarding the identity of the goods, which are again searched, when either moved for consumption within the line, or removed across the other line. Should the beoparee be desirous of disposing of only small portions of his original despatches, he returns his original ruwanna, and takes out partition ruwannas, paying the usual per-centage of government, the partition ruwanna receiving all the endorsements which may appear on the original document.

9. The above paragraph has reference to despatches of goods arriving at any chokee, and being found agreeing with the ruwannas. In the event, however, of any excess appearing in any despatch, the chokee officer immediately reports it to the patrol, who, if this excess be trifling, exercises his own discretion regarding whether he shall allow it to proceed or detain it, and refer the case for orders to the collector; no despatch, however, is detained for any alleged excess below four per cent. With regard, however, to salt, which is so liable to be affected by changes in the atmosphere, an allowance of 2½ per cent. has always been given, and should the excess not exceed that amount, no interference takes place; but should the amount of goods above ruwannas be considerable, the whole excess, not allowing the min-hace of 2½ per cent., is detained, and the beoparees allowed to proceed with goods corresponding with their ruwannas. I found it requisite to issue these orders, especially as regards salt imported from Bhurt-pore, where, from the lax manner of weighing, and the roguery of the bunjaras or owners of the bullocks, excesses frequently occur, and as all the expenses of detention on the road fall on the actual importer, not on the carrier, the detention of the whole despatch, from the expenses of forage, &c., would sometimes be ruinous. The excesses thus detained, are generally taken up by the merchants on their importing another despatch, on the payment, as circumstances may justify, single or double duties; should they not be removed within three months, they are, according to Regulation, reported for confiscation.

10. In reply to the question as to within what limits each officer carries on his function; it mainly depends on the nature of the country, and the quantity of trade which passes through. Some patrol divisions are, therefore, necessarily much larger than others; and the last division under my superintendence, viz., the Burhpoora Dubowlee division, is in length nearly double to any of the other patrol divisions; the breadth, however, is much less; yet from the difficult nature of the country, and the small number of roads passing through the lower part of the division, and which roads during five months in the year are perfectly impassable, the supervision is not less effective. On fixing the limits of each patrolship, I have been guided by the above circumstances; always, however, bearing in mind, that as the success of the system entirely depends on active European supervision, the extent of the country and the duties to be performed should be such as would allow the patrol visiting each post in his division at least three times during the month.

11. The above remarks are applicable to the officers of the first, second and third class chokees also; and at some of the chokees the duties of the actual post are so heavy, as to preclude the possibility of the head officer being absent excepting for a few hours; whilst at others, the supervision of smaller posts constitutes the most important part of their duties. With regard to the nature of the duties performed by each officer, and the checks in force to secure activity and integrity, I have the honour to refer to the enclosed instructions furnished to the several patrolling and chokee officers, together with the copies of reports received from the patrols and chokee officers, &c.

12. Having submitted the above remarks regarding the nature of the preventive system, nothing remains but to state the actual number of officers and posts of each denomination which have been established through the jurisdiction of this custom-house, which, as stated in the margin, are as follows: patrols, 5; 1st class chokees, 5; 2d class ditto, 7; 3d class, 18; and, closed jumadar posts, 77. In the Statement, No. 1, submitted with this letter, a statement of the number in each patrol division, expenses, &c. are set forth.

Patrols
1st Class Chokees
2 Ditto - ditto
3 Ditto - ditto
Closed Jumadar Posts

	Rs.	Rr.
Chokee Mudunpore :-		
1 Jumadar - - - - -	6	
2 Chupprassees - - - - -	8	
Chokee Porca :-		14
1 Mohurri - - - - -	15	
2 Chupprassees - - - - -	8	
Chokee Raj Ghat :-		23
1 Superintendent - - - - -	50	
2 Mohurris, at 10 and 15 rupees - - - - -	25	
1 Weighman - - - - -	6	
6 Chupprassees - - - - -	24	
Chokee Mobaruk Gung :-		105
1 Darogah - - - - -	20	
1 Mohurri - - - - -	10	
1 Weighman - - - - -	5	
4 Chupprassees - - - - -	16	
Chokee Chutta :-		51
1 Jemadar - - - - -	8	
2 Chupprassees - - - - -	8	
Chokee Reuxa :-		16
1 Jemadar - - - - -	6	
2 Chupprassees - - - - -	8	
Chokee Rahun :-		11
1 Jemadar - - - - -	6	
2 Chupprassees - - - - -	8	
		14
1 Patrol - - - - -	200	
1 Mohurri - - - - -	10	
8 Chupprassees - - - - -	32	
		242
Total Rupees - - - - -		479

13. Prior to the receipt of the Sudder Board's orders, under date the 22d of December last, the two koss chokees were considered distinct from the new preventive line; since their abolition, however, the several river posts formerly belonging to the two koss chokees have become a portion of the river line, and a further establishment, therefore, in addition to that mentioned in the above paragraph, as per margin, must be added, together with the expense of a patrolling officer, with an establishment, as per margin, for the city of Agra. The arrangements mentioned in this last paragraph are now under reference to the Board.

14. With reference to the second paragraph of your letter, directing me to state what measures are necessary to increase the efficiency of the system, I beg to submit that as the efficiency depends entirely upon strict European supervision, that as long as the collector in charge of the office is careful in the selection of the patrolling officers and other functionaries, and by frequent visits along the line becomes personally acquainted with the state of it, so long will the system remain efficient, and the end of its adoption be fulfilled; that in the whole of my jurisdiction, the supervision held by the patrols over the inferior officers is, I consider, most efficient, that smuggling in salt especially is almost entirely put a stop to; instances of extortion on the part of the chokee officers are seldom or never heard of, and the trade is entirely relieved from all unnecessary hindrance and delay. Under these circumstances, and taking into consideration that the present system has only been working for one year, I cannot at present offer any suggestions; should, however, hereafter any new circumstances arise, I shall have the honour of submitting them for the consideration of the Committee.

I have, &c.

(signed) *G. Blunt,*
Offg. C. G. C.

Agra Custom-house,
15th January 1836.

No. 1.

LIST of ESTABLISHMENT under the PATROLS, with the several Class of Chokees attached thereto at the Agra Custom-house, under the new Arrangement.

Patrol and Establishment :	Rupees.	Rupees.
1 Patrol - - - - -	300	
2 Sowars, at 20 rupees each - - - - -	40	
1 Mohurrir - - - - -	15	
8 Chupprassees, at 4 rupees each - - - - -	32	387
1st Class, open chokee for salt, and all other merchandise :		
1 Superintendent - - - - -	50	
1 Mohurrir - - - - -	15	
1 Weighman - - - - -	6	
6 Chupprassees, at 4 rupees each - - - - -	24	95
2d Class, open chokee for all goods except salt :		
1 Darogah - - - - -	30	
1 Mohurrir - - - - -	10	
1 Weighman - - - - -	6	
4 Chupprassees, at 4 rupees each - - - - -	16	62
3d Class, open chokee for the transit of all goods but salt :		
1 Darogah - - - - -	20	
1 Weighman - - - - -	6	
2 Chupprassees, at 4 rupees each - - - - -	8	34
Closed Posts :		
1 Jumadar - - - - -	6	
2 Chupprassees, at 4 rupees each - - - - -	8	14

EXPLANATION.

FURUH DIVISION :								Rupees.	Rupees.
1 Patrol and establishment	-	-	-	-	-	-	-	387	1,028
Three 1st class open chokees	-	-	-	-	-	-	-	319	
Three 3d class open chokees	-	-	-	-	-	-	-	118	
Fourteen closed posts	-	-	-	-	-	-	-	204	
SURHINDA DIVISION :									
1 Patrol and establishment	-	-	-	-	-	-	-	387	764
One 1st class chokee	-	-	-	-	-	-	-	95	
One 2d class chokee	-	-	-	-	-	-	-	62	
Two 3d class chokees	-	-	-	-	-	-	-	84	
Nine closed posts	-	-	-	-	-	-	-	136	
PINAHUT DIVISION :									
1 Patrol and establishment	-	-	-	-	-	-	-	387	857
Two 2d class chokees	-	-	-	-	-	-	-	123	
Four 3d class chokees	-	-	-	-	-	-	-	141	
Fourteen closed posts	-	-	-	-	-	-	-	206	
KUTCHOWRA DIVISION :									
1 Patrol and establishment	-	-	-	-	-	-	-	387	991
One 1st class chokee	-	-	-	-	-	-	-	115	
Two 2d class chokees	-	-	-	-	-	-	-	124	
Three 3d class chokees	-	-	-	-	-	-	-	99	
Nineteen closed posts	-	-	-	-	-	-	-	266	
BURHPOORAH DIVISION :									
1 Patrol and establishment	-	-	-	-	-	-	-	387	1,003
Two 2d class chokees	-	-	-	-	-	-	-	124	
Six 3d class chokees	-	-	-	-	-	-	-	198	
Twenty-one closed posts	-	-	-	-	-	-	-	294	
TOTAL RUPEES								-	4,643

Agra Custom-house,
5 January 1836.

(signed) *G. Blunt,*
Offic C. G. C.

RULES for the Guidance of PATROLS and the DISTRICT ESTABLISHMENTS.

THE patrol's authority extends over the whole of the subordinate officers employed in his beat, and he is to be considered responsible that they perform their respective duties according to the rules which may from time to time be laid down for their guidance. Before entering on the duties of the patrols themselves, it will be as well to explain that of their subordinates.

THE OFFICERS ATTACHED TO OPEN CHOKIES.

1. It is essential that all superintendents, darogahs and other subordinate officers attached to open chokies shall be in constant attendance at their posts, for the purpose of examining, weighing and taking care of dutiable goods which may pass; after examination, should the goods be found to correspond with the ruwannah, it will be their duty to endorse* it, and make a corresponding entry in the register in the way prescribed in the Hidagetuama with which they have been furnished. The endorsement itself and the entry in the register must be clearly and distinctly written.

2. After endorsing the ruwannah and entering it in the register no time is to be lost in transmitting it to the patrol for his counter-signature, which being obtained, the goods will be allowed to move past the chokee.

3. If

* The endorsement must specify the quantity and description of goods, date of arrival of the dispatch at the Chokee, probable time in which it will reach the second line, and eventually its destination; number of carts, ^{to} used as conveyance, names of the Humrahees and Malik Mal, and number and description of the parcels which the goods may be contained, as per Rubakaries of 22d May and 2d and 15th July 1834.

Appendix (C.)

3. If any goods should be brought to the chokee without, in excess of, or not corresponding with ruwannas, the deposition of the owner or Humrâhee, ought to be taken in presence of two respectable witnesses, whose signatures will be attached.

4. This deposition and a furd tâlashee, accompanied by an urzee, stating all particulars connected with the case, ought to be sent to the collector, intimation being given to the patrol of the circumstance.

Per Rubokarie,
dated 4 Dec. 1834.

5. Should the seizure take place near the Sudder custom-houses, the goods themselves, and, if it be salt, the carriage and owners should be sent; should it, however, be at a distance, this will not be necessary, until specific orders are received on the subject. In cases when the carriage is sent, it will be proper to put the chokee seal on the manes or tails of the animals, whether they be camels, buffaloes, bullocks, cows, ponies or asses, to prevent their being changed by the way.

Per Rubakarie,
dated 19 Aug. 1834.

6. No dutiable goods to be allowed to cross at any chokee, except those which, by the following rules it is open to:—

First class chokees are open for all descriptions of dutiable goods.

Second class chokees are open for all goods except salt, shawls and indigo, the transit of which is strictly to be confined to chokees of the first class.

Third class chokees are strictly preventive and are closed to every kind of dutiable goods.

As per Sudder
Board's letter, dated
3 Oct. 1834 and
13 Jan. 1835.
Rubokarie, dated
23 Oct. 1834;
and
Sudder Board's letter
of 4 Feb. 1835.

7. The functions of all chokees stationed at a greater distance than two coss from the city of Delhie, will be confined to the following articles:—

Salt of every description;

Shawls;

Cotton piece goods, when more than five pieces or 10 rupees in value;

Sugar, when more than five seers;

Tobacco, when more than 20 seers;

Iron, when more than one maund;

Alum;

Goolmâsfur, or Safflower;

Dry Ginger;

Sal-ammoniac;

Assafœtida;

Indigo;

Gota Kinâree;

Copper pice, when more than 100;

Spices: Hur, buhera, aonlâs, coriander, souf, ujwayen, zeerah, white and black pepper, pcepul, cinnamon, cloves, elachees, nutmegs, thajipat, saffron, peeplamoorh, mushk, kalee, zeerec, camphor.

And all district officers are strictly prohibited from detaining, on any pretext whatever, any goods except those specified.*

As per Rubokarie,
14 July 1832.

8. In the evening of every day, or early next morning, a daily return, drawn out according to the annexed form, is to be transmitted either by the public dâk, or chokee by chokee, to the Sudder office.

Ditto, dated
17 Jan. 1835.

9. No goods are to be detained on account of any alleged excess under four per cent.

Ditto, dated 9 July,
3 Sept. and 17 Aug.
1834.

10. At the expiration of each month, a list of the seizures made in it, and an abstract of the goods which have passed, according to the accompanying forms, to be sent to the collector; the register will be transmitted at the same time, brought up to the end of the month, and duly signed and sealed. The entries of the succeeding month to be made in the second register, which will supply the place of the one sent to the Sudder office.

Per Rubakarie,
dated 5 Feb. 1835.

11. All ruwannâhs with exports, i. e. going from east to west, on reaching the second chokey, to be returned to the Sudder office.

12. No property covered by a moâfee perwanâ to be passed without distinct orders previously obtained from the collector on the subject.

Per Rubakarie, of
1 July 1834.

13. Returns to be made on the back of all perwanâhs sent from the Sudder office.

14. All chokie officers being immediately subordinate to the patrols, it is necessary that information of all that occurs at their respective chokies should be sent to them. They must also obey the orders of patrolling officers in every case where they are not opposed to existing rules to the contrary.

15. All oppression, extortion, or unnecessary delay proved against any chokee officer will lead to his immediate punishment and dismissal from office.

16. The head officer of each chokey will be held responsible if he fails reporting any misconduct on the part of any one subordinate to him. They will also prevent the boatmen

at

Appendix (C.)

at ferries from practising extortion, and will report all cases where such is attempted; they will also take care and see that all boats attached to their respective ghauts are moored close to their chokies at night, and not removed, except when it may be absolutely necessary.

17. Every attention should be paid by all the Custom officers to the state of the communications, roads, bridges, ferries, &c., and intimation should be given to the collector in cases where repairs, &c. are urgently required.

18. The chokee officers should also keep watch that no goods be smuggled across the line in the vicinity of their chokies; and in all cases where seizures are made in the neighbourhood, should be ready to afford aid when required.

19. When public letters, attached property, &c. are brought, chokie officers should forward them to the next chokee with all practicable speed.

20. Care to be taken of the records, and scales and weights belonging to each chokie; Per Rubokarie, dated 26 Feb. 1835. and the arms and accoutrements of the chuprassees to be forthcoming at all times, and in good order.

CLOSED CHOKIES.

1. THE jumâdârs and chuprassees at the closed chokies to be constantly on the alert, and not allow any kind of dutiable goods to cross the line in their vicinity. On the requisition of the patrol, two of the persons stationed at the chokie will be ready to accompany the patrol's force, formed out of the officers of the closed chokies.

2. The jumâdârs will be responsible that all have their arms and accoutrements in good order.

PATROLS.

1. THE patrols will have a fixed place of residence, to be determined by the collector, from which he will never be absent for a longer period than 24 hours, except on emergency. His jurisdiction will extend to the space between the two lines, except when goods, of which he may be in pursuit, may be taken across the boundary, in which case he is at liberty to pursue and capture them. He will exercise vigilant control over the whole of the chokies situated in his jurisdiction. On ruwannas, accompanied by the usual furd tâlashee, and sample of property reaching him, he will first carefully examine the face of the ruwanâ in all its details, paying especial attention to the date, number and signature of the collector. After he is satisfied that it is not a forgery, and that the number and date are correct, and have not been fabricated or altered, he will proceed to examine the indorsements on the back of the ruwanâ. If he finds all right, he will countersign it, enter it in his register, and return it to the chokee from whence it came, taking care that as little delay as possible occur between its reaching him and its retransmission.

Per Sudder Board's
letter, dated 3 April
1834; and
Rubokarie, dated
20 Oct. 1834.

2. Should, however, he find that it does not correspond with the goods, or be in any other point of view objectionable, he will report the circumstance to the collector.

3. All exports must be accompanied by a single ruwanâ,* except in those cases provided for in the letter from the Sudder Board, of the number and date noted in the margin.

Sudder Board's
letter, dated 27 May
1834.

4. With respect to imports, the following rules have been adopted:—All goods short of 100 in amount, or number, to be accompanied by a single ruwanâ; for every 100 in excess, an additional ruwanâ to be allowed, as far as 10 ruwannas, which is the greatest number that can be allowed for a single dispatch. Thus for 1,000 maunds of salt, 10 ruwannas can be used; for 900 pieces of cloth, nine, and so on.

Rubokarie, dated
14 Feb. 1835.

5. In the event of any goods being found proceeding by a different route than that specified in the endorsement, the patrol will report the fact to the collector; should, however, application in the first place be made to him to alter the route, he is at liberty to do so. The same rule applies to carriage, which the patrol can alter on application being made, reporting his having done so to the collector in this as well as the former case.

Per Rubokarie,
dated 18 Dec. 1834
and 6 April 1835.

6. Should application be made to a patrol to make any goods *furode* between the lines, he will adopt the following precautions:—

He will first compare the property with the ruwanâ, and in the event of its corresponding in all respects, take a muster of it, which will be deposited in his office. He will then endorse the ruwanâ, stating where the property is stored, &c. &c.; this endorsement will be duly entered in a register kept for the purpose, and the ruwanâ itself will be carefully deposited amongst the records of his office. On application being made to take up the goods, they must be carefully identified before the ruwanâ is made nikas.

Per Rubokaries,
dated 2 May,
12 June 1834, 13
and 16 April and
19 Jan. 1835.

7. No functionary, except a patrol, is allowed either to warehouse goods or to authorize their being taken up again.

8. In cases where from press of business it may be necessary to employ a subordinate, it will be a great check should the patrol, on passing through any place where goods are alleged to have been made *furode*, to make inquiries and satisfy himself that the transaction has

has

* This does not apply to Ruwannas taken out below Allahabad, where a different rule of practice obtains, but refers more especially to the Custom-house at Cawnpore, Agra, Furrukabad, Bareilly, Saharanpore, Pariput, &c.

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has been a *bonâ fide* one; for this purpose he should constantly refer to the register, which ought to be of small dimensions, so as to admit of its being easily carried.

9. Should the owner wish to dispose of any portion of the property so deposited, and take it across either of the lines, it will be necessary for him to apply for *âtrâfee ruwannâs*; but should it be intended to be conveyed within the space included between the two lines, the patrol can write off the quantity so removed on the back of the ruwanna, on application being made to him previous to its being moved.

10. In any case when any error or flaw is detected in the ruwanna, arising from any circumstance unconnected with trickery or knavery on the part of the beoparee, the patrol will exercise his discretion in allowing the goods covered by the ruwanna to proceed or not; in the former case he will take security from the owner for the full value of the merchandise.

11. The patrol should always be on the alert, and proceed at once to any part of his line where he conceives malpractices prevail. It will be necessary for him to conceal his movements from every one, including his own servants. Patrolling at night is particularly enjoined.

12. He will of course examine all dutiable goods which he may meet with when out, and, if found correct, endorse the ruwannas, and enter them in his register; should he fall in with any unprotected with legal ruwannas, it will be necessary to ascertain by what chokee they passed, and to secure the register of that chokee, with the view of preventing any ruwanna from being entered at a period subsequent to the attachment.

13. On arriving at the chokee his first duty will be to examine the register, to see that it is properly brought up, and that there are no alterations or erasures, which fact, together with the day and hour of his visiting the chokee, he will note in the register for the information of the collector. He will then examine every despatch that may be standing at the chokee, muster the establishment, see that they are clean in their persons, that they wear their badges in a conspicuous way, and that their arms and accoutrements are in good order; he will at the same time inspect the records of the chokee, the scales, weights, &c., make inquiries regarding the communications, and report every circumstance that may be necessary to the collector.

14. Power has been vested in the patrols to take up any number of men stationed at the closed chokees, to patrol in bodies, always leaving one, however, at the post. Under no circumstances is he to take any part of the establishment kept up at the open chokees, which have duties quite distinct from those officers stationed at the close ones.

15. Under no circumstances ought a smaller body of men to be employed in patrolling than ten, both with reference to mutual support, and to prevent collusion. The individuals composing the gangs ought constantly to be changed, for obvious reasons.

16. All applications regarding leave, resignation or exchange, to be made to the patrol in whose jurisdiction the applicant may be stationed, who is empowered to grant leave as far as one month, to all jumadars and chuprasses; all applications from the higher class of officers will be referred to the collector for his orders, as also those regarding exchange or resignation from the subordinates.

17. The pay of their respective establishments will be transmitted to the patrols, who will be held responsible for its distribution; receipts will in all cases be taken and transmitted to the collector, when there is an excess or decrease to be reported, and in the latter case the balance to be sent.

18. In all cases where salt is confiscated the whole amount of the proceeds of the sale, after deducting the Government duty, has been assigned to the informers and seizers, and one-half of the proceeds of the sale of other articles after the same process.

19. When confiscation shares are sent for distribution to a patrol, he will take care to give one moiety of the bonus to the informer, should there be one, and the other half to be distributed amongst the Government servants actually employed at the capture, in ratable shares to their relative pay; care to be taken that the shares to which informers become entitled be always punctually paid, to ensure their giving good information.

20. The chuprasses who are in immediate attendance ought always to be employed on patrol duties, the direction they are to take being laid down by the patrol without any previous warning being given.

23. All patrols are expected to report regularly, at the commencement of each month, the duties they have performed during the one which has just expired. This report will be a sort of diary in which will be entered an account of the duties performed each day, the chokies visited, the points which were patrolled, and will indicate distinctly what work was performed on each day; in these reports all subjects of general interest will be contained, and will serve as the best indicators possible of the efficiency or otherwise of the writer. It is scarcely necessary to add that it is expected that they will be a faithful record of all that has been done.

(signed) G. Blunt.

Per Rubukarie,
dated 8 Feb. 1835.Per Rubukaries,
dated 26 Feb. and
8 April 1835.

Ditto - ditto.

Per Rubukaries,
dated 6 Oct. 1834
and 15 Jan. 1835.Sudder Board's
letters, dated 16 Jan.
and 7 April 1835;
and
Rubukarie, dated
19 Jan. 1835.No. 1.
TRANSLATION OF FORMS OF REPORTS AND REGISTERS received from the Out Chokey Officers.

DAILY REPORT OF TULASHEES.

REMARKS.	Date of Tulashee.	Merchant's Name.	Whence imported.	Whither proceeding.	Article.	Carriage.	Quantity according to Invoice.	Quantity according to Tulashee.	PARTICULARS OF RUWANNAS.					Increase.	Decrease.	Date of Sale of other Chokees.	REMARKS.
									Number and Zillah.	Date.	Quantity of Goods.	Value.	Duty.				

(signed) G. Blunt, Offr C.

No. 2.
MONTHLY REGISTER OF RUWANNAS endorsed.

REMARKS.	Number of Register.	Custom House.	Number of Ruwannas.	Date of Ruwannas.	Carriage.	Whence imported.	Whither proceeding.	Name of Beoparies.	Article.	Quantity.	Amount.	Date of Duty.	Amount of Duty.	Hour of Arrival at Chokey.	Hour of Departure from Chokey.	By what Route proceeding.	Report of Increase or Decrease.	REMARKS.

(signed) G. Blunt, Offr C.

No. 3.

WEEKLY REPORT OF SEIZURES.

Date of Seizure.	Number.	With what Custom-House Ruwanna.	Number of Ruwanna.	Date of Ruwanna.	Carriage.	Whence Coming.	Where Proceeding.	Name of Proprietor.	Description of Goods.	Quantity.	Rate of Duty.	Amount of Duty.	Where Seized.	Crossing what Gozar.

(signed) *G. Blunt, Offr. C.*

MONTHLY REPORT OF SEIZURES.

Number.	Sort of Goods.	Quantity.	Name of Proprietor.	Date of Seizure.	Where Seized.	Estimated Value.	Goods uncovered by Ruwanna.	Goods covered by Ruwanna.	Where Proceeded.	REMARKS.

(signed) *G. Blunt, Offr. C.*

(True Copies.)

H. Torrens, Offr. Dy Secy to Govt.

No. 4.

ABSTRACT of REGISTER of Ruwannas endorsed by the Acting Patrol of the
Division of Customs, from the 1st to the 10th 183 .

Name of Custom House.	Description of Goods.	Number of Ruwannas.	Amount of Duty.	Total Amount of Duty.	REMARKS.

Custom House,
Division, 183 .

(signed) *G. Blunt,*
Acting Patrol.

No. 5.

STATEMENT of SEIZURES of GOODS unprotected by Ruwannas made by the Establish-
ment of the Acting Patrol of the Division of Customs from
the 1st to the 7th of 183 .

Date.	Description of Goods.	Quantity of Goods.	Carriage.	REMARKS.

Custom House,
Division, 183 .

(signed) *G. Blunt,*
Acting Patrol.

From *G. Blunt, Esq.,* Acting Patrol Division, to the Deputy Collector of
Government Customs.

Sir,

I HAVE the honour to submit herewith a Persian copy of the register of ruwannas
endorsed by me from the 1st to the 10th 183 , with an English abstract of
the same, and a statement of seizures made by my establishment.

In conformity with the instructions furnished, I have the honour to inform you that the
following chokies, viz. have been visited by me during
the above period, and beg to add that I found nothing deserving of your notice.

I have, &c.

Customs, 183 .

(signed) *G. Blunt,*
Acting Patrol Division.

Appendix (D.)
Referred to in Letter from the Customs and Post-office Committee, dated 27 January 1836.

STATEMENT of the RATES of DUTY levied upon Imports and Exports at the Port of *Bombay*, showing the gradual Enhancement of the Duty and its present Rate.

	On the Value at Prime Cost.	An Advance per Cent. of Rupees.	Aggregate Value.	Rate of Duty by Regulation			Equivalent to a Percentage in the Prime Cost on Invoice Valuation only.			
				VI. of 1799, I. of 1805.	X. of 1813, and II. of 1821.	In 1799.	In 1805.	In 1813 and 1821.	In 1835.	
DUTY ON IMPORT:										
On foreign bottoms - - - - -	100	On invoice value on oath, 60	160	2½	3½	4½	4	5½	7½	
On Europe, China, and other foreign goods from Goa or other foreign European port in India - - - - -	100	-	160	2½	3½	4½	-	-	7½	
On imports from Europe by the Gulfs of Persia and Arabia, on all vessels, British, foreign or native - - - - -	100	On the prime cost, 60	160	2½	3½	-	4	5½	5½	
From Batavia - - - - -	100	25	125	2½	3½	-	3½	4½	4½	
From China and the Cape of Good Hope - - - - -	100	20	120	2½	3½	-	3	4½	4½	
From the Coromandel Coast, the Persian and Arabian Gulfs, Africa and Malacca - - - - -	100	15	115	2½	3½	-	2½	4	4	
From the Malabar Coast (not British), Gon, Goozeerat, Cam- bay, Cutch, Scind, Mahratta ports, Pegu - - - - -	100	10	110	2½	3½	-	2½	3½	3½	
Trade with the United Kingdom - - - - -	100	-	100	2½	3½	A.D. 1815.	2½	3½	2½	
In all other cases - - - - -	100	-	100	2½	3½		2½	3½	3½	
DUTY ON EXPORT:										
Of such articles as may have been purchased at this port, and exported on foreign bottoms, or exported under British or foreign colours to Goa, &c., foreign European ports in India, and ultimately intended for Europe, China, or any foreign Asiatic State - - - - -	100	none	100 invoice valuation	none	none	3½	none	none	3½	

- - To be levied
without the ad-
vance on the in-
voice price tariff
valuation, or
market rate, as
enacted, in Regu-
lation XX. of
1827.

- - To be levied without the advance on the invoice price tariff valuation, or market rate, as enacted, in Regulation XX. of 1827.

P O R T S.	Duties or Cengage.	Privileges on Exemption of further Duty at other Ports on Production of Certificate.		
Bombay - - - - -	3½ to 4½	British goods from Bombay admitted free at all subordinates. General trade from Bombay, admitted to free entry at Bankot (South Coast), at Surat, Bulsar, Bugwara, and at Gogo, in Goozurat. Grain is entirely free from duty on import at Bombay.	-	-
Bankot - - - - -	4 to 4½	Exports from this port entitled to free entry at Bombay and all its subordinates -	-	-
Unjauwell and Four Ports - - - - -	4 to 5	Privilege none. At all these ports south of Bombay a duty of 1½ per cent. is levied on the amount of certificates produced in exemption of duty for goods coming from other Ports. There are no documents before the Committee to show the amount of revenue derived from this source.	-	-
Ruthagerie, Four Ports - - - - -	4	{ All goods intended for the interior, including Poona and the whole Dekhan, are allowed import, free of customs, on payment of the usual transit duty only -	-	-
Rajapoor, Four Ports - - - - -	4		-	-
Malwan, Sea Ports - - - - -	4½		-	-
Penn - - - - -	6½	{ All goods and produce exported from these ports to Goojerat are admitted to free entry at all the Honourable Company's ports in that province, except Dholara and Bowliara (where the duties are only 2½ per cent. on import) -	-	-
Panwell - - - - -	6½		-	-
Ditto - - - - -	Transit Duty		-	-
Bhewndy - - - - -	2½ to 3½	{ - - Coast south from Bombay to the Gon Boun-dary.	-	-
Kullian - - - - -	4 to 6		-	-
Salsette Island - - - - -	3½		-	-
Caranjah Island - - - - -	6	{ - - Coast north from Bombay to the Da-mann Boun-dary -	-	-
Bassein - - - - -	6½ to 8	{ - - Islands adjoining that of Bombay.	-	-
Agbasser - - - - -	6 to 8		-	-
Tarapoor - - - - -	6½ to 8		-	-
Oomurgaun - - - - -	7½ to 9½	{ - - On the main land, between the north end of Salsette and the Portuguese port of Damaun.	-	-

- - These ports are on the main land, between Bankot (Fort Victoria) and the north, and of Salsette Island.

- - Islands adjoining that of Bombay.

- - On the main land, between the north end of Salsette and the Portuguese port of Damaun.

(continued)

APPENDIX TO REPORT OF COMMISSIONERS RELATIVE

STATEMENT, showing the Existing Rates of Sea Customs at Bombay and Subordinates—continued.

PORTS.	Duties or Cengage.	Privileges on Exemption of further Duty at other Ports on Production of Certificate.	East Coast of the Gulf of Cambay.	West Coast of the Gulf of Cambay.	South of Bombay.	North of Bombay.
Bulsar	5 per cent	Exports from these ports admitted to free entry at Bombay, Surat, Gogo and the ports on the Konkan under certificate. Imports from Bombay pay 1½ per cent. on the value of the certificate.	-	-	-	-
Bugwara	5	Exports from Surat admitted to free entry at Bombay, Gogo, Bankote, Bulsar, Bugwara, and at all the ports between Daman and Bombay. All goods re-exported from Surat are allowed to pass free of customs, but without drawback.	-	-	-	-
Surat	3½	Privileges none. All goods imported at these ports for transit inland, and not for consumption of the district, are exempt from sea customs, and charged only with transit duty.	-	-	-	-
Broach	3½	Produce and goods from Tunkaree admitted free at the ports between Daman and Bombay.	-	-	-	-
Tunkaree	5	Exports from Gogo admitted to free entry at Bankote, Bombay, Surat, Bulsar, Bugwara and the ports between Daman and Bombay.	-	-	-	-
Gogo	2½	Privileges none.	-	-	-	-
Dholara	-	-	-	-	-	-
Bowliarce	-	-	-	-	-	-
Independent and other Ports in which the Honourable Company have no Share, or but a small one:						
Colaba	-	Belonging to Angria	-	-	-	-
Dunde Rajpore	-	Belonging to the Hubshee	-	-	-	-
Independent Ports north of Bombay:						
Cambay	-	Belonging to the Nowab of that name. The Honourable Company have a small share in the customs, but no right of interference with the Nowab's share, and are by prescription prevented from modifying their own share.	-	-	-	-
Blownagar	-	Belonging to the Thakoor of that name. The Honourable Company have a small share in the customs, but no right of interference with the Thakoor's share, and are by custom prevented from making alterations in their own share.	-	-	-	-
Nowwree, Gundwee	-	Two ports between Surat and Daman in which the Honourable Company have a half share, the other half in each belonging to the Dessee of the place. But the entire management is with the Honourable Company.	-	-	-	-

(signed) J. T. Taylor, Secy.

Appendix (E.)

Referred to in LETTER from the Customs and Post-Office Committee, dated 27th January 1836.

COMPARATIVE STATEMENT, exhibiting the Difference between the Tariff of Coimbatore and Malabar.

ARTICLES.		Coimbatore Tariff.	Malabar Tariff.	Increase.	Decrease.	Advance per Cent. per Malabar Tariff.	
PIECE GOODS:*		Rs. As.	Rs. As.	Rs. As.	Rs. As.		
Loonghy	1st sort	75 -	120 -	45 -	-	60	333
	2d sort	60 -	80 -	20 -	-	33	
	3d sort	50 -	70 -	20 -	-	40	
	4th sort	40 -	60 -	20 -	-	50	
	5th sort	35 -	50 -	15 -	-	42	857
	6th sort	25 -	45 -	20 -	-	80	
	7th sort	20 -	40 -	20 -	-	100	
	8th sort	17 8	35 -	17 8	-	100	
	9th sort	15 -	30 -	15 -	-	100	
	10th sort	12 8	25 -	12 8	-	100	
	11th sort	10 -	20 -	10 -	-	100	
Soosces	1st sort	100 -	200 -	100 -	-	100	333 *
	2d sort	75 -	160 -	85 -	-	113	
	3d sort	60 -	120 -	60 -	-	100	
	4th sort	40 -	100 -	60 -	-	150	
	5th sort	35 -	80 -	45 -	-	128	542 *
	6th sort	30 -	70 -	40 -	-	133	
	7th sort	25 -	60 -	35 -	-	140	542 *
	8th sort	20 -	50 -	30 -	-	150	
	9th sort	18 12	45 -	26 4	-	140	
	10th sort	17 8	40 -	22 8	-	128	
	11th sort	12 8	35 -	22 8	-	180	
Booranpoory Turband	1st sort	200 -	360 -	160 -	-	80	
Chintz Turband	1st sort	220 -	360 -	140 -	-	63	636 *
	2d sort	180 -	300 -	120 -	-	66	
White Turband	1st sort	70 -	240 -	170 -	-	242	857
	2d sort	45 -	180 -	135 -	-	300	
	3d sort	40 -	130 -	90 -	-	225	285
	4th sort	35 -	110 -	75 -	-	214	
	5th sort	30 -	95 -	65 -	-	216	
Soosey rettoo	1st sort	15 -	50 -	35 -	-	233	333
	2d sort	10 -	40 -	30 -	-	300	
Cansey rettoo	1st sort	17 8	20 -	2 8	-	14	285
Rettoo	9th sort	10 -	15 -	5 -	-	50	
Vellacandy	9th sort	10 -	15 -	5 -	-	50	
Neelycandy	1st sort	25 -	50 -	25 -	-	100	333
	2d sort	20 -	40 -	20 -	-	100	
	3d sort	15 -	35 -	20 -	-	133	
Palampases	1st sort	30 -	160 -	130 -	-	433	333
	2d sort	20 -	120 -	100 -	-	500	
Dhatty	1st sort	10 -	20 -	10 -	-	100	5
	2d sort	8 -	15 -	7 -	-	87	
	3d sort	5 -	10 -	5 -	-	100	
Thread Carpets of five cubits	1st sort	60 -	80 -	20 -	-	33	333
	2d sort	55 -	80 -	25 -	-	45	
	3d sort	40 -	80 -	40 -	-	100	
	4th sort	20 -	80 -	60 -	-	300	
Thread Carpets of four cubits	1st sort	15 -	70 -	55 -	-	366	666

Comparative Statement, exhibiting the Difference between the Tariff of *Coimbatore* and *Malabar*—continued.

ARTICLES.			Coimbatore Tariff.	Malabar Tariff.	Increase.	Decrease.	Advance per Cent. per Malabar Tariff.	
			Rs. As.	Rs. As.	Rs. As.	Rs. As.		
PIECE GOODS—continued.*								
Wearing Cloth	1st sort	- - -	400 -	500 -	100 -	- -	25	
	2d sort	- - -	360 -	400 -	40 -	- -	11	111
	3d sort	- - -	210 -	300 -	90 -	- -	42	856
Upper Garments	1st sort	- - -	60 -	160 -	100 -	- -	166	666
	2d sort	- - -	50 -	140 -	90 -	- -	180	
	3d sort	- - -	40 -	120 -	80 -	- -	200	
	4th sort	- - -	35 -	80 -	45 -	- -	128	542
	5th sort	- - -	30 -	60 -	30 -	- -	100	
	6th sort	- - -	25 -	40 -	15 -	- -	60	
GRUFF GOODS: †								
Coriander Seeds, per candy	1st sort	- - -	15 -	25 -	10 -	- -	66	666
Onions, per candy	1st sort	- - -	5 12	10 -	4 4	- -	73	913
Chillies, per candy	1st sort	- - -	10 -	30 -	20 -	- -	200	
Muslard, per candy	1st sort	- - -	20 -	30 -	10 -	- -	50	
Mindiem, per candy	1st sort	- - -	15 -	30 -	15 -	- -	100	
Jagry, per candy	1st sort	- - -	25 -	40 -	15 -	- -	60	
Saltpetre, per candy	1st sort	- - -	35 -	65 -	30 -	- -	85	714
Elk Horn, per candy	1st part	- - -	17 8	35 -	17 8	- -	100	
Sandal Wood, per candy	1st sort	- - -	70 -	127 -	57 -	- -	81	428
	2d sort	- - -	50 -	108 -	58 -	- -	116	
	3d sort	- - -	- -	90 -	90 -	- -	No valuation in Coimbatore Tariff.	
	4th sort	- - -	- -	75 -	75 -	- -		
	5th sort	- - -	- -	68 -	68 -	- -		
Tamarind, per candy	1st sort	- - -	5 -	10 -	5 -	- -	100	
Garlick, per candy	1st sort	- - -	15 -	30 -	15 -	- -	100	
Lamp Oil, per candy	1st sort	- - -	1 6	2 2	- 12	- -	54	545
Castor Oil Seeds, per garce	1st sort	- - -	106 8	200 -	93 8	- -	87	793
Gingerly Oil Seeds, per garce	1st sort	- - -	266 12	300 -	33 4	- -	12	465
Ghee, per maracal	- - -	- - -	3 8	4 8	1 -	- -	28	571

* The comparative valuation in the Tariff of Piece Goods is made with reference to the Tariff of Malabar, received in Fusly 1236.

† The valuation of Gruff Goods is shown as exhibited in the rowannahs returned from Malabar in Fusly 1243.

Coimbatore, }
20 January 1835. }E. E. (signed) per G. D. Drury,
Principal Collr.(True Copy.)
(signed) J. T. Taylor,
Sec. Cus. Com.(True Copies.)
(signed) H. Torrens,
Offg. Depy. Sec. to Govt.

REPORT III.

From the Customs and Post-Office Committee, Calcutta, 23 April 1836,
H. T. Prinsep, Esq., Secretary to the Government of India, General
Department.

Sir,

WE were duly honoured with Mr. Secretary Bushby's letter of the 13th May last (No. 15.); having made every practicable inquiry into the existing Customs system of the Province of Ajmere, and its effects on the trade in that quarter, we have now the honour to submit our sentiments on the same, for the consideration and eventual orders of Government.

2. The system was established on its present footing by Mr. Cavendish, A. D. 1830, and consists,—

1st. Of an import or transit duty, on the payment of which rowannahs are granted, exempting the goods from any other charge, unless the whole or a portion of them is disposed of within the district, in which case mapah, or town duty, is charged.

2d. An export duty.

3d. Mapah, which is a duty levied on the sale of every article.

This tax was originally confined to the villages, and it was levied at an average rate of 1/6 per cent., from persons not residing in the place in which the articles were sold, so that the every-day transactions between the inhabitants of the same place were exempt, and the burden fell on what may be called the external trade of the village. The alterations made by Mr. Cavendish were, to extend the mapah to the towns as well as the villages, and to the transactions between the inhabitants of the same place, as well as those which take place between the inhabitants of different places; we also raised the rate from 1/6 to 2/6 per cent., and even established a much higher tax than this, under the denomination of town duties, in the towns of Kekree and Ajmere, on the sale of the articles mentioned in the margin. The rules which Mr. Cavendish established for the collection of this tax will be found in the Appendix No. 1.

Rice cleane
Ditto in Hu
Oil Seeds.
Sugar.
Sugar Cane
Goor.
Sugar and
Tobacco.
Scoparce.
Turmeric.

3. Mr. Edmonstone, the superintendent of Ajmere, observes that, "under the native system which preceded Mr. Cavendish's alterations, this tax might be said to have been simple, and certainly gave rise to no complaints or disputes, however it might have borne to us the appearance of a barbarous and shameful exaction, which was wholly unworthy of our rule; but its increased oppressiveness under the present rules is not only vexatious and burthensome, but founded on laws so undefined and uncertain as always to give rise to disputes and dissension in its collection, and necessarily to place the larger proportion of the poor and the ignorant inhabitants of the villages at the mercy of the contractor or his agents. There is scarcely a rule in the code established for the collection of the duties, that will not admit of cavil and dispute, a fact which is fully established by the frequency of complaint of one kind and another, which it has given rise to within the last two or three years." We consider this a most pernicious tax; it affects even the most ordinary dealings of the shopkeeper, and of every other person; and it is levied anew every time the same goods are sold, whether in the same or in another place. It is impossible, we conceive, to protect the people from the exactions of the tax-gatherer, under such an universal and complicated system as this.

4. There are also three other duties, called daroolzurb, or ½ per cent. on the sale of gold and silver, and 2½ on that of jewels and precious stones; fai bazara, or bazaar dues; and bukhas, or a duty on cattle sales.

5. Among the other changes made by him, Mr. Cavendish introduced into the Amere district the checks and refinements of the Custom system which lately prevailed in the Regulation Provinces; these, Mr. Edmonstone asserts, and we think with justice, are not only wholly unadapted to the character of the people of that

country, but also subject them to detention, insult and loss, and have had the effect of diverting a large portion of trade from the province. "On no point," Mr. Edmonstone continues, "have I been more pressed in the recent discussion which I have had on the subject with the most respectable members of the mercantile community at this place, than that of removing all the forms and restrictions to which the system, as at present existing, obliges them to conform. Under the native system, or that which was in practice in the time of Mr. Wilder, no forms of any kind were required to be gone through; duties were levied separately in each chokee or village into which the goods were imported, or through which they passed; they were light and very simple, and fixed upon well-understood quantities, such as a camel-load, or bullock-load, or cart-load; and as the merchant paid what was customary on his arrival at any chokee or village, he was liable to little, if any, detention or trouble at all; but, under the present system, he is obliged to enter his 'deerkhaust' or petition to take out a 'rowannah' or pass, and, on the arrival of the goods within the precincts of the district, or at the city of Ajmere, to subject them to examination and weighing, and to prove thus their exact identity with the species and quantity denoted in the rowannah. In order to prevent their goods from being stopped on the frontier, the principal mercantile firms at Ajmere were obliged to write to their correspondents or agents, to give them at all times previous information of any despatches of goods which they may intend to send that way, particularizing every article; and then a rowannah must be produced, and sent to meet the goods on the frontier. As regards the rich, the inconveniences of the system are partially obviated by this clumsy and expensive process; but they fall upon the poorer merchants, whose dealings are not so extensive, with unmitigated force." Mr. Edmonstone observes, with great justice, that he is unable to see the utility of the rowannah system in a district locally situated as Ajmere is, since, as soon as the goods have passed its limits, which are very contracted, the rowannah is of no further use.

6. The rates fixed by Mr. Cavendish are also stated to press with peculiar heaviness in places adjoining the frontier, and on particular articles which are of largest consumption at Ajmere. "The total amount of the transit duty levied on goods passing through the district," Mr. Edmonstone observes, "formerly depended on the number of villages, and if they were conveyed accordingly into an adjoining district, the impost to which they were liable was remarkably trifling; now, however, by the consolidation of the rates, which has in truth been in most places a great augmentation, the duty falls with an aggravated weight on all, and whether within two miles of the frontier or 20, the duties imposed on the transit of articles beyond are equally taken for both; this is a hardship which is peculiarly felt and complained of at Kekree, which is (or rather ought to be) an important entrepôt of trade, and, under proper management, encouragement and care, would bid fair to contest the palm of superiority, as a place of commercial importance and magnitude, with Ajmere."

7. Mr. Edmonstone states that he has lately given his deepest attention to the subject, and, in concert with men of experience and judgment, and all the most respectable members of the commercial community at Ajmere, has decided upon a plan which, although it involves some rather material changes in the system at present existing, seems to him to hold out hopes of extensive improvement in the trade of the province; this plan is to abolish altogether the mapah and town duties, to substitute for them an import and export duty at Ajmere and all the principal towns or cusbahs in the district, 13 in all; to retain the import or transit duty, and the duty on exports to foreign states; and, after a careful revision of the existing rates, to dispense with rowannahs, and to revert to the system in force in the time of Mr. Welder, of collecting the duty on the camel, bullock and cart loads, according to an estimated amount of the quantity carried by each. Mr. Edmonstone adds, that it would undoubtedly be both more agreeable and advisable to dispense with every internal duty, of the nature of either import or export, which could tend in the remotest degree to restrict the freedom of trade, but the condition which has been attached to the formation of any new system, that is, that there should be no serious diminution in the revenue realized at present, renders this impracticable.

8. It is also proposed that "goods which have once paid duty on their importation into the district, should not be subjected again to a separate tax (as they

they are at present), unless exported again from the place to which they have been brought." The precise nature of this part of the intended plan is not clearly explained, and we are unable to make out from Mr. Edmonstone's letter, to how many of the several duties of "district import duty," "town import duty," "town export duty," and "district export duty," he proposes that goods passing through the district should be liable. It is proposed that certificates should be granted by the Custom-house officers, to whom the import duty is paid; and, finally, Mr. Edmonstone mentions as a proof that the new system is likely to yield as much as the present, that two offers had been made to him to farm the Customs of the district for the same sum as is now paid after the new arrangements have been carried into effect.

9. We have no doubt that Mr. Edmonstone's plan would be a great improvement upon the existing one, and we believe that the native merchants would receive as a boon any plan which, without any increase of the present rates of duty, would relieve them from the annoyances of the Custom system lately established in the Regulation Provinces, and introduced into the Ajmere district (where it still exists) by Mr. Cavendish; we see, however, some objections to Mr. Edmonstone's plan, which we shall proceed to state.

10. In the first place, it will be observed that he proposes that there should be a double set of import or export duties within the limits of this small district, one on the frontier of the district and the other at all the principal towns or large villages; the object of the first being to tax the external trade of the district, and the other being, principally at least, intended to bring internal trade and consumption under contribution.

11. The town import and export duties are in fact nothing else but town duties, and they are open to the general objections which exist to that tax, and which have been fully described by us elsewhere. If it be intended, as it appears to be, that these export duties should be levied also on the transit trade, in addition to the district import and export duties, they are of course still more objectionable. We are of opinion that, while town duties are being gradually abolished in every other part of the British dominions, it would be extremely inconsistent and inexpedient to re-establish them on a new and more extended footing in the district of Ajmere.

12. Even if the transit trade were not to be made liable to the imposition of a second duty, it would, notwithstanding, be subjected to serious interruption by having to pass through chokees in the towns, in addition to those at either frontier. The plan of granting certificates, combined with the simple mode of assessing the duty under the native system, to which it is now proposed to return, would no doubt mitigate the inconvenience; but still we are satisfied that it would be felt. Freedom of trade is, under any circumstances, a very desirable thing; but, in a district situated as Ajmere is, surrounded on all sides by foreign states, this freedom is absolutely necessary in order to attract any considerable amount of trade. Lastly, we doubt very much whether there is any advantage in levying an export duty, even upon the frontier. In arranging a system of duties for this district, its character as an entrepôt for the trade of the surrounding countries ought to be kept distinctly in view. The district itself is small and poor, with scarcely any export staples of its own growth or manufacture, while, on the other hand, owing to its situation and the advantage of British protection, it offers extraordinary facilities for carrying on the general trade of that part of India; we believe that it would ere this have become a much more important place than it is at present, if this distinction had been borne in mind in legislating for it. In order to raise a revenue from the produce and consumption of the province itself, which are but small, and are not capable of being much extended, heavy burdens have been imposed on what may be called the carrying trade of the district, which is capable of almost unlimited increase, and would, we have no doubt, have much increased beyond its present amount, if it had not been too heavily taxed. The present is an instance of what we mean. An export duty can only be of use for taxing the produce of the district itself, while the machinery which must be employed to levy it would interfere with the transit trade, which ought to exceed the other by 50 or 100 times. Besides the examination and assessment which would take place on the goods entering the district, they would be again stopped

and examined on their leaving it, in order to ascertain whether they were the produce of the district, or foreign goods which had already paid import duty.

13. In order that the peculiar circumstances of this district may be fully appreciated, we beg leave to quote the following extract from Mr. Edmonstone's last letter, dated January 13th, 1836, paragraph 3:—"It is a fact, I believe, well known and indisputable, that much of the trade of these Western States is diverted from its proper and natural course by the severity of the restrictions imposed on the trade by us, while passing through our territory; but, granted that the fact is questionable, it is at least worthy of consideration how, centrally situated as this district is, in the heart of a country abounding in some of the largest commercial entrepôts in Western India, filled with men of wealth and capital, and naturally affording every facility for the prosecution of mercantile projects, it should realize so few of the advantages of an active and spirited commerce, and share so considerably in the profits of the rich and extensive trade which is carried on in it, as it at present undoubtedly does. The greater security of our territories and their favourable position and circumstances would naturally lead to the belief that merchants would resort from choice to that part of the country where they could prosecute their undertakings with advantage and safety, and enjoy the profits of their calling without the fear of molestation. But the actual state of the case, as regards this district, would seem to disprove the inference; and the only mode by which I can account for it is, by supposing that our system is objectionable in the restrictions which it imposes, and that it subjects the trade of the country to heavier exactions and burthens than it can easily bear."

14. The entire Customs of the Ajmere province, with an exception hereafter to be noticed, yielded only 47,000 rs. in 1834-35, and 53,000 rs. in 1835-36. These small amounts were owing partly to the famine; but, after making every allowance, they furnish a sufficient proof that the present system is not such an one as will enable us to make the most of the peculiar commercial situation of Ajmere, even in a merely fiscal point of view.

15. We recommend that the mapa and the Ajmere town duties be abolished, as proposed by Mr. Edmonstone; but, for the reasons which have been already mentioned, we cannot recommend that town duties should be re-imposed on the more extended scale suggested by that gentleman. The existing transit duty may, we think, be retained and levied once for all on the import of foreign goods into the district, whether those goods are intended for domestic consumption or for re-exportation to foreign countries; but no export duty ought to be levied in any case. We highly approve of Mr. Edmonstone's plan of calculating what the duty will ordinarily amount to on a bullock, camel and hackery load respectively, and of always levying that amount on those quantities without any further investigation as to the precise value of the goods; this is the native practice which is so generally popular, and to which Mr. Edmonstone proposes to return.

16. The plan proposed, therefore, shortly is to levy the existing transit duty upon all foreign goods imported into the district, and to abolish every other tax upon trade and consumption of every description.

Imports proposed to be abolished:

Mapa Duties at Ajmere	-	-	Rs. 4,800
Port Duties at Ajmere	-	-	2,000
Town Duty of Ajmere	-	-	9,500
Mapa and other Duties at Pokhur	-	-	1,500
Duties on the sale of Cattle at Ajmeer	-	-	600
Duties on Mint, &c. (viz. on the sale of Gold and Silver), at Ajmere	-	-	600
Mapa Duties in the District	-	-	10,000
			<u>Rs. 29,000</u>

Imports proposed to be retained:

Transit Duties	-	-	Rs. 21,500
Ditto on Opium	-	-	2,500
			<u>Rs. 24,000</u>

17. The immediate effect of this measure will be a remission of taxes to the amount of about 29,000 rs. a year, according to the detail in the margin; this, however, is inevitable, if the same freedom of internal trade is to be conceded to the inhabitants of the district of Ajmere, which is gradually being established in the other provinces of the empire; and we also consider it certain that the abolition of so many imposts will render the remaining one, which already yields nearly as much as all the rest together, much more productive than formerly.

18. Opium now pays 8 annas per cent. transit duty; as we cannot stop it in its progress to the sea by any arrangements which could be made within the Ajmere district, there can be no objection to a transit duty being levied upon it in common with every other article which passes through the district.

19. An

19. An entirely separate duty from any of those which have been hitherto described, is levied from brinjarrahs conveying salt from the salt lakes of Sambhur and Puckbudraha, which now yields on an average 27,000 rs. per annum. The amount realized was formerly much larger; but, since the Beawar road has been opened, in consequence of the subjugation of Mhairwarrah, the brinjarrahs who bring salt from Puckbudra have taken that road, which is not only shorter than the one by Ajmere, but much lower duties are also levied upon it. In order to restore the balance, it seems requisite that the brinjarrah duties should be lowered in the Ajmere district.

20. We cannot give any more particular account of the Customs system which prevails in the district of Mhairwarrah than that which is contained in the letter from the Superintendent, a copy of which will be found in the Appendix; they seem to be levied according to the native system, and are not complained of as oppressive. We have nothing to propose regarding them. Probably, when a better system is established in the adjoining district of Ajmere, some improvement will be suggested by the authorities on the spot.

We have, &c.

(signed) J. H. Crawford.
W. R. Young.
H. Borradaile.
H. Babington.
C. E. Trevelyan.

Appendix I.

RULES for levying MAPA in all the Villages of the District, except in Ajmere, Kekree, and in the Cantonment of Nusseerabad, as established under the Orders of the Hon. Mr. Cavendish, on the 11th September 1831.

Appendix I.

1. On all articles (including grain), not the produce of the village in which they are sold, "mapa" shall once be taken from the seller on his importing the article into the village, at the rate of 19 dams in the rupee. The usual (mceed), or period allowed for the detention of goods at Ajmere and Kekree, need not be observed in the villages, but it should be competent to the thikkadar, or farmer, on occasions when any individual, with the view of evading the "mapa," shall declare his property to be in transit, to take his own measures for obviating fraud and deception, either by applying his seal to the property, or by examining and taking an accurate list of the same. On opium, mapa shall be levied at the rate of seven rupees per cent.

2. Upon goods the produce of the village, such as clothes, or ghee, &c., mapa shall be levied at the rate hereinbefore specified, whether they be purchased by a person for exportation to a foreign territory, or to any other part of the district of Ajmere, or by a person, a resident of the very same village, for his own consumption and use.

3. Mapa shall not be levied on articles the produce of the villages, on their being transported from the place of production (or field) into the village, but on all such being a part of the zemindarree share of the istamrardar, jagheerdar, thikkhidar, or other general proprietor or manager of the village, in its sale or disposal, mapa shall always be taken, as well as on the purchase of any such articles by any other person with a view to exportation. The original proprietor or producer of the article, however, shall not be subjected to the imposition of "mapa" on his exporting the same either to foreign territory, or to any part of the district he pleases.

4. On bullocks, buffaloes, cows, camels, horses and ponies, when sold, mapa shall always be levied; but it is not intended that this rule should be applied to cattle purchased by umendars and ryots for the purpose of cultivation.

5. Any article which may be brought into a village avowedly for the purpose of being given or expended in khorah (or subsistence), or on occasions of marriages and deaths, shall always be liable to the payment of mapa.

6. Village produce, sold by the cultivators to village mahajems, shall not be charged with mapa.

Appendix I.

7. If the proprietor (or cultivator) shall export his grain himself, mapa shall not be levied from him; and as "buramud," or export duty, has now been abolished, he shall be entirely exempted from the payment of any species of tax.

8. Kupas having once paid duty, the cotton extracted from the kupas is not to be charged with mapa, unless it be sold.

9. Clothes brought from foreign territories to our province to be dyed, are not to be charged with any duty, provided they be returned to the place whence they came.

10. Corn purchased by bohiah for cultivators, with whom they keep a running account, not to be charged with mapa.

Note.—To explain this exemption, it is necessary to observe, that most of the cultivators are in debt to the bohiahs (or village bankers) for advances, either of seed, or grain, or money, to enable them to till their lands, and that they pay those debts generally in kind.

(signed) *N. B. Edmonstone.*

Appendix II.

Appendix II.

To the Secretary, Customs and Post-office Committee, Calcutta.

Sir,

I HAVE the honour to acknowledge the receipt of your letter of the 21st November last, calling for information on the subject of the brinjarra and Custom duties levied in the district of Mhairwarra.

2. Before entering on a detail of the particulars required, it may be proper to notice, that this district is a mountainous tract, between 80 and 90 miles in length, by an average of 12 in breadth. This belt of hills, running nearly north and south, separates Marwar from Meywar. The inhabitants, until brought into subjection by a British force in 1820, paid no allegiance to any power. Their habits were decidedly of a predatory nature, and, though the villages nominally appertained to Ajmere, Oudeypore and Jodhpore, so far from acknowledging their supremacy, they levied black mail from their immediate neighbours on the plain. On the district being subdued, investigations as to the proprietary right of the Ajmere, Marwar and Meywar states to villages were duly instituted, and they were annexed, according to the establishment of the several claims, to their respective states. The Oudeypore and Jodhpore authorities being considered inadequate to keep this turbulent and predatory race in a due state of obedience, the whole tract was placed under British superintendence. The revenue of the district, comprising Ajmere Mhairwarra, Marwar Mhairwarra and Meywar Mhairwarra, has been duly carried to the credit of their respective states, Jodhpore and Oudeypore contributing a certain quota annually towards the expenses of the Mhairwarra local battalion, and other district charges. The claims of the Marwar and Meywar states to certain villages not being satisfactorily established, they were annexed to the British, or Ajmere possessions. Thus, in some parts of the tract, our own villages are completely intermixed with those of the two other states.

3. The salt lake of Puchbadra is situated in Marwar, 80 kos to the westward, and the direct communication between it and the Meywar, Kotah and Malwah states, is through the Mhairwarra hills; so long as anarchy and misrule prevailed, the Brinjarrahs, the carriers of the salt, were in the habit of taking the route through the Ajmere district to the north, and by some ghâts through the hills to the south of the tract under our superintendence. The latter route is still kept by the Brinjarrah bullocks proceeding to South Malwa, the duties being levied by the Oudeypore state. On peace and tranquillity being restored, the more direct road through Pergunnah Beawo came into use. Two circumstances were favourable to its adoption, the saving of a considerable distance, and the facility of grazing their cattle *en route* through the thinly-inhabited Mhair jungles. The clear duties levied in Pergunnah Beawo from Brinjarrahs during the previous years, were as follows:—

Brinjarrah duties, 1824-25	-	-	-	675	{(including customs, this year only.)
Ditto - - 1825-26	-	-	-	166	14.
Ditto - - 1826-27	-	-	-	932	13½.
Ditto - - 1827-28	-	-	-	1,714	7½.
Ditto - - 1828-29	-	-	-	2,548	11. 6½.
Ditto - - 1829-30	-	-	-	3,932	4. 11¼.

The sums have been duly brought to the credit of the British Government. The lease of the duties farmed out by Lieutenant-Colonel Hall, at the rate of rupees 4,125 per annum, does not expire until 31st October 1836. On its expiration, it is probable these duties will produce a larger sum. With respect to the assumed loss in this item accruing to Ajmere, it is necessary to observe, that a large portion of the salt trade proceeds through the passes in southward Mhairwarra, these duties being levied by the Oudeypore state. This tract is under our rule, but the Brinjarra duties have always been levied by the officers of the Oudeypore

Appendix II.

Oudeypore Durbar. The comparative security afforded to merchandise traversing these passes, has induced the Brinjarrahs to pursue this route for some years past; hence the reduction in the Brinjarra receipts through the Ajmere province; and were the passes through Pergunnah Beawo stopped, a measure highly impolitic, since it would disturb the natural current of trade, it is doubtful whether the Ajmere province would be a gainer. On the contrary, the revenue we now derive from this source would be lost, seeing the Brinjarrahs would resort to the southward passes in this district, these receipts contributing to swell the revenue of the Maharanee of Oudeypore.

4. In reference to the Custom duties, they are generally similar in kind to those levied in the Ajmere province; owing to the paucity of inhabitants, the revenue derived from these sources has been very limited. The severe calamity with which the district was visited in 1833, has considerably reduced the already scanty population. With a view to obviate the distresses inseparable from seasons of drought and famine, of frequent occurrence in this portion of Rajpootana, tanks and wells are being constructed and sunk in various parts of this district. Water is the indispensable essential to bind the inhabitants to the soil. Measures are also in progress for establishing numerous villages in the now waste jungles, and of increasing the population of the old ones. The duties must necessarily be limited for some time to come, though there is a fair promise the inhabitants will be more than doubled in the course of a few years. The Customs levied in the district are carried to the credit of the separate states, accordingly as they belong to Ajmere, Marwar and Meywar.

5. From the information I have been able to gain, no alteration, for some time to come at least, would seem desirable, either in the nature or rates of Brinjarra and Custom duties. Statements of the revenue, carried to credit of Ajmere Mhairwarra, during the last five years, derived from these sources, I have the honour to append.

I have, &c.

(signed) *C. G. Dixon, Captain,
Offg Poll Agent.*

Camp, Surbeenah Mhairwarra, }
25 December 1835. }

(True Copies.)

T. L. Peacock,
Examiner of India Correspondence.

East India House, }
23 March 1848. }

CUSTOMS AND POST OFFICE DUTIES
(INDIA).

COPIES of INSTRUCTIONS issued by Lord *William Bentinck*, Governor-General of India, when at Madras in the Year 1834, to a Commission of Civil Servants appointed by his Lordship to examine and report upon the CUSTOMS and Post-Office Systems; and, of the said REPORT.

(*Mr. George Thompson.*)

Ordered, by The House of Commons, to be Printed,
28 March 1851.

[*Price 1s. 2d.*]

151.

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285
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dated 29 May 1851;—for,

PAPERS “relative to TARIFFS, &c. (BRITISH INDIA), in continuation of Parliamentary Paper, No. 116, of Session 1846, to the present time:”

“And, COPIES of REPORTS numbered respectively 5, 6, and 11, of the Commissioners appointed by Lord *William Bentinck* to inquire into the System of INDIAN CUSTOMS and POST OFFICE DUTIES; together with a Selection of Documents from the respective Appendices to the same, in Cases where the material Points thereof do not appear in the said Reports.”

East India House, }
5 August 1851. }

J. D. DICKINSON,
Deputy Secretary.

(*Mr. Anstey.*)

Ordered, by The House of Commons, to be Printed,
7 August 1851.

L I S T.

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East India House,
5 August 1851. }

T. L. Peacock.

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ACT No. II. of 1846.

Passed by the Honourable the President of the Council of India in Council, on the 7th January 1846, with the Assent of the Right honourable the Governor-General of India.

AN ACT relating to unscrewed Cotton Exported from the Continent of India, and Imported at the Bombay Presidency.

I. It is hereby enacted, that unscrewed cotton wool shall be allowed to be exported from any subordinate port of the Bombay Presidency to the port of Bombay, free of the duty specified in Schedule (B.) of Act No. I. of 1838, and to the port of Bombay from any port of the Madras Presidency, free of the duty specified in Schedule (B.) of Act No. VI. of 1844, to which port of the Madras Presidency the Governor in Council thereof may from time to time be pleased, by a notification in the Official Gazette, to grant such exemption of that duty: provided that the cotton wool so exported shall not be shipped on a square-rigged vessel.

II. And it is hereby enacted, that cotton wool shall be allowed to be imported into the port of Bombay from any part of the continent of India, free of the duty specified in Schedule (A.) of the said Act No. I. of 1838.

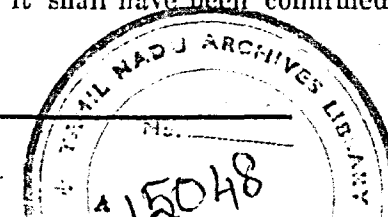
ACT No. IX. of 1846.

Passed by the Honourable the President of the Council of India in Council, on the 5th December 1846, with the Assent of the Right honourable the Governor-General of India.

AN ACT for authorizing the Government of Fort St. George to provide Regulations for the several Ports and Places of Anchorage within the Territories subject thereto.

WHEREAS Act IV. of 1842, intituled, "An Act for the better Management of Boats and Catamarans in the Madras Roads, and for the Amendment of certain Harbour Regulations," has been found by experience to operate beneficially; and whereas it is expedient that Regulations similar in principle to the provisions contained in the said Act, but varying in detail if local circumstances require such variation, should be provided for all ports and other places of anchorage within the territories subject to the government of the Presidency of Fort St. George:

I. It is therefore hereby enacted, that the Governor in Council of Fort St. George may from time to time make, in respect of each port or other place of anchorage within the territories subject to the government of the said Presidency, such regulations for the management of boats and catamarans and such other matters as are provided for by the said Act IV. of 1842, in respect of the Madras Roads, as to them shall seem expedient, being similar in principle to the provisions contained in the said Act, but varying in detail, if local circumstances require such variation; and all such regulations shall be submitted for confirmation or disallowance to the Governor-general of India in Council, and every such regulation shall have the force of law after it shall have been confirmed by the Governor-general of India in Council.



ACT No. VI. of 1848.

Passed by the Right honourable the Governor-General of India in Council, on the 4th March 1848.

AN ACT for equalizing the Duties on Goods imported and exported on Foreign and British Bottoms, and for abolishing Duties on Goods carried from Port to Port in the Territories subject to the Government of the East India Company.

I. It is hereby enacted, that from and after the 25th day of March 1848, all goods imported on foreign bottoms by sea into any port of the Presidencies of Fort William in Bengal, Fort St. George, or Bombay, shall be charged only with the same rates of duty as such goods would now by law be charged with if such goods were imported into any of the said ports on British bottoms, anything in any Act of the Council of India contained to the contrary notwithstanding.

II. And it is hereby enacted, that from and after the said day all goods exported on foreign bottoms by sea, from any port of the said Presidencies, shall be charged only with the same rates of duty as such goods would now by law be charged with if such goods were exported from any of the said ports on British bottoms, anything in any Act of the Council of India contained to the contrary notwithstanding.

III. And it is hereby enacted, that from and after the said day, no duty shall be charged on any goods lawfully carried from any port in the territories subject to the government of the East India Company, to any other port in the said territories, any thing in any Act of the Council of India contained to the contrary notwithstanding.

IV. Provided always, that nothing in this Act contained shall apply to the articles of salt or opium.

ACT No. VII. of 1848.

Passed by the Right honourable the Governor-General of India in Council on the 25th of March 1848.

AN ACT to except certain free Ports from the Operation of Section III. Act No. VI. of 1848, and otherwise to amend that Act.

I. In modification of Section III., Act No. VI. of 1848, it is hereby enacted, that the provisions of the said section shall not apply to goods exported from any part of the territories subject to the government of the East India Company, to any of the ports in the Straits of Malacca, or to any of the ports in the Tenasserim provinces, or to any of the ports in the province of Arracan, nor to goods imported from any of those ports into any port of the said territories.

II. And it is hereby enacted, that no drawback shall be allowed on the re-export of goods from any port in the territories subject to the government of the East India Company, to any other port in the said territories, to which the operation of Section III., Act No. VI. of 1848, may extend.

ACT No. XVI. of 1848.

Passed by the Governor-General of India in Council on the 1st of July 1848.

AN ACT to remove certain Restrictions on the Salt Trade.

WHEREAS the Salt Trade in the North Western Provinces is burdened with unnecessary restrictions; it is enacted as follows:

I. Sections 49, 50, 85 and 93, of Regulation X. of 1819, of the Bengal Code, and so much of Section 48, of the same Regulation, as affects the importation of salt from the North Western Provinces into the other provinces of the Presidency of Bengal, also Section 2 of Regulation X. of 1826, of the same Code, shall be repealed from the 1st day of August in this year.

II. After the said 1st day of August, no customs duty shall be leviable upon salt imported into the said North Western Provinces from the other provinces of the said Presidency.

ACT No. V. of 1849.

Passed by the Honourable the President of the Council of India in Council, on the 3d March 1849.

AN ACT for better defining the Duties of Customs and Excise.

WHEREAS under the Regulations in force for taking a duty of 20 Spanish dollars for each and every leaguer of arrack or Asiatic rum imported into and intended for consumption within Prince of Wales' Island, Singapore and Malacca, doubts have arisen whether any duty may be taken on importation of a quantity less than a leaguer, and it is expedient that such doubts be removed, and that the meaning of all such or the like expressions in any Regulation or Act for the levy of Customs or Excise duties within the territories under the government of the East India Company be plainly declared; it is declared and enacted as follows:

I. Whenever by any Regulation or Act now or hereafter to be in force, not containing any direction to the contrary, a certain duty of Customs or Excise, or in the nature thereof, is leviable on any given quantity, by weight, measure or value, of any goods or merchandise, a like duty is leviable according to the same rate on any greater or less quantity.

ACT No. V. of 1850.

Passed by the Governor-General of India in Council, on the 8th of March 1850.

AN ACT for freedom of the Coasting Trade of India.

WHEREAS by an Act of Parliament passed in the 13th year of the reign of Her Majesty, intituled, "An Act to amend the Laws in Force for the Encouragement of British Shipping and Navigation," it is enacted with regard to the Coasting Trade of India, that it shall be lawful for the Governor-general of India in Council to make any regulations authorizing or permitting the conveyance of goods or passengers from one part of the possessions of the East India Company to another part thereof, in other than British ships, subject to such restrictions or regulations as he may think necessary; it is enacted as follows:

I. Goods and passengers may be conveyed from one part of the territories under the government of the East India Company to another part thereof, in other than British ships, without any restriction other than is or shall be equally imposed on British ships, for securing payment of duties of Customs or otherwise.

ACT No. X. of 1850.

Passed by the Governor-General of India in Council, on the 15th of March 1850.

AN ACT to declare Aden a free Port.

WHEREAS the trade between the Western Coast of India and the Red Sea, and places thereunto adjacent, will be improved by encouraging the resort of vessels of all nations to the port of Aden in Arabia; it is declared and enacted as follows:

I. The port and settlement of Aden in Arabia is a free port and settlement; and no duty of Customs is payable there on any ship or other vessel, or

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on any goods lawfully carried by sea or land to or from the said port and settlement.

II. The said port of Aden shall not be taken to be within the provisions of Act VI. 1848.

ACT No. XI. of 1850.

Passed by the Governor-General of India in Council, on the 15th of March 1850.

AN ACT to amend Act X. 1841.

For amendment of Act X. 1841, it is enacted as follows:

I. Section XIII. of Act X. 1841, is repealed.

II. The passes which, under Section XXIV. of the said Act, may be issued for conferring the privileges and advantages of a British ship, in certain cases, to any ship or vessel built within the dominions of a native Prince or State in subordinate alliance with, or having subsidiary treaties with the East India Company, may, after the passing of this Act, be issued in the like cases, and under the same restrictions, to any ship or vessel belonging to any such native Prince or State, or their subjects, wherever the same may have been built.

III. All ships or vessels, of whatever rig and of whatever tonnage, owned by British subjects, entitled to registry under Act X. 1841, or owned by such native Princes or States, or by their subjects entitled to passes under Act X. 1841, as amended by this Act, employed only in coasting voyages, or between any port of the Continent of India and the Island of Ceylon, may be registered and obtain passes, and the tonnage may be marked, according to such rules as shall be made from time to time by the Governor or Governor in Council of each Presidency.

IV. The owners of coasting vessels, registered under Section III. of this Act, shall pay for each certificate of registry:

- For a vessel not exceeding the burthen of four tons, one rupee;
- Exceeding four tons and not exceeding twenty tons, five rupees;
- Exceeding twenty tons and not exceeding eighty tons, seven rupees;
- Exceeding eighty tons, for each ton two annas;

Which fees shall be carried to the credit of the Government of the Presidency in which they are levied.

V. This Act shall be construed with and as part of Act X. 1841.

ACT No. XXIV. of 1850.

Passed by the Honourable the President of the Council of India in Council, on the 8th June 1850, with the assent of the Most noble the Governor-General of India.

AN ACT for better defining the Special Duty levied on Tobacco in *Bombay*.

WHEREAS the laws in force respecting the special duty payable on tobacco imported into Bombay are obscure, and require to be explained and amended; it is declared and enacted as follows:

I. Regulations XXXIII. 1827, and XV. 1828, of the Bombay Code, and so much of Act I. 1838, as relates to the customary or special duty levied on the import of tobacco into the Island of Bombay, are rescinded and repealed.

II. All tobacco imported into the Island of Bombay, either by sea or across any of the causeways, from whatever port or place it is brought, is and shall continue to be liable to the payment of a special duty levied at the rate of seven rupees and eight annas for the Indian maund, which duty shall be paid, over and above

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above the customary duty of one rupee and eight annas, at the option of the importer, either on importation or after being warehoused in the Custom-house warehouse, on being delivered out for internal consumption.

III. No drawback of the said duty shall be allowed on exportation, unless the tobacco has been warehoused in and is exported direct from the Custom-house warehouse; in which case a drawback of the whole of the special duty shall be allowed, if claimed at the time of re-exportation.

IV. This Act shall not be taken to affect the provisions and penalties of any Act or Regulation for enforcing payment of the special duty, which shall continue in force for compelling payment of the duty as declared payable by this Act, and for punishing any evasion of such payment.

ACT No. XXVII. of 1850.

Passed by the Honourable the President of the Council of India in Council, on the 21st June 1850, with the assent of the Most noble the Governor-General of India.

AN ACT for the Registry of Merchant Seamen.

WHEREAS it is expedient to form a register of merchant seamen; it is enacted as follows:

I. A general register office for merchant seamen shall be established, at each of the ports of Calcutta, Madras and Bombay, and at such other ports as the Governor-general of India in Council shall hereafter deem necessary.

II. For every such office there shall be a Registrar, with such assistants, clerks and servants, at such salaries and allowances, and subject to such regulations, as shall be from time to time directed, with the approval of the Governor-general of India in Council, by the Governor or Governor in Council of the Presidency or place where the office is established.

III. Each Registrar, before entering on the duties of his office, shall, with two sureties, execute a joint and several bond to the East India Company, according to such form as shall be from time to time approved by the Governor-general of India in Council, conditional for the faithful performance of his duty, and for the due application and account of all monies that shall come to him as such Registrar, under such amount of penalty as shall be from time to time fixed by the Governor or Governor in Council of the Presidency or place.

IV. Every person not having a register ticket from any port in the United Kingdom of Great Britain and Ireland, who intends to serve (otherwise than as master or surgeon) on board of any vessel navigated from a port within the territories under the government of the East India Company, and registered as a British vessel under the Statutes of Parliament and Acts of the Governor-general of India in Council in force for the time being, for the registry of British vessels, shall be bound to appear at one of the said register-offices, for the purpose of procuring himself to be registered, and shall be bound to answer truly, to the best of his ability and knowledge, the several questions set forth in the Schedule (A.) annexed to this Act, and such other questions as shall be from time to time directed by the Governor-general of India in Council, and until so registered, shall not be allowed; after the 1st day of August 1850, to serve in any capacity (other than master or surgeon) on board of any such registered vessel.

V. The Registrar shall be bound to register every seaman who shall appear at his office for that purpose, and truly answer the said questions to the best of his ability and knowledge.

VI. The Registrar shall give to every seaman whom he shall register a register ticket, containing as accurate a description as may be, of such seaman, in such form as shall be from time to time approved by the Governor-general of India in Council, for which he shall be entitled to take such fee, not exceeding one rupee, as shall be from time to time allowed by the Governor or Governor in Council; and shall keep recorded in his office a duplicate of every such register

is or shall be appointed under Act XXVII. 1850, registered as a British vessel under any Statute of Parliament, or Act of the Governor-general of India in Council, in force for the time being for the registry of British vessels, except country craft not exceeding the burden of 300 tons employed only in coasting voyages, shall not put to sea on any day after the 1st day of August 1850, until an agreement, executed as hereinafter provided, shall have been made by him with such of his crew as are shipped at any port within the said territories, specifying what wages each seaman is to receive, and the quantity and quality of provisions he is to receive, the capacity in which each is to act or serve, and the voyage in which the vessel is to be employed, or the length of time that each is to serve.

II. Every such agreement shall be in the form set forth in Schedule (A.) annexed to this Act, or such other form as shall be from time to time approved by the Governor-general of India in Council, and shall be properly dated, and shall be signed by the master and the greater number of seamen shipped at any port in the said territories, of each kind of rating belonging to the vessel, on behalf of the crew respectively, in the presence of the Registrar of Seamen, or by some one appointed by him for that purpose, who, after hearing the agreement read over and explained to each seaman by whom it is to be signed, in a language understood by him, shall, if the seaman assent, cause him to put his signature or mark thereunto, and shall attest the same by his own signature, and shall keep recorded in his office a duplicate of such agreement executed and attested as aforesaid; every seaman shipped on board such vessel, and not being an apprentice, shall be entitled to have the benefit of such agreement, according to his rating, as if it were executed by him.

III. Every copy of such an agreement, certified by the Registrar to be a true copy, shall, in all cases, be taken as evidence of the contents thereof on behalf of the seamen; and no seaman shall in any case be required to produce such agreement, or such copy as aforesaid, or to give notice for the production thereof; but if the agreement shall not be produced and proved, he shall be at liberty to prove the contents or purport thereof, or to establish his claim by other evidence, according to the nature of the case.

IV. No seaman shipped under this Act, shall, by reason of any agreement, forfeit his lien upon the ship, or be deprived of any remedy for the recovery of his wages to which he would otherwise be entitled against any person or persons whatever; and no agreement, contrary to or inconsistent with this Act, nor any clause, contract or engagement whereby any seaman shall consent or promise to forego, or give up any right or claim to wages in the case of freight earned by a ship afterwards lost, or any right or claim to salvage or reward for salvage services, or such share of salvage or reward for salvage services as may be due to him by decree or award, or otherwise, shall be binding on such seaman.

V. The wages of any seaman engaged to serve on any vessel under this Act, shall be calculated by the calendar month.

VI. If any seaman serving under the provisions of this Act shall, by a writing according to a form set forth in Schedule (B.) annexed to this Act, or such other form as shall be from time to time approved by the Governor-general of India in Council, attested by the signature of the Registrar or his assistant, and by the signature of the master of the vessel on which he is engaged to serve, and in which writing the purpose shall be stated, authorize the said Registrar to receive monthly from the owner of the said vessel or his agent, any part of his wages, not exceeding one-third thereof, for the time for which he shall not have received any advance, for the purpose of maintaining his family during his absence, the said owner or his agent shall, on demand of the said Registrar, pay such sum to him, to be applied as aforesaid, without requiring any proof from the said Registrar that the said seaman is still on board the said vessel.

VII. All such payments, whether by the owner, his agent or by the Registrar, shall cease from and after the production of a certificate from the master of the vessel, of the death, desertion or discharge of the said seaman, or on reasonable evidence that the vessel has been lost; but no payment actually made by the Registrar to the party appointed by the said seaman, shall be reclaimable by reason of his death, desertion or discharge, or of the loss of the vessel.

VIII. All

VIII. All such receipts and payments shall be entered in a book, and all entries in the said book shall be authenticated by the Registrar under his signature or the signature of his assistant; and the said book shall be, at all times, open to the inspection of the parties concerned.

IX. At the time of witnessing the execution of the agreement for service, the Registrar shall explain to the seamen, parties thereunto, the conditions on which they can allot a part of their pay to their families during their service; and it shall be the duty of the Registrar to see that all seamen leaving the port have the option of allotting part of their pay as aforesaid.

X. The master of every such vessel, before leaving any port of registry, shall deliver to the Registrar a list, signed by himself, of the name of every seaman engaged by him in the territories under the government of the East India Company (including apprentices), with their rating and the number of their register tickets, according to such form as shall be from time to time approved by the Governor-general of India in Council; and, if he shall not have engaged any seaman within the said territories, the master shall deliver to the Registrar a certificate of the fact signed by himself; and, on receiving the said list or certificate, and on being satisfied of its truth, the Registrar shall give to the master a certificate under his hand, that the master of such vessel has complied with the regulations of the registry-office. Every master of any such vessel, who shall leave a port of registry, without delivering such list or certificate as aforesaid, shall be liable to a penalty not exceeding 200 rupees.

XI. For the purpose of preventing any seaman from being shipped on board of any vessel in any port of registry contrary to the provisions of this Act, the Registrar of the port, by himself or his agents, in a peaceable manner, may enter at any time on board of any such vessel, and muster and examine the several seamen employed therein; and any person who shall obstruct the said Registrar or his agents in such duty, shall be liable to a penalty not exceeding 100 rupees.

XII. In cases when the Registrar shall have reason to believe that any of the provisions of this Act has been evaded or neglected by the master, owner or agent of any ship about to go to sea, the Registrar, by a writing under his hand, may stay the grant of a port-clearance by the Master Attendant; and every Master Attendant shall comply with the written requisition of the Registrar in this respect.

XIII. The master of every such vessel on which any seaman engaged under this Act may be serving, shall, within seven days after the arrival of such vessel at the port where the voyage ends, or after the end of the service, according to the agreement entered into, in accordance with this Act, pay or cause to be paid to such seamen the wages remaining due to them for their services, taking a receipt from each man for the amount paid to him, either separately or on a general list, which receipt shall be certified by the chief or second officer, or other credible witness, and otherwise shall be of no force or validity.

XIV. Every master or owner, who shall neglect or refuse to pay any seaman's wages, within the time mentioned in the last section, shall forfeit and pay to such seaman the amount of two days' pay, to be recovered as wages, for each day, not exceeding 10 days in the whole, during which such payment has been delayed without sufficient cause.

XV. If any seaman to whom any wages are due die before the wages due have been paid, then the wages shall be paid to the Registrar of the port of registry at which the ship shall first touch after his death, and the Registrar shall pay the same to his legal representative, and failing such legal representative, after the expiration of 12 months from the 1st of January next following the day on which he shall have received the said balance, into the Treasury of the East India Company, after having given due notice of such unclaimed balance being in his possession, by advertisement in the Gazette, at least twice during such period.

XVI. Every master of a vessel, who shall be convicted before a magistrate of having neglected to pay to the Registrar, within 10 days of the ship's arrival in the port as aforesaid, the wages due to the deceased seamen, shall forfeit three times the amount of wages so neglected to be paid; and further shall be subject to such

such fine not exceeding 100 rupees, for each case of neglect; as to such magistrate shall seem fit.

XVII. Whenever any merchant vessel, navigated and registered as is mentioned in Section I, and not having been wrecked or condemned, shall be sold or disposed of at any port out of the territories under the government of the East India Company, or whenever the service of any seaman shall end at any such port, the master shall give to each seaman a certificate of discharge, and his register ticket, and also either provide for him fit employment on board some other such vessel bound to some port within the said territories, or provide for him a passage to the port at which he was shipped, or such other port as may be agreed on, either free of cost, or by depositing with the British Consul or Vice-Consul, or if there be none such, with some resident merchant of the port not interested in the vessel, such a sum of money as shall be by him deemed reasonably enough to pay the expenses of his subsistence and passage, which money shall be paid over and above any wages which may be due to him.

XVIII. If the master shall neglect or refuse to provide employment or the means of passage for any of his crew as mentioned in the last section, the expense of doing so, when defrayed, shall be a charge on the owner of the vessel, unless in cases of barratry, wreck or condemnation, and may be recovered with full costs of suit from such owner as so much money paid on his account, at the suit of the Consul or any other person defraying such expenses, or at the suit of the East India Company, in case the same has been paid or allowed out of any monies belonging to the East India Company; and, if defrayed by the seaman himself, may be recovered as wages due to him.

XIX. The obligations of the last two sections shall not apply to such of the crew as shall consent, in writing, before the British Consul or Vice-Consul, or if there be no British Consul or Vice-Consul at the port, before one or more resident merchants not interested in the vessel, to be then and there discharged.

XX. In all cases of wreck or loss of the ship, every seaman then on board shall be entitled to his wages up to the time of the wreck or loss, whether or not the ship has earned freight; provided he shall produce, from the master or chief surviving officer of the ship, a certificate that he did his best to save the ship, cargo and stores.

XXI. Every seaman shall be entitled to receive an increase of his wages for every day on which the allowance of provisions, which it was agreed he should receive, shall be reduced, at the rate of one anna daily, while the reduction is not more than one-third of the quantity, and two annas daily, while the reduction is more than one-third; and these pecuniary allowances shall be recoverable as his other wages are.

XXII. No assignment or sale of seamen's wages, salvage or prize money, made before the accruing thereof, nor any power of attorney expressed to be irrevocable, for the receipt of any seaman's wages, salvage or prize money, shall be valid or binding on the party making the same; and any attachment to be issued out of any court, shall not prevent the payment of any seaman's wages, salvage or prize money to him.

XXIII. Every such vessel shall have always on board a sufficient supply of medicines and appliances, suitable for diseases and accidents likely to happen on sea voyages, according to such scale as shall be from time to time issued by the Superintendent of the Indian Navy, with the approval of the Governor-general of India in Council, and published in the Government Gazettes at Calcutta, Madras and Bombay; and in default thereof, the owner of the vessel shall be liable to a penalty not exceeding 200 rupees, and five rupees for every day during which such default shall wilfully continue.

XXIV. Whenever the master, or any officer or seaman of any such vessel shall receive any hurt or injury in the service of the vessel, the expense of providing the necessary surgical and medical advice and attendance, with medicines, and for his subsistence, until he shall be cured or shall be brought back to the port from which he was shipped, or other port agreed upon, shall be defrayed, with the cost of his conveyance to such port, by the owner of the vessel, without any deduction on that account from the wages of such master, officer or seaman; and, if paid by himself,

himself, may be recovered as part of his wages; and, if paid or allowed out of any monies belonging to the East India Company, may be recovered with full costs of suit, as a debt due to the East India Company.

XXV. If any vessel on board of which there shall be any seaman who has received an advance under this Act, shall, before going on the voyage for which such advance shall have been paid, be destroyed or injured by fire or other cause, so as to prevent her going on her then intended voyage, or if such voyage shall be discomfited at the beginning, or before the advance has been worked out, the master, owner or agent of such vessel may demand from such seaman, unless he shall pay back the amount so advanced to him, service to the full amount of the advance received by him, on board of any other vessel; and such seaman, until he has worked out such advance, shall not be entitled, without the consent of such master, owner or agent, to take service in any vessel other than that on which he is so required to serve; and any such seaman who shall refuse to work out such advance on board such other vessel, on summary conviction of his refusal before any magistrate or justice of the peace, shall be liable to be imprisoned, with hard labour, for any term not exceeding six months.

XXVI. The Registrar of Seamen may grant, from time to time, to such persons as he may deem fit, a license to act as broker for procuring seamen for vessels shipping men under this Act, and also a license to the keeper of any lodging-house for seamen, enabling him to allow seamen to be engaged at his house, and also may revoke and annul such license on the misconduct of any such person; and every such license shall be granted for such term, upon such conditions and upon such security given as the said Registrar shall from time to time appoint.

XXVII. Every person not licensed as aforesaid, and not being the owner, part owner, master or person in charge of the vessel on board of which the men are to serve, who shall hire or engage a seaman to be entered on board any merchant ship, at any port of registry, and every person, whether licensed or not, other than the owner, part owner, master or person in charge of the merchant ship on board of which the men are to serve, who shall demand or obtain the register ticket of any seaman, for the purpose or under the pretence of engaging him on board of any merchant ship, and every person, whether or not licensed as aforesaid, who shall ask or take, directly or indirectly, from any seaman any fee, reward or other valuable consideration for hiring or engaging, or endeavouring to hire or engage him on board of any merchant ship, shall be liable to a penalty not exceeding 500 rupees.

XXVIII. Every licensed broker, who shall engage any seaman at any punch-house or tavern, not being a licensed lodging-house for seamen as aforesaid, or who shall be directly or indirectly interested in any punch-house or tavern not being a licensed lodging-house for seamen as aforesaid, shall forfeit his license.

XXIX. Every person who shall persuade or endeavour to persuade or hinder any seaman from complying with any of the provisions of this Act, or who shall counsel such seaman to desert, or who shall conceal, or aid in concealing or maintaining any seaman who has deserted, shall be liable to a penalty not exceeding 500 rupees.

XXX. If a seaman engaged under this Act shall at any time, whether before or during any voyage, neglect or refuse to join the vessel on board of which he shall have engaged to serve, or shall refuse to go to sea in such vessel, or shall absent himself therefrom without leave, or shall desert, any justice of the peace or magistrate in the territories under the government of the East India Company, at or near to the place where such vessel shall happen to be, or where such seaman shall be found, upon complaint made upon oath by the master, mate or owner, or his agent, may issue his warrant, and cause such seaman to be taken into custody and brought before him; and upon due proof of such neglect, refusal or absence without reasonable excuse, or of desertion, may commit such seaman to prison, or to the house of correction, there to be imprisoned, with or without hard labour, for a term not exceeding 30 days; or if he shall think fit, at the request of the master, mate or owner, or his agent, instead of committing such seaman, may cause him to be taken on board the said vessel, or to be delivered to the master, mate or owner, or his agent, for the purpose of being so taken and going on the voyage; and also may award to the master, or owner or his agent, such costs incurred

incurred in the apprehension of the seaman, as to such justice or magistrate shall seem reasonable, not exceeding in any case the sum of 20 rupees, which shall be chargeable against, and may be deducted from the wages of such seaman.

XXXI. Every seaman engaged under this Act, who during the term of his service shall wilfully and without leave absent himself from the vessel, or otherwise from his duty, shall (in all cases not of desertion, or not treated as such by the master) forfeit out of his wages the amount of two days' pay, and for every 24 hours of such absence, the amount of six days' pay, or, at the option of the master, the amount of such expenses as shall have been necessarily incurred in hiring a substitute; and every seaman who, while he shall belong to the vessel, shall, without sufficient cause, neglect or refuse to perform his duty reasonably required of him by the master or other person in command of the vessel, shall be subject to a like forfeiture, in respect of every such offence and of every 24 hours' continuance thereof; and every such seaman who, after the vessel's arrival at her port of delivery, and during the term of his service, shall leave the vessel without a discharge or leave from the master, shall forfeit one month's pay out of his wages: Provided always, that no such forfeiture shall be incurred, unless the fact of the seaman's absence, neglect or refusal shall be duly entered in the log-book, the truth of which entry the owner, master or agent, in all cases of dispute, shall be bound to substantiate, by the evidence of the mate or some other credible witness.

XXXII. Every seaman engaged under this Act who shall desert his vessel, shall forfeit to the owner all his clothes and effects which he may leave on board, and also all wages and emoluments to which he might otherwise be entitled: Provided always, that every desertion be entered in the log-book at the time, and certified by the signatures of the master and the mate, or the master and one credible witness.

XXXIII. If any seaman shall desert during the term for which he has engaged to serve, in any place beyond the port where he was engaged, and the master of the vessel shall engage a substitute at a higher rate of wages than that stipulated in the agreement to be paid to the seaman so deserting, the owner, agent or master of the vessel shall be entitled to recover from the deserter, by summary proceeding, in the same manner as penalties are by this Act made recoverable (so far as the same can be applied), any excess of wages or portion thereof which such owner, agent or master shall pay to such substitute, beyond the amount which would have been payable to the deserter if he had duly performed his service: Provided always, that no seaman shall be imprisoned longer than three calendar months for non-payment of any such excess of wages.

XXXIV. The absence of a seaman from his vessel for any time within 24 hours immediately before the sailing of a vessel from any port, whether before or during any voyage, wilfully or knowingly, without leave, or the wilful absence of a seaman from his vessel at or for any time without leave, and in such manner as to show an intention to abandon his vessel and not return thereto, shall be deemed desertion.

XXXV. Every person who shall wilfully harbour or conceal any seaman or apprentice who shall have deserted, knowing or having reason to believe such seaman or apprentice to be a deserter, shall for every such seaman or apprentice so harboured or concealed, be liable to a penalty not exceeding 100 rupees.

XXXVI. No debt exceeding in amount three rupees, incurred by any seaman after he shall have engaged to serve under this Act, shall be recoverable until the service agreed for shall be ended; nor shall any keeper of a public-house, or of a lodging-house for seamen, be entitled to detain any chest, tools or other property of any seaman for any debt alleged to have been contracted by him; and in case of such detention of the chest, tools or other property of a seaman, any justice of the peace or magistrate at or near the place, upon complaint upon oath to be made by such seamen, or by any person on his behalf, may inquire into the matter upon oath in a summary way, and, by warrant under his hand and seal, may cause such property to be seized and delivered over to such seaman, and the person so detaining the same shall be liable to a penalty not exceeding 100 rupees.

XXXVII. And

XXXVII. Any justice of the peace or magistrate within the territories subject to the East India Company, upon complaint made by any three or more of the crew of any such vessel, shall survey and examine, or cause to be surveyed and examined, the provisions, water and medicines put or supplied on board of the vessel for the use and consumption of the crew; and if on such survey and examination it shall be found that such provisions, water or medicines are of a bad quality, or unfit for use, or not such as should be provided, or there shall not appear to be a sufficient quantity thereof, the surveying officer shall signify the same in writing to the master of the vessel; and if such master shall not thereupon provide other fit provisions, water or medicines, instead of any which may be signified by the said surveying officer to be of a bad quality or unfit, or if any such master shall not thereupon procure the needful quantity of provisions, water and medicines, or shall issue to the crew any provisions, water or medicines which shall have been signified by the surveying officer to be of a bad quality or unfit, he shall in each of such cases be liable to a penalty not exceeding 500 rupees.

XXXVIII. A place of shelter shall be provided below a well-caulked and substantial deck for the men engaged under this Act, large enough to allow four superficial feet for every man; and if the place allotted be under the top-gallant fore-castle, such fore-castle deck shall be not less than four feet six inches above the one below it; and, in default thereof, every man who is unprovided with such adequate shelter shall be entitled to have an increase of his wages, at the rate of four annas daily, while he is so unprovided, which shall be recoverable as his other wages are.

XXXIX. All penalties directed by this Act may be imposed, on summary conviction, before a magistrate or justice of the peace, and may be recovered with costs as if they were imposed by a magistrate under Act II. 1839.

XL. All claims for wages or forfeitures due and incurred under the agreements entered into under this Act, may be heard and determined by any justice of the peace or magistrate, and the amount, with costs, awarded by such justice or magistrate, shall be recovered from the party against whom the award is made, in the same manner as fines levied under the provisions of Act II. 1839.

XLI. Every person having the charge or command of any vessel sailing under this Act shall be deemed to be the master of such vessel within the meaning of this Act, and every other person (apprentices excepted) who shall be employed or engaged to serve in any capacity on board, except as surgeon, shall be deemed to be a seaman, within the meaning of this Act; and the term "owner" shall be deemed to comprehend all the several persons, if more than one, to whom the vessel belongs; and the term "agent" shall be deemed to comprehend all the several persons, if more than one, who are agents of the "owner."

SCHEDULE (A.)

AN AGREEMENT made pursuant to an Act passed by the Governor-general of India in Council, and numbered No. XXVIII. of 1850, between the master of the ship _____ of the port of _____ and of the burden of _____ tons, and the several persons whose names are set hereto, on behalf of themselves and others shipped on board the said ship within the territories under the government of the East India Company.

It is agreed by and on the part of the said persons, and they severally hereby engage to serve on board the said ship, in the several capacities against their respective names expressed [or from the _____ day of _____ to the _____ day of _____ both inclusive] (where the intended voyage is to be described as nearly as can be done, and the places at which it is intended the ship shall touch, or, if that cannot be done, the nature of the voyage on which she is to be employed:) and the said crew further engage to conduct themselves in an orderly, faithful, honest, careful and sober manner, and to be at all times diligent to their respective duties and stations, and to be obedient to the lawful commands of the master, in everything relating to the said ship, and the materials, stores and cargo thereof, whether on board such ship, in boats or on shore, in consideration of which services, to be duly, honestly, carefully and faithfully performed, the said master doth hereby promise and agree to pay to the said crew, by way of compensation or wages, the amount against their names respectively expressed. And it is hereby agreed, that any embezzlement, or wilful or careless loss or destruction of any part of the ship's cargo or stores, shall be made good to the owner out of the wages (so far as they will go) of the seaman guilty of the same; and if any seaman shall have entered himself

No. and Date of Ship's Register.	Place and time of Entry.			
		Day.	Month.	Year.
	Men's Names set forth at full length.			
	Number of Register Ticket.			
	Name of the Ship in which the Seaman last served.			
	Age.			
	Town or Country where Born, or Place of Birth.			
	Caste or Profession.			
	Amount of Wages per Calendar Month, Share or Voyage.			
	Amount of Wages advanced at Time of Entry.			
	Amount of Monthly Allotment.			
	Quantity and Quality of Provisions per Day.			
	Signature.			
	Witness's Signature.			

SCHEDULE (B.)

I, _____ registered number _____ now serving
as _____ on board the vessel _____ at monthly wages of _____
_____ rupees hereby authorize and request the Registrar of Seamen at _____
to receive from the agents of the _____ one-third
of my monthly wages as they become due, after I shall have served the time for which I
have received advance, which time will expire on the _____ day of _____
next, and I hereby authorize the Registrar to pay the same to my _____
or the person holding this paper, taking his or their receipt, monthly, on the back hereof.

Passed by the Honourable the President of the Council of India in Council, on the 9th of August 1850, with the assent of the Most noble the Governor-General of India.

WHEREAS it is expedient to provide for the better protection of the salt Excise revenue, and to bring under control the right of opening or continuing salt-works, within the Presidency of Bombay; it is enacted as follows:

II. The said duty of Customs shall be levied in the same manner, and under the same rules and restrictions, and subject to the same penalties as is prescribed for the levy of duties of Customs on goods imported and exported by land by Act I. 1838.

IV. All salt passed, or attempted to be passed or removed contrary to the provisions of this or any other Act, and all vessels, carriages and animals used in

VIII. Sec. VII. Act XXVII. 1837, shall be applicable to any tracts of country where salt is found.

It will be observed, that there is a very remarkable discrepancy between the quantity of salt stated to have been exported from Bombay to Penang in 1843-44, and that acknowledged to have been imported into Penang from Bombay. The former is stated at 259 tons, the latter at 1,795 tons. It is not easy to account for the difference, excepting on the supposition, the vessels, possibly to evade the difference between one anna and a quarter anna duty at Bombay, may have carried into Penang salt not originally destined or cleared for that port.

Order.

Ordered, That a copy of the foregoing resolution be sent for information to the Home Department, whence the necessary communication will be made to the Government of Bombay, in reply to Mr. Secretary Townsend's letter, No. 3,263, dated the 9th July last, and that the original papers be returned to the Home Department, copies being retained for record in this office.

(A true extract.)

(signed) *J. A. Dorin*,
Secretary to Government of India.

No. 2,746.

From Under-Secretary to the Government of Bengal to the Sudder Board of Revenue.

Gentlemen,

Customs.

WITH reference to your letter, No. 470, dated the 7th December last, I am directed to transmit copy of one from the Secretary to the Government of India, in the Home Department, No. 718, of the 4th instant, sanctioning the levy of a duty of 15 per cent., calculated on a valuation at the rate of 14 rupees per ton, on all timber imported into Moulmein, whether the growth of the Tenasserim provinces, or of any foreign territory.

2. Your Board are requested to communicate a copy of Mr. Secretary Bushby's letter to the Commissioner of the Tenasserim provinces, for his information and guidance.

I have, &c.
(signed) *C. Beadon*,
Under-Sec. to Govt. of Bengal.

Fort William, 22 October 1845.

From the Under-Secretary to the Government of Bengal to the Board of Customs, Salt and Opium.

Gentlemen,

I AM directed to acknowledge the receipt of your letter, No. 2,538, dated the 11th instant, with enclosure, and in reply to state, that the Deputy-governor of Bengal approves of the proposal submitted by the Collector of Government Customs at Calcutta, for exempting hay from the payment of Customs duty.

I have, &c.
(signed) *C. Beadon*,
Under-Sec. to Govt. of Bengal.

Fort William, 24 December 1845.

NOTIFICATION.

Fort William, 25 March 1846.

Salt.

WITH reference to the notification of the 21st May last, published in the supplement to the Calcutta Gazette of that date, it is hereby declared, for general information, that no alteration will be made either in the duty now levied on imported salt, or in the prices demanded for salt sold by wholesale on account of Government, before the 1st April 1847, or until such further time as may be determined on.

By Order of the Honourable the Deputy-governor of Bengal.

(signed) *F. J. Halliday*,
Sec. to the Govt. of Bengal.

From *C. Beadon*, Esq., Under-Secretary to the Government of Bengal, to the Board of Customs, Salt and Opium.

Gentlemen,

I AM directed to acknowledge the receipt of your letter, No. 801, dated the 24th ultimo, with its enclosure; and, in reply, to state that the Deputy-governor of

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of Bengal is pleased to sanction, as a temporary measure, the exemption from payment of the Excise duty on rum used in the manufacture of molasses intended for exportation, and to approve of the arrangements which the Board propose to adopt for preventing loss to the abkarry revenue.

I have, &c.
(signed) *C. Beadon*,
Under-Sec. to the Govt. of Bengal.

Fort William, 6 May 1846.

From *C. Beadon*, Esq., Under-Secretary to the Government of Bengal, to the Board of Customs, Salt and Opium.

Gentlemen,

IN reply to your letter, No. 830, dated the 30th ultimo, and enclosures, I am directed to state that the Deputy-governor of Bengal is pleased to comply with the application from Messrs. J. Mackey & Co., for passing free of duty the guano imported per "Royal Albert," and to authorise your Board to comply with all such applications in future. Customs.

2. The original enclosures of your letter are herewith returned.

I have, &c.
(signed) *C. Beadon*,
Under-Sec. to the Govt. of Bengal.

Fort William, 13 May 1846.

No. 416.

Fort William; Home Department, Separate, Revenue, 13 June 1846.

RESOLUTION.

THE Honourable the President of the Council of India in Council is pleased to resolve, that so much of the Resolution of the Government of India, dated the 8th September 1841, as excepted the settlement of Prince of Wales' Island and Province Wellesley from the operation of the prohibition contained in the 1st section of the Act, No. VI. of 1841, and made it lawful to import therein foreign rum and rum-shrub, or rum and rum-shrub the produce of any British possession into which foreign rum and rum-shrub could by that order be legally imported, be cancelled, and the permission thereby given to import such rum and rum-shrub into Prince of Wales' Island and Province Wellesley is accordingly hereby rescinded.

Published by order of the Honourable the President of the Council of India in Council.

(signed) *G. A. Bushby*,
Secretary to the Govt. of India.

No. 496.

Fort William; Home Department, Separate, Revenue, 18 July 1846.

RESOLUTION.

THE Honourable the President of the Council of India in Council is pleased to resolve, that so much of the Resolution of the Government of India, dated the 8th September 1841, as excepted the settlement of the Tenasserim provinces from the operation of the prohibition contained in the 1st section of the Act No. VI. of 1841, and made it lawful to import therein foreign rum and rum-shrub, or rum and rum-shrub the produce of any British possession into which foreign rum and rum-shrub could by that order be legally imported, be cancelled, and the permission thereby given to import such rum and rum-shrub into the settlements of the Tenasserim provinces is accordingly hereby rescinded.

Fort William; Home Department, Separate, Revenue, 18 July 1846.

RESOLUTION.

THE Honourable the President of the Council of India in Council is pleased to resolve, that so much of the Resolution of the 28th December 1844, as excepted the Tenasserim provinces from the operation of the prohibition contained in section 3, of the Act 6 & 7 Will. 4, c. 26, and made it lawful to import therein foreign sugar, or sugar the growth of any British possession into which foreign sugar can be legally imported, be cancelled, and the permission thereby given to import such sugars into the settlements of the Tenasserim coast is accordingly hereby rescinded.

Published by order, &c.

(signed) *G. A. Bushby*,
Secy. to the Govt. of India.

No. 11.

From the Under-Secretary to the Government of Bengal to the Board of Customs, Salt and Opium.

Gentlemen,

Customs.

I AM directed to acknowledge the receipt of your letter, No. 2,460, dated the 31st ultimo, with its enclosure, and in reply to state, that under the circumstances therein reported, the Deputy-governor of Bengal authorises your Board to instruct the Collector of Government Customs at Calcutta, to exempt moulding sand from the payment of import duty.

2. The original enclosure of your letter is herewith returned.

Fort William,
13 January 1847.

I have, &c.
(signed) *C. Beadon*,
Under-Sec. to Govt. of Bengal.

No. 583.

ORDERS by the Honourable the Deputy-Governor of Bengal.

NOTIFICATION, 31 March 1847.

ON the 25th March 1846, it was notified in the Supplement to the "Calcutta Gazette" of that date, that no alteration would be made either in the duty levied on imported salt, or in the prices of salt sold by wholesale on account of Government, before the 1st April 1847.

The Deputy-governor of Bengal, with the concurrence of the Government of India, has now been pleased to determine, that on and after the 1st April 1847, the rate of duty to be charged on salt imported by sea into any part of the Presidency of Fort William in Bengal, shall be 2 rupees and 12 annas upon every maund of 3,200 tolaks. On and after the same date, the whole of the salt in store at the several public depôts will be available at the following wholesale prices, subject in other respects to the rules and conditions now in force :

Hidgellee - agency salt	-	-	-	Rs. 337 per 100 maunds.
Tumlook - ditto	-	-	-	353 "
24-Pergunnahs, ditto	-	-	-	372 "
Chittagong - ditto	-	-	-	356 "
Arrakan salt at Chittagong	-	-	-	355 "
Ditto - - Kenkra	-	-	-	357 "
Cuttaek agency salt at Sulkea	-	-	-	375 "
Balasore - ditto	-	-	-	362 "
Khoordah - ditto	-	-	-	373 "
Madras Kurkutch, ditto	-	-	-	331 "

The Government reserves to itself the power of reimposing the full amount of duty authorized by law, if circumstances should arise to render such a measure necessary; but no alteration whatever will be made, either in the duty now fixed on imported salt, or in the prices to be paid for salt sold by wholesale on account of Government, before the 1st April 1849.

Collectors

Collectors of the land revenue, and all officers of Government in fiscal charge of districts, are hereby directed to make known the substance of this notification as widely as possible.

The Board of Customs, Salt and Opium will issue the subsidiary instructions necessary for the guidance of their subordinates in the Salt and Customs Departments.

By order of the Honourable the Deputy-governor of Bengal.

(signed) *Fred. Jas. Halliday*,
Secy. to the Govt. of Bengal.

No. 320.

Fort William; Home Department, Separate, Revenue, 15 May 1847.

NOTIFICATION.

THE President in Council is pleased to resolve, with reference to the Schedule annexed to Act IX. of 1845, that when wines, liqueurs and spirits shall be imported by sea into any port of the Presidencies of Fort William in Bengal, Bombay or Fort St. George, in bottles, six of the common wine or beer quart bottles shall ordinarily be deemed equal to the imperial gallon, for the assessment of Customs duty; but in cases of doubt, the exact measurement of contents shall be ascertained, and the Customs duty adjusted accordingly.

(signed) *G. A. Bushby*,
Secy. to the Govt. of India.

NOTIFICATION by the Board of Customs, Salt and Opium.

NOTIFICATION.

Fort William, 30 June 1847.

IN modification of the rules for bonding salt, promulgated on the 28th September 1841, under the authority of the Board of Customs, Salt and Opium, it is hereby notified, that parties desirous of bonding imported salt in private warehouses, may apply to the Collector of Customs for a license in the form (C.), appended to Act No. XXV. of 1836.

If the Board are satisfied, on the Collector's report, that the warehouses mentioned in the application are well adapted for the secure custody of the salt, a license will be granted under section 19 of the above-mentioned Act, and salt may then be bonded therein, under the restrictions provided by the Act in respect of any other article of merchandize bonded in a private warehouse.

A portion of the Government golahs at Sulkea will be set apart from the 15th proximo, as a public warehouse for the reception of salt, on the same terms, at a fixed rent, and will continue to be available for that purpose until required by Government.

The rate of wastage allowed upon salt so warehoused, will be at the rate of 4 per cent. per annum upon the quantity weighed over the ship's side; but the import duty will be settled on the quantity so delivered, according to the provision of section XVIII. Act No. XXV. of 1836.

Warehouses licensed for the reception of salt under bond, will not be available for goods of any other description.

All expenses attending the receipt, storage, custody and delivery of salt at warehouses licensed as above, or in the Sulkea golahs, will be borne by the parties availing themselves of the privilege.

Parties who are unable to provide warehouses so constructed and situated as in the opinion of the Board effectually to provide for the secure custody of salt while under bond, will be allowed, as before, to warehouse their salt under the rules of the 28th September 1841, which otherwise remain in full force, except in so far as they are modified by this notification.

By order of the Board of Customs, Salt and Opium, the 30th June 1847.

(signed) *Cecil Beadon*,
Offic. Secretary.

From the Under-Secretary to the Government of Bengal, to the Board of Customs,
Salt and Opium.

Gentlemen,

Customs.

I AM directed to acknowledge the receipt of your letter, No. 1,888, dated the 13th instant, with enclosures, and in reply to state, that the Deputy-governor has been pleased to comply with the application from Captain Engledue, for exempting from the payment of Customs duty the patent fuel imported on account of the Peninsular and Oriental Steam Navigation Company.

2. His Honor approves of your Board's suggestion for allowing generally all patent fuel imported into Calcutta to be passed free of duty, and you are accordingly authorized to issue the necessary orders on the subject to the Collector of Government Customs.

I have, &c.

Fort William,
20 October 1847.

(signed) *A. R. Young*,
Under-Sec. to the Govt. of Bengal.

No. 830.

Fort William; Home Department, Separate, Revenue, 31 December 1847.

NOTIFICATION.

THE Governor-general in Council is pleased to resolve, that cotton wool be henceforth exempted from any demand on account of export duty throughout India.

The Governor-general in Council is further pleased to resolve that cotton wool, the produce of any part of the Continent of India, be henceforth exempted from any demand on account of import duty at the port of Madras, in like manner as this article is now exempt from import duty at the port of Bombay, under sec. II. of Act II. of 1846.

By order of the Right honourable the Governor-general of India in Council.

(signed) *G. A. Bushby*,
Sec. to the Govt. of India.

No. 907.

Fort William; Home Department, Separate, Revenue, 14 October 1848.

NOTIFICATION.

THE President of the Council of India in Council, with the concurrence of the Right honourable the Governor-general, is pleased to resolve, in modification of the rate prescribed in Schedule (A.), annexed to Act VI. of 1844, that from and after the date of publication of a notification to that effect in the Fort St. George Gazette, the duty chargeable on the import of tobacco by sea into any port of the Presidency of Fort St. George, shall be 5 per cent.* ad valorem.

(signed) *G. A. Bushby*,
Secretary to Government of India.

NOTIFICATION of the Board of Customs, Salt and Opium.

NOTIFICATION.

Fort William, 21 October 1848.

IN further modification of the rules in force for warehousing imported salt under bond, it is hereby notified, that in settling for the import duty on clearance of the salt, a deduction will be allowed on account of wastage, at a rate not exceeding 4 per cent., upon the quantity delivered over the ship's side: Provided, however, that if the Collector of Customs have reason to believe that any portion

of

* N. B.—Malabar and Canara are excepted in the notification of the Government of Fort St. George.

of the salt has been clandestinely or fraudulently removed, he will be at liberty to levy duty on the entire quantity so delivered.

The duty upon bonded salt will be levied at the rate in force at the time of clearance.

The Collector of Customs may, at his discretion, allow parties to whom salt stored in bond may be transferred, to enter into a new engagement for the payment of duty upon the entire quantity weighed over the ship's side; and upon execution thereof to cancel the bond of the first owner, importer or consignee, and release him from further responsibility.

By order of the Board of Customs, Salt and Opium, the 21st October 1848.

(signed) *Cecil Beadon*,
Officiating Secretary.

Fort William; Home Department, Separate, Revenue, 4 November 1848.

NOTIFICATION.

IT having been represented to the Government of India that sugar from Singapore and Malacca has hitherto, in contravention of the law, been imported into the Tenasserim provinces, and further, that the prevention of such importation would be likely to check the increasing rice cultivation and trade of the Tenasserim provinces, and without any present benefit to sugar growers in those provinces, the Honourable the President of the Council of India in Council has resolved to remove the existing prohibition against the importation into the Tenasserim provinces of foreign sugar, rum and rum-shrub, or sugar, rum and rum-shrub the produce of any British territory into which foreign sugar, rum and rum-shrub can be legally imported; and it is hereby declared, that the resolutions of the 18th July 1846, making such importation illegal, are rescinded accordingly.

By order of the President in Council.

(signed) *G. A. Bushby*.

NOTIFICATION.

31 March 1849.

ON the 31st March 1847, it was notified in the Calcutta Gazette of that date, that no alteration would be made, either in the duty levied on imported salt, or in the prices of salt sold by wholesale on account of Government, before the 1st April 1849.

The Deputy-governor of Bengal, with the concurrence of the Government of India, has now been pleased to determine, that on and after the 1st April 1849, the rate of duty to be charged on salt imported by sea into any part of the Presidency of Fort William in Bengal, shall be 2 rupees and 8 annas upon every maund of 3,200 tolahs.

On and after the same date, the whole of the salt in store at the several public depôts will be available at the following wholesale prices, subject in other respects to the rules and conditions now in force, the price in each instance being equal to the fixed duty above-mentioned, added to the cost of production:—

Hidgellée salt, at the Agency depôts -	Rs. 310 per 100 maunds.
Ditto - at Sulkea -	323 "
Tumlook salt - - - -	322 "
24 Pergunnahs salt, at Baugundee -	347 "
Ditto - - - at Sulkea -	354 "
Chittagong salt - - - -	329 "
Arrakan salt, at Kyack Ghyas -	302 "
Ditto - at Chittagong -	330 "
Cuttack salt, at Sulkea -	343 "
Balasore salt, at Sulkea -	328 "
Khurda and Chilka salt, at Sulkea -	341 "
Madras salt, at Sulkea -	306 "

The Government reserves to itself the power of reimposing the full amount of duty authorized by law, if circumstances should arise to render such a measure necessary.

Customs.

necessary. There will be no alteration, however, in the duty now fixed on all salt, whether imported on private account or sold by wholesale on account of Government, before the 1st April 1854; but the price of salt sold on account of Government, so far as it depends upon the cost of production as calculated upon an average of three years, will be subject to annual adjustment.

Collectors of the land revenue, and all officers of Government in fiscal charge of districts, are hereby directed to make known the substance of this notification as widely as possible.

The Board of Customs, Salt and Opium, will issue the necessary subsidiary instructions for the guidance of their subordinates in the Salt and Customs Departments.

By order of the Honourable the Deputy-governor of Bengal.

(signed) *J. P. Grant,*
Sec. to the Government of Bengal.

No. 422.

Fort William; Home Department, Separate, Revenue, 21 June 1850.

NOTIFICATION.

THE President in Council is pleased to resolve, that sugar and rum be henceforth exempted from any demand on account of export duty throughout India.

By order, &c.

(signed) *F. J. Halliday,*
Secretary to the Government of India.

No. 3.

From *W. Seton Karr*, Esq., Under-Secretary to the Government of Bengal, to the Officiating Secretary to the Board of Customs.

Sir,

Customs.

WITH reference to your letter, No. 1,352, dated the 28th ultimo, with enclosure, I am directed by the Deputy-governor of Bengal to inform you, that on the recommendation of the Board, his Honor has been pleased to allow articles, the private property of parties residing in this country, which are sent to Europe for the purpose of being repaired, to pass inwards free of duty through the Custom-house on their re-importation.

I have, &c.

Fort William,
6 September 1850.

(signed) *W. Seton Karr,*
Under-Secretary to the Govt. of Bengal.

No. 242 a.

NOTIFICATION.

Separate, Revenue Department, North Western Provinces, 17 June 1847.

UNDER authority granted by the Right honourable the Governor-general of India, the Honourable the Lieutenant-governor of the North Western Provinces notifies, that from July next the special duty leviable under section II. Act XIV. of 1843, upon salt passing from the North Western Provinces eastward of Allahabad, shall be reduced to 12 annas per maund.

By order of the Honourable the Lieutenant-governor of the North Western Provinces.

(signed) *J. Thornton,*
Sec. to Govt. N. W. P.

RESOLUTION

RESOLUTION of the Government of Fort St. George, 3 February 1846.

IN concurrence with the opinion expressed by the Board of Revenue in the foregoing * letter, and agreeably to their suggestion, the Most noble the Governor in Council resolves, under the authority vested in him by section XVII., Act VI. of 1844, to permit the transshipment of Bombay salt in the ports of Malabar in vessels bound for Calcutta, free of all duty.

* No. 3, dated
19 January 1846.

RESOLUTION of the Government of Fort St. George, 7 March 1848.

BOTH the above papers † refer to the question whether the order of the Supreme Government of the 31st December 1847, which exempted cotton wool from export duty throughout India, extended to exportation by land from the Company's territories, as well as sea.

† Extracts from
Proceedings of
Board of Revenue,
17 and 28 Feb.
1848.

2. The Honourable the Governor in Council observes, that the order in question is universal in its terms, and he sees no reason for restricting its operation to maritime export.

3. Ordered, that copy of the foregoing order be transmitted to the Board of Revenue, for communication to the Collectors of South Arcot and Gunttoor; and as the order which has caused these references may perhaps be liable to misconstruction or doubts in other quarters also, the Board will be pleased to circulate the present orders to all those Collectors whose districts adjoin a foreign territory.

Fort St. George, 6 March 1848.

From *J. D. Bourdillon*, Esq., Officiating Secretary to Government, to
G. A. Bushby, Esq., Secretary to the Government of India.

Sir,

I AM directed to forward to you an extract of a letter from the Collector of Sea Customs at Madras, having reference to the construction and operation of Act VI. of 1848.

2. By sections VI. and VII., Act VI. of 1844, goods passing by land into or out of the limits of this Presidency, from or into the limits of any foreign European settlement in India, or any Native State placed on the same footing, pay the duty prescribed in the Schedules of that Act for goods imported or exported on a foreign bottom at any port in this Presidency. By section XVI. of the same Act, goods imported by sea into any port of this Presidency from any such settlement or Native State as above described, are liable to the same duty. Thus, in the case of such foreign territories in India, the ordinary differential duty is placed on the port of shipment instead of on the bottom, and the same principle is applied to the frontier duties.

3. It seems probable, that in passing Act VI. of 1848, it was the intention of the Indian Legislature to remove not only the existing unequal imposts on that part of the general trade of the British Indian territories which is borne on foreign bottom, but also those which press on the whole trade both by sea and land, between our own possessions and Native and European foreign territories in India, and which would bear with additional severity now that the internal trade of the British possessions, both by sea and land, is relieved from all fiscal burdens. The terms of the Act, however, do not touch this branch of the trade of our possessions. By the operations of section I., in connexion with section XVI., Act VI. of 1844, goods brought by sea from a foreign port in India, are still liable to the double rates of duty, that rate being payable on goods coming from such ports even when carried on British bottom. The case is the same with goods passing over Land Custom frontier chowkies, which still remain liable to the double duty imposed by sections VI. and VII., Act VI. of 1844.

4. Conjecturing that it may have been the intention of the Right honourable the Governor-general in Council to extend the benefit of the present enactment to all the foreign trade of the British Indian possessions, whether by sea or land, and that it is only from inadvertence that its terms have a less extensive operation, the Honourable the Governor in Council has resolved to transmit the foregoing

going remarks on the actual effect of the new law in this particular, with a view to being favoured with his Lordship's sentiments on the subject, if necessary to the passing of a supplementary enactment.

Fort St. George,
30 March 1848.

(signed) *J. D. Bourdillon*,
Offg. Sec. to Govt.

From *G. A. Bushby*, Esq., Secretary to the Government of India, to *J. D. Bourdillon*, Esq., Officiating Secretary to the Government of Fort St. George.

Sir,

I AM directed to acknowledge the receipt of your letter, No. 341, dated the 30th ultimo, and its enclosure, requesting the sentiments of the Government of India, and, if necessary, recommending a supplementary enactment for the purpose of laying down the construction of Act VI. of 1848, in reference to the provisions of sections VI., VII. and XVI. of Act VI. of 1844.

2. In reply, I am directed to observe, that the Honourable the Governor in Council, and the Collector of Sea Customs at Madras, have correctly interpreted the intention of the Legislature in passing Act VI. of 1848, and that the Customs officers under the Presidency of Fort St. George, will act rightly if they are guided by the spirit of that enactment in dealing with goods passing by land into or out of Foreign European settlements and Native States declared to be foreign territory, as well as with goods imported by sea into any port of the Madras Presidency from such settlements and states.

3. The Governor-general in Council does not consider any further legislation in this matter necessary; should, however, any practical inconvenience be experienced, his Lordship in Council will be prepared to resume the consideration of the subject.

Fort William,
15 April 1848.

(signed) *G. A. Bushby*,
Sec. to the Govt. of India.

NOTIFICATION.

Fort St. George, 14 November 1848.

WITH reference to the Resolution of the Government of India published in the Fort St. George Gazette of the 3d and 7th instant, the Right honourable the Governor in Council is pleased to notify for general information, that duty chargeable on tobacco imported by sea into the ports of the Madras Presidency, excepting the ports of the districts of Malabar and Canara, where the import of the article is prohibited by Section III., Regulation VII. of 1811, will be henceforward 5 per cent. ad valorem.

By order of the Right honourable the Governor in Council.

(signed) *H. C. Montgomery*,
Secretary to Govt.

No. 782.

From *F. J. Halliday*, Esq., Secretary to the Government of India, to Sir *H. C. Montgomery*, Bart., Secretary to the Government of Fort St. George.

Sir,

I AM directed to acknowledge the receipt of your letter, No. 977, dated the 11th ultimo, with its enclosures, and to state, that in compliance with the recommendation of the Government of Fort St. George, the President in Council is pleased to authorise a reduction in the duty levied under the provisions of Act VI.

of

of 1844, on salt imported into the district of Canara from Goa by land, from 3 rupees to 12 annas per maund of 3,200 tolas weight.

(signed) *F. J. Halliday*,
Fort William,
16 November 1849.
Secy to the Govt of India.

Resolved, That the foregoing letter and previous correspondence, as noted in the margin, be forwarded to the Board of Revenue, with reference to their secretary's letter, dated 11th June 1849, No. 241, in view to the necessary communication being made to the Collector of Canara.

(signed) *W. H. Bayley*,
Fort St. George,
10 December 1849.
Secy to Govt.

NOTIFICATION.

THE government of India having been pleased to permit the free export of salt shipped from the port of Bombay for ports, whether British or foreign, not on the Continent of India or in the Island of Ceylon, notice is hereby given, that parties desirous of availing themselves of this privilege, will be required to enter into a security bond for the amount of duty leviable on the salt so exported under Government notification of the 14th September 1844, which bond will be cancelled on the production, within six months from its date, of a certificate of the salt having been imported at the port of its destination, signed by the Collector of Customs or other similar officer at that port, and on failure of this the bond will be enforced.

(signed) *H. H. Glass*,
Bombay, Collector of Customs Office,
2 December 1846.
Collector of Customs.

No. 209, of 1847.

From Mr. Chief Secretary *Pringle*, to the Acting Revenue Commissioner, N.D.

Sir,

I AM directed by the Honourable the Governor in Council to acknowledge the receipt of your letter, No. 1,722, dated the 24th October last, with accompaniment from the Collector of Continental Customs and Excise, and to authorize the exemption from duty of plants of the betel and cocoa-nut, and other trees intended for plantation.

2. The Governor in Council does not consider that it would be expedient to extend the exemption to green grass.

I have, &c.
(signed) *R. K. Pringle*,
Bombay Castle, 18 January 1847.
Secretary to Government.

From *G. A. Bushby*, Esq., Secretary to the Government of India, to *R. K. Pringle*, Esq., Chief Secretary to the Government of Bombay.

Sir,

I AM directed to acknowledge the receipt of your letter, No. 1,271, dated the 1st instant, and its enclosures, on the subject of the heavy Customs duty to which the importation of Cashmere shawls *via* Sind is liable.

2. The President in Council, in compliance with the recommendation of the Honourable the Governor in Council, is pleased to authorize the extension to the ports in Sind of the concession made to the ports of the Madras Presidency, under the notification published by the Government of Bombay on the 3d December 1845, and sanctions the free admission into Bombay of goods coming by the

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the way of Sindh, and exported from Kurrachee or other seaports in that province.

Fort William, 15 May 1847.

I have, &c.
(signed) *G. A. Bushby*,
Sec. to the Govt. of India.

No. 753, of 1848.

From Mr. Secretary *Goldsmid*, to the Collector of Land Revenue, Bombay.

Sir,

I HAVE been directed to forward you a copy of a letter, dated 23d December 1847, from Mr. Bates, and to inform you, with reference to the letter I addressed you on the 20th December last, No. 5,311, that his Honor in Council has determined that salt shall be exempted from duty when required for the purposes of art or manufacture, with the proviso that you can make arrangements for preventing the possibility of its being used for any other purpose.

2. As regards Mr. Bates' case in particular, I have informed Government that I have learnt from that gentleman that he is prepared to mix some substance with the salt, which will render it unfit for food, before it is removed from the charge of the officers of your department.

I have, &c.
(signed) *H. E. Goldsmid*,
Secretary to Government.

Bombay Castle, 4 February 1848.

PROCLAMATION by his Excellency Sir *C. J. Napier*, G.C.B., Governor of Sindh;
dated Kurrachee, 1 September 1845.

UNDER instructions from the Supreme Government of India, his Excellency is pleased to notify that the cultivation of the poppy and manufacture of opium is prohibited in British Sindh; and individuals will cease to grow it accordingly.

In future the importation of opium into Sindh will be as follows: persons wishing to import Malwa opium will provide themselves with a pass from the opium agent in Malwa, and any opium detected without such pass will be confiscated; and persons by whose information opium shall be so seized, shall be rewarded at the discretion of his Excellency with a sum not exceeding half the value of the opium seized.

(True copies.)

(signed) *T. L. Peacock*,
Examiner of India Correspondence.

East India House, 5 August 1851.

COPIES of REPORTS, numbered respectively V., VI. and XI., of the Commissioners appointed by Lord *William Bentinck*, to inquire into the System of INDIAN CUSTOMS and POST-OFFICE DUTIES; together with a Selection of Documents from the respective Appendices to the same, in Cases where the material Points thereof do not appear in the said Reports.

REPORT V.

SUMMARY of CONTENTS of REPORT No. V.

- Para. 1. Considers uniformity of Sea Customs expedient, and knows no local obstacle to application of Bengal Tariff to the other Presidencies.
- " 4. Contrasts financial results of existing Sea Customs, Madras Presidency, with those expected from application of revised Bengal Tariff.
- " 5. Ditto - - - Ditto - - - Bombay Presidency.
- " 6. States total loss in the Sea Customs only, from adopting revised system at both Presidencies.
- " 7. Recommends abolition of Inland Customs, Madras, and contrasts financial results of existing general Customs system with proposed Customs system.
- " 9. Ditto - - - Ditto - - - Bombay, and reports the entire loss from such measures at both Presidencies.
- " 11. Frontier Duties, European Settlements, Madras.
- " 12. Frontier Duties, European Settlements, Bombay.
- " 14. Frontiers of Foreign Native States inland, how proposed to be treated.
- " 15. Ditto - - - Ditto - - - on the Sea Coast.
- " 16. Expediency of abolishing Inland Customs in the Mysore Province.
- " 17. General observations on abolition of Inland Duties; highly inexpedient that any difference of Customs system should exist in the different Presidencies.
- " 20. Opium, Madras and Bombay.

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Customs and Post-Office Committee, Calcutta,
29 June 1856.

(signed) *T. J. Taylor*,
Secretary.

REPORT V.

From the Committee for Revising the Customs Laws and Post-office Regulations in India, to *H. T. Prinsep*, Esq., Secretary to Government of India, General Department.

Sir,

1. We had the honour of replying on the 19th ultimo to para. 5, of Mr. Secretary Prinsep's letter of 27 April, desiring that we would suggest any improvement which it occurred to us might be made in the draft of the Act and the Tariff published in the Calcutta Gazette of that date. With reference to the requisition contained in the preceding paragraphs of the same letter, we have now the honour to report on the applicability of the amended Act and Tariff, as published in the Calcutta Gazette of the 1st instant, to the sea trade of the Presidencies of Madras and Bombay, and on the practicability of abolishing the inland and town duties levied under those Presidencies.

2. We are not aware of any local circumstances rendering the rates of duty of the Bengal Tariff, and the general provisions of the Act, inapplicable to the sea trade of the Presidencies of Madras and Bombay. The objections we expressed in our letter of the 19th ultimo to certain parts of that Act, as regards its operation in Bengal, objections equally applicable to it as regards its operation in the other Presidencies, not having effected any change in the measures of Government, we will not repeat them, but considering them to be overruled by the Tariff having passed into a law, we cannot, with reference to the first para. of our general instructions from Government of the 1st of April 1835, and the last para. of the Minute of the late Governor-general, Lord William Bentinck of the 15th July 1834, to which we were referred by those instructions as the origin of the present Committee, do otherwise than recommend its immediate adoption in the Presidencies of Bombay and Madras. Laws, regulating the rates of duty on sea-borne trade, affect so many and such distant interests, and the parties concerned are often so ill informed regarding them, that uniformity of rule appears to be particularly desirable. The inconvenience arising from want of uniformity in the rates of duty at the different ports of British India, have for years past been a constant subject of complaint. Besides the annoyance it occasions to the public, it creates much labour which might otherwise be spared to the Custom-house officers. No fiscal advantage that is likely to be obtained, will, in our opinion, at all compensate for the great inconveniences that arise from regulating the commerce of one undivided empire by a variety of local and partial laws. We need not advert to the injustice of persevering in a system of unequal taxation. The evils of such a system are too well known, and have been too extensively felt in this country to be insisted on here, and the claims which the several Presidencies possess to be viewed as one united empire, of which all the component parts are entitled to the same paternal care, and the same impartial and equal consideration from Government, are so fully admitted in the minute of the late Governor-general to which we have already made reference, as to render further advertence to that part of the question at present unnecessary.

3. The annexed figured Statement No. I. exhibits, as correctly as we are able to estimate them, the financial results of the change, supposing the value of the trade to remain unaltered.

4. The gross Sea Custom revenue of the Madras Presidency, as appears by the Statement No. II., amounted on an average of six years ending 1834-35, to 10,69,172 rupees, to which must be added about 25,000 rupees, the proportion of stamps on rowannahs, making a total of 10,94,172 rupees. The new rates of duty applied to the sea trade for five years ending 1834-35 would have yielded, as appears by Appendix (B.) (paras. 2 to 11) a gross revenue of *9,27,474 rupees; from these items must be severally deducted drawbacks. Under the existing system, such payments would have been 94,606 rupees; under the proposed system, they would be (*vide* Statement (D.) in Appendix (B.) 50,403 rupees. Under either system the charges of collection would remain the same, 1,65,615 rupees. The present net Sea Customs revenue may therefore be stated at 8,33,951 rupees; under the revised system it will be 7,11,456 rupees, thus showing a difference of 1,22,495 rupees in favour of the existing system of Sea Customs in the Madras Presidency.

5. The

5. The gross Sea Customs revenue of the Bombay Presidency, as appears by Statement No. III., amounted on an average of the same period to 23,43,603 rupees. The new rate of duty applied to the trade for three years would have yielded, as shown by Appendix (D.) paras. 2 to 8, a gross revenue of 18,72,509 rupees; from these items must be severally deducted drawbacks. Under the existing system, such payments would have been 1,40,627 rupees; under the proposed system, they would be (*vide* Statement (D.) Appendix (D.) 5,90,774 rupees; under either system the charges of collection would remain the same, 2,73,060 rupees. The present net Sea Customs revenue may therefore be stated at 19,29,816 rupees; under the revised system it will be 10,08,775 rupees, thus showing a difference of 9,21,041 in favour of existing system in the Bombay Presidency.

6. The total loss, therefore, by the new Bengal Tariff in the Sea Customs of the other Presidencies will be as follows:

At Madras -	-	-	-	-	-	Rs. 1,22,495
At Bombay	-	-	-	-	-	9,21,041

thus making a total loss of - - - - - Rs. 10,43,536 in the Sea Customs department, over and above the entire loss of the Land Customs and town duties.

7. With regard to the practicability of abolishing the inland and town duties of Madras and Bombay, as it altogether depends on the amount of revenue which Government are able to forego, a point on which we are not informed, we do not consider ourselves competent to offer an opinion. Our sentiments regarding these duties were fully explained in our Report of 27th January last. We have nothing further to add to what we then advanced. Both Presidencies, that of Madras in particular, stand in immeasurably greater need of relief than did the Presidency of Bengal at the time of the abolition there of the inland and town duties. The inland duties of the Madras Presidency bearing directly on the whole body of the people in the form of an oppressive excise on the common necessities of life, are incalculably more onerous than were those of Bengal and Agra; and, owing to the nature of the system under which they are collected, a system which the local circumstances of the country render necessary in order to make them productive at all, not only are all legal dues brought into the Treasury, but, as we intimated in our former Report, nearly an equal amount of illegal exactions. The effects produced by the numerous changes that have been made in the Customs laws of the Madras Presidency during the last 30 years, all of which were introduced with the object of removing notorious abuses, quite as much as of raising revenue, and all of which, in that respect at least, signally failed, and the strongly expressed opinions of the local officers lead to one conclusion, that no real reform of the present system is practicable, unless connected with so great a loss of revenue as will render the duties no longer worth retaining. Despairing, therefore, of amending them, we do not hesitate to recommend their total abolition. We need not remark that the sea trade of Madras is much less able than is that of Bengal to yield an equivalent, and that the loss of revenue incident to their abolition will necessarily be considerable.

8. It appears, from Statement No. IV., that the average gross revenue, including stamps on rowannahs, derived from the Sea and Land Customs of the Madras Presidencies, for the six years ending 1834-35, amounts to 53,35,754 rupees, and the net revenue to 43,98,696 rupees. The Bengal rates of duty applied to the sea and foreign European frontier trade of the same period, show a gross revenue of 10,21,474 rupees, and a net revenue of 7,91,456 rupees. The abolition, therefore, of the inland and town duties, and the application of the Bengal rates to the sea trade and trade crossing the foreign European frontiers, would, all other circumstances remaining the same, occasion a loss of net revenue to the amount of 36,07,242 rupees. The deduction which should be made from this loss, on the score of the improvement in the land revenue, the duties on foreign trade, the salt monopoly, the abkaree and other sources of revenue, certain to attend the removal of so great a burden, we have not the means of estimating, but there can be no doubt of its being very considerable.

9. In Bombay there is less objection, as regards revenue, to the abolition of the inland duties than in Madras. They are comparatively much less productive; 666.

Sea Customs,
Bombay.

Abolition of Inland
Customs, Madras.

Abolition of Inland
Customs, Bombay.

Sea Customs,
Madras.

General Imports - 3,81,176
General Exports - 4,23,095
Carrying Export }
Trade - - - } 1,23,203

9,27,474

and there appears reason for anticipating that a substitute for them, almost amounting to an equivalent, will be speedily found in the rapid improvement of the land* and other taxes, and the changes contemplated in the salt duties. It appears from the Statement No. III., that the average gross revenue derived from the Sea and Land Customs of the Bombay Presidency for the same period, amounts to 43,70,269 rupees, and the net revenue to 33,61,997 rupees. The Bengal rates of duty, applied to the sea and foreign European frontier trade of the same period, show a gross revenue of 19,12,509 rupees, and a net revenue of 10,41,675 rupees. The abolition, therefore, of the inland and town duties, and the application of the Bengal rates to the sea trade, and trade crossing the foreign European frontiers, would, all other circumstances remaining the same, occasion a loss of net revenue to the amount of 23,20,322 rupees, showing an aggregate apparent loss on the two Presidencies of 59,27,564 rupees.

Madras 36,07,242
Bombay 23,20,322

59,27,564

10. For the details of the financial results of adopting the new Bengal sea tariff in Madras and Bombay, in supercession of the existing systems of Sea and Land Customs in those Presidencies respectively, we beg leave to refer to the Notes and Statements, marked as Appendixes (B.), (C.) and (D.), which have been prepared by our secretary.

Frontier Duties,
European Settlements, Madras.

11. Under the Presidency of Madras, goods passing the frontiers of foreign European settlements are charged, as in Bengal, with the highest rates of duty levied on foreign trade by sea. The principle may be maintained, and the rates of frontier duty assimilated to the new ones on foreign trade by sea. The collections on the foreign European frontiers in that Presidency, as shown in Statement V., amount on an average of five years to 1,03,217 rupees, the charge of collection to 17,460 rupees, leaving a net revenue of 85,757 rupees. As we have no separate return of the trade crossing the frontiers, but only of the duties collected there, we have been unable to estimate precisely the effect on the revenue of applying to it the new rates, and have therefore assumed it at its present amount. The necessity for strengthening the frontier lines, should the chokies in the interior be abolished, the circumstance of the new rates being generally lower than the existing ones, and the improbability of any revenue being derived from these articles, which, at present free, would by the new tariff become liable to duty, would lead to the inference that the change will not be favourable to the frontier revenue. On the other hand, that portion of the Customs duty which is now collected in the interior on goods subsequently passing the foreign European frontiers, and for which credit is given at the frontier chokies, would swell the collections at those chokies on the abolition of the inland ones. It is also to be presumed, that the relief afforded to the country at large by the abolition of the inland duties, would soon show itself in an increased commerce across the foreign European frontiers.

Frontier Duties,
European Settlements, Bombay.

12. The rate of duty collected on the frontiers of foreign European settlements within the territories of Bombay, is the same as the rate imposed in the trade of the nearest British port. As under the Bombay Customs Laws, no distinction of bottom is made at the ports on the mainland, the rate of duty on the frontiers of foreign European settlements is much lower than in the other Presidencies.

13. Our information on this point is imperfect, from the want of returns of the collections on the frontier around Damaun. The collections on the Goa frontier (*vide* Statement V.), amounted in 1834-35 to 32,755 rupees; and estimating those from Damaun at, say 7,000 rupees, we may take the present amount of frontier duty in those quarters at 40,000 rupees; but as the largest portion of these collections arises from salt, and the new duty of $3\frac{1}{4}$ rupees per maund, the present tax being only six annas a maund, may probably operate as a prohibition to the import of that article, the future collections may be expected to fall considerably short of the present revenue. This, however, will be compensated by increased production of salt in our own districts.

Frontiers of
Foreign Native
States, inland.

14. Our attention has been particularly directed to the expediency of levying Customs duties on the frontiers of foreign Native states. The wide extent of these frontiers, their open character affording no facilities for the establishment of

of a preventive line, and above all the insignificant amount of the trade crossing them, *i. e.* insignificant with reference to the cost of collecting a frontier duty, render it impossible to maintain effective lines on the frontiers of Mysore and the Nizam's territories, which would anything like pay their expenses. We have referred to this subject before in our Report on the Inland Customs of the Madras territories, when we quoted the opinion of the late Sir Thomas Munro, an opinion to which his local and practical knowledge gives the greater weight.

15. We would therefore recommend that goods should be allowed to pass free across the frontier of every inland native state. But the Province of Travancore, and the territories of the Hubshee and Angria in the Northern Concan, being situated on the sea-coast, it would, we conceive, be expedient to put them on the same footing as that of foreign European settlements, in order to prevent their interfering with the trade of the neighbouring British ports by establishing lower duties. The frontiers of the Travancore country afford great natural advantages for the establishment of a preventive line; and the charge of inclosing the other two settlements with chokies is trifling with reference to the object in view. With regard to the ports of Bhowmugur and Cambay, we beg to refer to the measures recommended in our secretary's letter to your address, under date 4th July 1835, to which we have as yet received no reply.

Frontiers of
Foreign Native
States on the Sea-
Coast.

16. We take this opportunity of remarking, that the abolition of the inland duties of the Madras territories will, as regards the commerce of the country, remain an imperfect measure, unless the inland duties are also abolished in Mysore. The central situation of the country, and its wide extent north and south, with the great lines of communication between the British possessions on the eastern and western coast passing through it, renders it particularly desirable, as regards the commerce of the Madras territories, that the duties there should be abolished. The commerce of the Madras territories, either with Mysore or passing through, would derive little benefit from the abolition of the Madras inland duties, if the tax abolished in the one country were added to that levied in the other; as it is, the universal practice of Customs officers and renters to regulate their exactions by the ability of the trade to bear them, there is every reason to apprehend that as regards the trade carried on with or through Mysore, the only effect under existing circumstances of abolishing the inland duties in the British territories would be, that the burden taken off in one country would be laid on in the other; while renters and Customs officers continue what they are, such a result could not be prevented by the British authorities in Mysore.

Abolition of
Transit duties,
Mysore.

17. We think it right to draw particular attention to the fact, that in framing our estimate of the financial result which may be expected from the application to Bombay and Madras of the new Customs system now in operation in the Bengal presidency, we have been careful to exclude every doubtful source of revenue, and in all cases in which our data have been incomplete and our information has been wanting in minuteness, we have made our calculations incline to the side least favourable to the state. We have taken no account of the probability of an increased trade consequent on improved facilities for commercial intercourse, a material reduction in the export duties, and relief from a most burthensome internal taxation; yet it is impossible to doubt, that the liberation of the entire country from a system of inland administration, the inevitable effect of which, even in its mildest form, is to restrain the freedom of interchange, and to depress the productive powers of industry and commerce, must give an impulse to improvement, and must better the condition of the people in a manner which can scarcely fail to act beneficially on the public finances in a variety of ways, such as enlargement of external trade, increased facility in the realization of the land revenue, and augmentation of the abkaree collections. It would indeed be difficult to over-estimate the advantage likely to result within the Madras territory from the subversion of a system so opposed to the comfort and prosperity of the people as that which now prevails there; our object however has been not to speculate on prospective gains, nor to keep out of view the immediate financial effect of the change under consideration, but rather to place before Government such an exposition as will show the extreme loss which could arise under the most unfavourable view of the subject. We have no apprehension that Government will overlook the certain though not instantaneous benefit which the revenue must experience from the establishment of a system which gives free scope for the application of capital and enterprise to commercial undertakings, in place of one abounding

General Observations.

* *Vide* Extract of letter from Revenue Commissioner, Bombay, and others appended, *vide* Appendix (A.)

in restrictions and discouragements, and which relieves the people from a species of taxation which admits of no effectual security against the grossest extortion and oppression, and of which the payment of the authorized dues is the least burthen-some part, imposing in lieu a moderate and well-regulated impost on external trade. Government are of course far better qualified than we can be to estimate the amount of benefit which may be anticipated from such a change of system, and they alone are able to determine what sacrifice can be made, or what portion of the revenue can be risked, for the attainment of that benefit.

18. We think it our duty, however, respectfully and earnestly to advise, that no separate scale of duties be framed for application to Madras or Bombay, in order to reduce the probable loss of revenue at those Presidencies, from a change of system, to the proportion which has been estimated as the loss in Bengal. The advantage of establishing uniformity in the Customs laws and rates throughout the empire, and the expediency of identifying the interests of the different parts of the country by breaking down the barriers which divide the Presidencies into distinct states, and by effacing all distinctions from the commercial administration, appear to us to be of such incalculable importance, that we think almost all other considerations should, in the determination of this question, give place to them; although therefore we should be very reluctant to suggest any general increase in the scale of duties which has been adopted in regard to the Bengal Presidency, considering that the interests both of trade, and ultimately of the revenue, will thrive best under low duties, still if Government should resolve that the immediate sacrifice which the statements now submitted exhibit, as the anticipated result of applying the existing Bengal scale to Madras and Bombay, cannot in the present condition of the Indian finances be risked, we should consider some advance in the rate of duties established by Act XIV. of 1836, such as might be estimated on the application of the revised scale to all India, to produce an aggregate Customs revenue adequate to the expectations of Government, a lesser evil by far than the application of different principles and rates to the several Presidencies, and consequently the maintenance of distinctions not only most inconvenient, but, as we believe, highly injurious to the commercial prosperity of the empire.

19. The provisions of the Act which relate to the administration of the new system are, we think, generally applicable to the Presidencies of Madras and Bombay; some trifling additions or modifications may perhaps be necessary with reference to local circumstances, but they will not affect the principles adopted.

20. We conclude that in the event of Government deeming it expedient to apply the new Act to the Presidencies of Madras and Bombay, the regulations now in force at those Presidencies for the protection of the opium revenue will be maintained. The second note at the foot of Schedule (A.) appears to provide for the continuance of the special rules respecting opium now in force, and in expressing our opinion that the new Customs Act is applicable to Madras and Bombay, we do not of course contemplate the classification of opium in Schedule (B.) amongst the articles subjected to an export duty of 3 or 6 per cent. only.

We have, &c.
(signed) *J. H. Crawford.*
W. R. Young.
H. Borradaile.
H. Babington.
C. E. Trevelyan.

Customs and Post-Office Committee,
Calcutta, 29 June 1836.

(signed) *G. J. Siddons,*
Honorary Member.

(signed) *T. J. Taylor,*
Secretary.

STATEMENT I. referred to in Para. 3, Report V.

CONTRASTED STATEMENT, showing the present SEA and LAND CUSTOMS, Madras and Bombay Presidencies, and the Revenue expected to be realized by the Application of the Revised Bengal Tariff.

MADRAS PRESIDENCY.						BOMBAY PRESIDENCY.					
PROPOSED SYSTEM.	Customs Receipts.	Total Customs Receipts.	PRESENT SYSTEM.	Customs Receipts.	Total Customs Receipts.	PROPOSED SYSTEM.	Customs Receipts.	Total Customs Receipts.	PRESENT SYSTEM.	Customs Receipts.	Total Customs Receipts.
Imports, General, British Bottoms	2,81,675	3,81,176			11,63,019	Bombay Island Imports, British Bottoms	9,55,185	14,200			23,43,603
Imports, General, Foreign Bottoms	99,501					Bombay Island Imports, Foreign Bottoms	2,07,834				
Total Imports	-					Bombay Island Exports, Foreign Bottoms	-				
Imports, General, British Bottoms	3,85,548	4,23,005	Gross Sea Customs	10,69,172	18,72,509	Bombay Exports, Imports, Foreign Bottoms	45,290	6,95,290	Gross Sea Customs	20,49,630	2,93,973
Imports, General, Foreign Bottoms	37,547		Stamps on Sea Rowannahs	25,000		Bombay Exports, British Bottoms	-		Liquor and Tobacco Fees	-	
Imports within limits of the Presidency	1,23,203					Total Sea Customs	-		Total Sea Customs	-	
al Sea Customs	-					Deduct Drawback	-		Deduct Drawback	-	
uct Drawback	-					Net Collections, Sea Customs	-		Net Collections, Sea Customs	-	
Collections, Sea Customs	-					Frontier Duty	-		Inland Customs, Town Duty and Frontier Duty	-	
after Duty	1,00,000					Deduct Drawback	-		Total Land Customs	-	
uct Drawback	-					Net Collections, Frontier Duty	-		Deduct Drawback	-	
Collections, Frontier Duty	-					Total Net Collections, Sea and Frontier	-		Net Collections, Land Customs	-	
al Net Collections, Sea and Frontier	-					Deduct Charges, Sea Customs	-		Total Net Collections, Sea and Land	-	
uct Charges, Sea Customs	-					Deduct Charges, Frontier Chokes	-		Deduct Charges, Sea Customs	-	
uct Charges, Frontier Chokes	-					Total Charges	-		Deduct Charges, Land Customs	-	
Total Charges	-					Net Revenue Customs, proposed system, Bombay	-		Total Charges	-	
Revenue Customs, proposed system, Madras	-					Loss by adopting proposed system	-		Net Revenue Customs, present system, Bombay	-	
Loss by adopting proposed system	-										

Customs and Post-Office Committee,
Calcutta, 29 June 1836.

(signed) *T. J. Taylor,* Secretary.

STATEMENT II., referred to in Para. 4, Report V.

STATEMENT, showing Receipts of SEA CUSTOMS, Madras Presidency, for each separate District, in detail, and also Charges, General Sea Custom Department.

R E C E I P T S.

SUBORDINATE PORTS.														MADRAS.	TOTAL Sea Customs, Madras Presidency.
YEARS	Gaujam.	Vizagapatam.	Rajahmundry.	Masulipatam.	Guntur.	Nellore.	South Arcot.	Tanjore.	Madura.	Tinnevely.	Malabar.	Canara.	TOTAL Subordinate.		
1829-30	23,592	19,513	15,615	21,164	5,926	15,357	43,114	83,487	9,273	28,673	2,30,669	1,65,641	6,02,054	4,06,925	10,68,979
1830-31	18,463	17,762	13,394	11,681	2,450	12,905	20,575	89,103	22,175	41,300	2,59,028	1,25,509	6,34,856	3,60,686	9,95,632
1831-32	11,754	25,928	12,452	21,339	2,019	17,716	32,487	86,080	16,849	37,127	2,27,184	1,32,447	6,43,434	4,36,430	11,39,874
1832-33	1,850	17,181	12,879	9,531	3,274	12,373	31,595	72,852	7,700	30,881	1,79,335	1,32,024	5,31,474	4,67,329	9,98,873
1833-34	13,746	9,171	11,383	10,089	2,017	6,042	24,795	61,210	8,949	22,276	1,82,402	1,71,072	5,23,153	4,61,291	9,84,444
1834-35	24,491	21,505	13,103	8,218	3,343	7,642	24,526	70,293	25,268	39,358	2,27,804	2,28,633	7,04,217	5,23,106	12,27,223
TOTAL	93,876	1,11,060	78,826	82,082	19,029	72,035	1,77,092	4,62,970	90,214	1,99,615	13,06,422	10,05,326	36,99,183	27,15,837	64,15,025
AVERAGE	15,646	18,510	13,137	13,680	3,171	12,006	29,515	77,161	15,035	33,269	2,17,737	1,67,554	6,16,531	4,52,639	10,69,171

C H A R G E S.

Y E A R S	Commission and Fees.	Establishment.	Sandalwood, &c.	TOTAL Charges.	Drawback.	TOTAL Disbursement.	TOTAL Receipts.	Net Revenue.
1829-30 -	75,845	95,034	9,056	1,79,933	89,337	2,69,271	10,68,979	7,99,708
1830-31 -	61,005	95,195	7,534	1,63,734	73,816	2,37,550	9,95,632	7,58,082
1831-32 -	63,505	95,475	8,065	1,67,045	219,381	3,87,026	11,39,874	7,52,848
1832-33 -	56,522	96,248	6,785	1,59,555	2,95,913	4,55,468	9,98,873	5,43,405
1833-34 -	58,171	94,723	10,648	1,63,542	2,29,738	3,93,281	9,84,444	5,91,164
1834-35 -	62,157	92,025	5,696	1,59,881	2,43,406	4,03,287	12,27,223	8,23,939
TOTAL -	3,77,205	5,68,700	47,787	9,93,692	11,52,191	21,45,872	64,15,025	42,69,146
AVERAGE -	62,868	94,783	7,964	1,65,615	* 1,92,031	3,57,646	10,69,171	7,11,524

* This is the sum returned as sea drawback by the Accountant-general; but by the returns for five years received from the several Collectors of Customs, the proportion of drawback actually debitable to the Sea Customs only, amounts to 94,606 rupees, which sum has accordingly been adopted by the Committee in their statements of receipts from the existing system, as contrasted with what may be anticipated from the proposed system. The difference, or 97,425 rupees, is properly drawback of Land Customs, and should be therefore debited to that head.

(signed) T. J. Taylor, Secretary.

STATEMENT III., referred to in Para. 5, Report V.

STATEMENT showing the Gross and Net Collections in the LAND and SEA DEPARTMENTS, *Bombay*; Drawbacks Paid, Collections after deducting Drawback, Charges of Collection, and Net Collections in each Department, from 1829-30 to 1834-35, and the Total Net Collections by Land and Sea conjointly, for the same period; remodelled from the Returns received from the Accountant-general, Bombay, under date 11th March 1836.

Y E A R S	L A N D.				S E A.				TOTAL Net Collections, Land and Sea.
	Total Collections, including Collectors' Fees and Extra Revenue.	Drawbacks Paid.	Collections, after deducting Drawbacks.	Charges of Collections.	Net Collections.	Total Collections, including Collectors' Fees and Extra Revenue.	Drawbacks Paid.	Collections, after deducting Drawbacks.	Charges of Collections.
1829-30 -	19,98,674	3,52,507	16,46,167	2,30,834	14,15,333	25,57,863	85,610	24,72,253	2,48,885
1830-31 -	20,37,139	2,82,338	17,54,801	2,46,688	15,08,113	24,60,061	73,931	23,86,130	2,42,798
1831-32 -	23,57,553	3,57,492	20,00,061	2,38,595	17,61,466	21,69,762	1,13,551	20,56,211	2,55,815
1832-33 -	22,43,994	3,52,074	18,91,910	2,29,806	16,62,104	24,58,480	1,47,464	23,11,016	2,74,124
1833-34 -	19,58,379	4,19,505	15,38,874	2,26,380	13,12,294	22,73,937	1,65,683	21,08,254	3,06,458
1834-35 -	19,98,451	3,30,272	16,68,179	3,01,031	13,67,148	21,35,520	2,57,527	18,77,993	3,10,344
TOTAL -	1,25,94,180	20,94,188	1,04,99,992	14,73,334	90,26,658	1,40,61,623	8,43,766	1,32,17,857	16,38,364
AVERAGE -	20,99,030	3,49,030	17,49,999	2,45,555	15,04,443	23,43,603	1,40,627	22,02,976	2,73,060
									19,29,918
									* 31,34,358

* Note.—From this total should be deducted the following six items:—

Boat passes -	-	-	-	-	-	-	-	-	-	4,271
Warehouse rent -	-	-	-	-	-	-	-	-	-	410
Anchorage fee -	-	-	-	-	-	-	-	-	-	5,514
Passage-boats -	-	-	-	-	-	-	-	-	-	53,890
Thore Ghaut -	-	-	-	-	-	-	-	-	-	6,019
Duty on ferries -	-	-	-	-	-	-	-	-	-	2,251
TOTAL -	-	-	-	-	-	-	-	-	-	72,364

Making an aggregate amount of 75,364 rupees. As these sums, although brought to account by the Accountant-general as Customs, are not properly creditable to that head, and would be equally available as revenue under any Customs system; the Net Customs Collections should therefore be stated at 33,61,994 rupees.

Customs and Post-Office Committee, Calcutta, }
29 June 1836.

(signed) T. J. Taylor, Secretary.

STATEMENT IV., referred to in Para. 8, Report V.

STATEMENT showing the Gross and Net Collections in the LAND and SEA CUSTOMS DEPARTMENT, Madras Presidency, Drawback paid; Total Collections after deducting Drawbacks; Charges of Collections, and Net Collections in each Department, from the Years 1829-30 to 1834-35, and the Total Net Collections by Land and Sea conjointly for the same Period, remodelled from the Returns received from the Accountant-general, Madras, under Dates 30 January and 9 March 1836; to which are added, Collections, Gross and Net, on account of Stamp Customs Rowannahs, framed from the Returns received from the Superintendent of Stamps, under Dates 13 July 1835 and 14 April 1836.

Y E A R S	L A N D.				S E A.				STAMPS ON ROWANNAHS.			
	Total Sayer Collections, including Collectors' Fees and Extra Revenue.	Drawbacks Paid.	Collections after deducting Drawbacks.	Charges of Collections.	Net Collections.	Total Collections, including Collectors' Fees and Extra Revenue.	Drawbacks Paid.	Collections after deducting Drawbacks.	Charges of Collections.	Net Collections.	Total Net Collections Land and Sea.	Total Net Collections, Sea and Land Customs on Rowannahs.
1829-30 -	44,14,309	2,81,255	41,33,054	2,62,056	38,70,997	10,68,979	89,336	9,79,642	1,79,935	7,99,707	46,70,705	48,62,030
1830-31 -	43,48,672	2,28,871	41,19,800	2,67,528	38,52,272	9,95,633	73,815	9,21,817	1,63,734	7,58,083	46,10,355	47,85,243
1831-32 -	42,65,445	3,05,011	39,60,434	3,11,033	36,49,401	11,39,874	2,19,981	9,19,892	1,67,045	7,52,847	44,02,248	45,91,058
1832-33 -	38,29,974	2,88,119	35,41,855	2,55,798	32,86,057	9,98,873	2,95,913	7,02,960	1,59,556	5,43,404	38,29,461	39,91,947
1833-34 -	37,50,054	2,39,498	35,10,545	3,01,883	32,08,762	9,84,444	2,29,738	7,54,905	1,63,542	5,91,163	37,99,925	39,48,188
1834-35 -	38,41,042	3,10,286	35,30,756	3,10,165	32,20,590	12,27,229	2,43,406	9,83,822	1,59,881	8,23,941	40,44,532	42,13,678
TOTAL -	2,44,49,499	16,52,952	2,27,96,547	17,08,465	2,10,88,081	64,15,033	11,52,191	52,62,841	9,93,694	42,69,147	2,59,57,228	2,63,92,177
AVERAGE -	49,74,916	(a) 2,75,492	37,99,424	2,84,744	35,14,680	10,69,172	* 1,92,031	8,77,140	1,65,615	7,11,524	42,26,204	43,98,606

* This is the sum returned as Sea Drawback by the Accountant-general; but by the Returns for Five Years, received from the several Collectors of Customs, the proportion of Drawback actually debitable to the Sea Customs only, amounts to 94,606 rupees, which sum has accordingly been adopted by the Committee in their statements of Receipts from the existing system, as contrasted with what may be anticipated from the proposed system. The difference, or 97,425 rupees, is properly Drawback of Land Customs, and should be therefore debited to that head, in addition to 2,75,492 (a) rupees there entered, making the Total Land Drawback, 3,72,917 rupees.

Customs and Post-Office Committee, Calcutta, }
29 June 1836.

(signed) T. J. Taylor, Secretary.

STATEMENT V., referred to in Para. 11, Report V.

STATEMENT showing the Gross CUSTOMS RECEIPTS and CHARGES on the Frontiers of the several Foreign European Settlements, Madras Presidency, for Five Years, from 1831 to 1835, both Years inclusive, together with the Total Net Receipts of each.

	1831.		1832.		1833.		1834.		1835.		Total Receipts for Five Years.		Total Charges for Five Years.		Excess Receipts over Charges.		Excess Charges over Receipts.		Net Revenue for Five Years.	
	Receipts.	Charges.	Receipts.	Charges.	Receipts.	Charges.	Receipts.	Charges.	Receipts.	Charges.	Receipts.	Charges.	Receipts.	Charges.	Receipts.	Charges.	Receipts.	Charges.	Receipts.	Charges.
South Arcot *	41,478	4,508	48,094	4,434	41,685	4,347	38,358	4,347	44,588	4,347	2,14,205	21,984	2,14,205	21,984	1,92,221	1,92,221				
Canara *	27,939	5,202	26,200	5,261	34,646	5,153	29,460	5,118	34,810	5,101	1,53,055	25,835	1,53,055	25,835	1,27,220	1,27,220				
Rajahmundry	1,226	1,640	1,907	1,636	745	1,608	570	1,607	890	1,607	5,340	8,099	5,340	8,099	-	-	2,758			
Tanjore	31,721	3,674	26,824	3,712	27,718	3,676	26,207	3,807	27,040	3,716	1,38,912	18,686	1,38,912	18,686	1,20,226	1,20,226				
Malabar	1,327	2,531	705	2,588	1,074	2,524	854	2,524	609	2,525	4,571	12,695	4,571	12,695	-	-	8,124			
TOTAL -	1,03,693	17,557	1,03,732	17,632	1,05,869	17,309	93,450	17,404	1,07,930	17,296	5,16,085	87,300	5,16,085	87,300	4,39,657	4,39,657	10,882	4,28,785		
AVERAGE per Annum -	1,03,693	17,557	1,03,732	17,632	1,05,869	17,309	93,450	17,404	1,07,930	17,296	5,16,085	87,300	5,16,085	87,300	4,39,657	4,39,657	10,882	4,28,785		
											1,03,217	17,460					AVERAGE -	85,737		

* Of the Collections in this district about 4-5ths are on Salt imported from Goa at a duty of 200 per cent. These Collections are as follows :-

Salt	1831	-	-	-	19,932
	1832	-	-	-	18,910
	1833	-	-	-	28,890
	1834	-	-	-	23,323
	1835	-	-	-	28,428
TOTAL	-	-	-	-	1,19,483
Average	-	-	-	-	23,896

STATEMENT showing Gross CUSTOMS RECEIPTS and CHARGES, Bombay Presidency, on the Frontier of Goa, adjoining Southern *Mahratta* Country, since introduction of Regulation IV. of 1833.

1833-34.				1834-35.			
Receipts.	Charges.	Net Revenue.		Receipts.	Charges.	Net Revenue.	
Goa	16,788	536	16,252	32,755	4,399	28,356	

Of the above sums, the Collections on Salt at 3 annas per Surat maund (about 6 annas per Bengal maund) were, in 1833-34, 15,008; in 1834-35, 27,644.

Customs and Post-Office Committee, Calcutta, }
29 June 1836.

(signed) T. J. Taylor, Secretary.

STATEMENT VI.

STATEMENT OF INLAND AND TRANSIT DUTIES under the Bombay Presidency.

R E C E I P T S.										C H A R G E S.				
Import.	Export.	Transit Duty.	Farmed Districts not distinguishable.	Total Inland Duty.	Sundry Items.	Total Receipts.	Establishment and Collectors' Allowances.	Compensation to Native Chiefs.	Village Officers' Allowances.	Pensions and Charitable Allowances.	Shundee Charges.	Remission.	Total Charges.	Total Disbursements.
1829-30 - - -	1,55,457	1,40,370	4,94,609	10,08,511	33,707	10,42,218	1,05,264	16,240	85,338	3,905	18,923	-	2,29,730	2,43,325
1830-31 - - -	1,41,072	1,62,412	4,76,860	10,15,742	41,607	10,57,349	1,03,353	22,866	94,453	3,955	18,352	2,476	2,45,455	2,47,444
1831-32 - - -	1,23,525	1,46,972	8,57,450	13,55,231	38,597	13,92,828	1,14,933	18,735	79,414	3,813	19,573	956	2,37,444	2,42,917
1832-33 - - -	1,33,749	1,27,322	7,27,095	11,89,689	38,408	12,28,097	1,00,279	27,896	71,744	2,568	20,555	5,662	2,28,702	2,34,920
1833-34 - - -	1,32,284	1,24,418	6,42,900	11,10,398	35,602	11,46,000	1,06,778	24,783	71,666	1,161	20,389	37,777	2,24,777	2,37,999
1834-35 - - -	1,79,445	1,18,287	8,40,052	13,42,865	41,732	13,84,597	1,31,077	18,204	89,339	2,907	20,466	-	2,29,830	3,21,169
TOTAL - - -	8,45,562	8,29,781	40,38,266	70,22,436	2,29,653	72,51,089	6,61,704	1,28,724	4,91,954	18,427	1,18,258	46,871	14,65,938	16,57,804
AVERAGE - -	1,40,927	1,35,297	6,73,014	11,70,406	38,275	12,08,515	1,10,284	21,454	81,992	3,071	19,709	7,812	2,44,323	2,76,304

STATEMENT OF TOWN DUTIES realized under the Presidency of Bombay.

	Bombay.	Surat Mookants.	Almudabad Town Duties.	District Kusbas; Estimated.	Total Town Duties.	Deduct Drawback.	Net Town Duty.	Establishment and Remissions.	Net Revenue.	Total Receipts, Land Customs and Town Duties.	Drawbacks of Land Customs and Town Duties.	Charges of Land Customs and Town Duties.	Net Revenue of Land Customs and Town Duties.
1829-30 - - -	5,83,228	1,52,996	1,27,025	90,000	9,53,249	3,38,912	6,14,337	1,104	6,13,233	19,95,467	3,52,507	2,30,834	14,12,126
1830-31 - - -	5,93,029	1,64,483	1,30,000	90,000	9,77,512	2,80,349	6,97,163	1,233	6,95,930	20,34,861	2,82,338	2,46,688	15,03,835
1831-32 - - -	5,34,449	1,63,732	1,58,647	95,058	9,51,886	3,52,019	5,99,867	1,151	5,98,716	23,44,714	3,57,492	2,35,595	17,48,627
1832-33 - - -	5,92,350	1,53,248	1,51,463	1,03,949	10,01,010	2,85,856	7,15,154	1,104	7,14,050	22,29,107	3,52,074	2,29,806	16,47,227
1833-34 - - -	4,64,126	1,34,928	1,09,625	94,578	8,03,257	3,36,283	4,66,974	1,603	4,65,371	19,49,257	4,19,505	2,26,380	13,93,372
1834-35 - - -	2,16,784	1,41,801	1,48,239	97,667	6,04,491	3,08,903	2,95,588	1,201	2,94,387	19,90,088	3,30,272	3,01,031	13,58,785
TOTAL - - -	29,82,966	9,11,118	8,24,999	5,71,252	52,91,405	19,02,322	33,89,083	7,396	33,81,687	1,25,42,494	20,94,188	14,73,334	89,75,972
AVERAGE - -	4,97,161	1,51,865	1,37,499	95,209	8,81,905	3,17,054	5,64,847	1,233	5,63,614	20,90,416	3,49,031	2,45,556	14,95,995

Customs and Post-Office Committee, }
Calcutta, 29 June 1836.

(signed) T. J. Taylor,
Secretary.

STATEMENT VII.

BOMBAY SEA CUSTOMS.

R E C E I P T S.

THE PORT AND ISLAND OF BOMBAY.										SUBORDINATE PORTS.				
Honourable Company's Investments.	General Trade, 2½ per Cent.	Additional Duty, 1 per Cent.	Half Duty on Excess, or on Certificate 1½.	Foreign Imports, 4½.	Foreign Exports, 3½.	Total Import and Export Duties.	Collectors' Fees.	Total Sea Customs, Bombay.	North Concan.	South Concan.	Total Concan.	Gojerat.	Poorbunder.	Total Sea Customs, Subordinate Ports.
1829-30 - - -	6,71,393	2,03,018	-	52,594	9,171	10,91,017	1,18,350	12,09,367	5,63,198	85,071	6,48,269	4,24,668	21,259	10,94,196
1830-31 - - -	6,71,493	1,89,733	-	46,223	8,219	10,42,716	1,12,910	11,55,626	6,42,010	97,295	7,21,305	4,20,573	14,000	11,55,878
1831-32 - - -	4,70,131	1,31,636	24	50,394	12,517	7,06,064	1,07,445	8,13,509	6,22,360	75,389	6,98,749	3,66,293	17,739	10,82,781
1832-33 - - -	5,59,333	1,57,246	47	47,941	22,892	8,17,928	1,18,829	10,33,857	5,74,003	76,034	6,50,037	4,39,444	27,306	11,16,787
1833-34 - - -	4,79,258	1,38,260	-	43,124	20,515	7,44,174	1,30,811	8,74,985	5,80,497	86,954	6,67,451	3,89,244	29,441	10,86,136
1834-35 - - -	4,52,970	1,29,565	26,663	31,534	11,889	6,52,864	1,22,337	7,75,201	6,50,491	1,03,723	7,54,214	3,76,936	21,967	11,53,117
TOTAL - - -	33,13,398	9,49,458	26,663	2,72,410	85,203	51,53,863	7,10,712	58,64,575	36,37,559	5,00,466	41,40,125	25,17,158	1,31,712	66,91,895
AVERAGE - -	5,52,266	1,58,243	4,443	43,773	14,200	8,58,977	1,18,452	9,77,429	6,06,259	84,411	6,90,620	4,19,526	21,952	11,45,315

The Statement of Receipts is framed from Annual Returns furnished by Accountant-general, Bombay, to Accountant-general, Bengal, and differ somewhat from that furnished by the former Officer to Committee. The proportion of Revenue realized from the several rates of Customs, and also the separate collections of Outports are, however, shown in great detail.

C H A R G E S.

	Establishment and Collectors' Allowances.	Boats for preventing Smuggling.	Compensation to Native Chiefs.	Village Officers' Allowances, &c.	Remission.	Gratuity to Discharged Servants.	Pensions and Charitable Allowances.	Total Charges.	Drawbacks.	Total Disbursements.	Total Receipts.	Net Revenue.	REMARKS.
1829-30 - - -	2,22,280	875	6,556	8,346	2,052	8,295	481	2,48,885	85,610	3,34,495	23,03,563	19,69,068	
1830-31 - - -	1,89,888	995	10,383	7,436	32,896	1,635	295	2,42,738	73,931	3,16,669	23,11,534	19,94,865	
1831-32 - - -	2,00,621	333	20,416	26,463	7,892	-	180	2,55,815	1,13,551	3,69,366	19,96,388	16,26,922	
1832-33 - - -	1,97,963	22,425	18,633	30,361	4,461	-	281	2,74,124	1,47,464	4,21,588	21,52,644	17,31,656	
1833-34 - - -	2,50,884	7,807	10,582	23,859	12,757	-	539	3,06,458	1,65,983	4,72,441	19,73,443	15,01,302	
1834-35 - - -	2,07,639	5,975	80,140	9,693	6,492	-	445	3,10,344	2,57,527	5,67,871	19,28,318	13,60,447	
TOTAL - - -	12,69,325	37,710	1,46,710	1,06,158	66,400	9,930	2,131	16,35,364	8,43,766	24,82,130	1,26,65,790	1,01,83,660	
AVERAGE - -	2,11,554	6,255	24,451	17,693	11,067	1,655	355	2,73,963	1,40,627	4,13,589	21,10,965	16,97,276	

Customs and Post-Office Committee, }
Calcutta, 29 June 1836.

The charges are framed from Returns furnished by Accountant-general, Bombay, to the Committee.

(signed) T. J. Taylor,
Secretary.

APPENDIX.

APPENDIX (A.) referred to in Para. 9, Report V.

EXTRACT from Letter from Commissioner of Revenue and Customs of the Presidency of Bombay, dated 1 June 1836; referred to in Para. 9.

I AM satisfied that nothing would tend so much to the improvement of the Deccan, Candeish and the Concan, as the repeal of the transit duties. I have now been a traveller, an anxious observer, and a constant inquirer in the different districts of the Government for the last 17 years. I have made their actual condition, their capabilities, their resources, their commerce, and the habits and dispositions of the cultivating and trading classes my constant study; and my fixed opinion is, that the abolition of the "Rahdaree" would give an impulse to agricultural industry, that would in a very short term, say three years or so, cover and more than cover the "Rahdaree," given up. In Poonah and Nuggur not one-third of the arable land is cultivated; this is partly owing to excessive land-rents, and partly to a want of demand for territorial produce. The demand is much narrowed by the vexatious operation of the rahdaree, the system of which is much more objectionable than that of Guzeerat, where the people have the advantage of a better soil, better markets, numerous ports, and are altogether better off than the depressed inhabitants of the Deccan. The soil of the Deccan is in many parts capable of raising all the richer products of India, but the high land-rents and the innumerable duties keep the people poor and dispirited, and their cultivation is chiefly confined to the common grains required for their daily subsistence. Whenever we have reduced the rents, the improvement has been astonishing; but the revision of the assessment of an extensive country is a slow operation (if it is done properly), and we have very few hands available for a task that requires experience, caution and energy. The rahdaree is felt by every cultivator, and its abolition, operating like a general and equable reduction of the land-tax, would benefit all alike.

* Vide accompanying Statement.

Since the land customs were abolished in Candeish on cotton, the production of that article has rapidly* increased; the rent on the new cultivation has far more than covered the former amount of those customs. The same as regards indigo, large quantities of which, since the rahdaree was abolished, are now exported to Surat. As for the town duties of the Deccan, they are so ill-defined, so numerous, so complicated, that they are almost incomprehensible,—and I suspect they are a fruitful source of oppression to the poorer classes; only yesterday a cess that yields about 17,000 rupees at Poonah was brought to my notice. It is termed the "Tug tax," and is levied on certain articles according to their weight. I believe it is very onerous, regular customs are taken on the same articles, and the items composing it I suspect do not fall short of 10 per cent. Poonah is now a poor decayed city, and though its fortunes fell, we all know, with the Peishwa, I am of opinion, that were the duties lowered and put on an equitable footing (if not remitted entirely, (it would soon become a flourishing place, and a fine market for the produce of the surrounding country.

I have, &c.

(signed) T. Williamson,
Revenue Commissioner.

No. 1,223 of 1836.

From T. Williamson, Esq., Revenue Commissioner, to R. Mills, Esq., Principal Collector, Poonah.

Sir,

"Tug Tax."

I HAVE the honour to acknowledge the receipt of your yād requesting confirmation to the farms of the tug tax levied on merchandize according to its weight, in addition to the heavy juckāt, or ordinary customs levied per rass, or on a load of a beast of burden.

2. I believe the rates at which this impost is exacted are not well defined, and are a frequent source of contention between the farmer's agents and owners of goods.

3. This tax, moreover, appears to me of a vexatious and impolitic nature; and I much incline to think its abolition would afford seasonable relief to the highly taxed inhabitants of the impoverished city of Poonah; and by promoting trade, ultimately prove beneficial to the resources of the state; on this point, I beg to be favoured with your early opinion.

4. You have deviated from the usual custom in not reporting the offer noticed in your yād in an English letter, particularly as the amount of the item is very considerable, and the sum tendered not only falls short of last year's amount, but of the average receipts during the last five years.

5. As the attention of your assistant, Mr. Malet, has, I believe, for some time past been directed to the subject of customs and duties levied on the trade of Poonah, he will probably be able to give a full account of the nature and tendency of the tug tax; his early report and opinion on which I beg you will have the goodness to call for, and transmit to me for the purpose of being laid before Government.

6. Should

6. Should the question now propounded not be decided before the present "tug" farm expires, you will have the goodness to adopt measures for managing it direct, by means of your own establishment.

I have, &c.

(signed) T. Williamson,
Candeish District, Veergaum,
Revenue Commissioner's Office, 28 May 1836.
Rev. Commissioner.

Endorsement by Mr. Williamson.

Tug tax: A kind of cess levied on goods that are weighed at the chabootra of the city of Poonah, in addition to the "jackāt," or regular customs.

From W. S. Boyd, Esq., Collector, Candeish, to Thomas Williamson, Esq., Revenue Commissioner's Camp, Ahmednuggur.

Sir,

In reply to your letter of the 16th ultimo, I beg to state, the rent of land cultivated with cotton in Candeish for the last five years is as follows:

Fuslie 1241, A. D. 1831-32	-	-	-	-	-	65,000
Fuslie 1242, A. D. 1832-33	-	-	-	-	-	60,000
Fuslie 1243, A. D. 1833-34	-	-	-	-	-	76,000
Fuslie 1244, A. D. 1834-35	-	-	-	-	-	1,36,000
Fuslie 1245, A. D. 1835-36	-	-	-	-	-	2,00,000

I have, &c.

Candeish, Collector's Office,
1 February 1836.

(signed) W. S. Boyd,
Collector.

Endorsement by Mr. Williamson.

Evidence of the practical good effects of relieving the agricultural industry of the Bombay provinces, per the abolition of the transit duties.

EXTRACT from the Annual Report of the Collector of Candeish for 1834-35.

9. THE circumstances of the people, and consequently, the security of the revenue, have been much improved by the extended growth of cotton, which is very apparent since the subject came under the more immediate notice of Government. It appears that for the five years ending with Fusly 1242, the average amount in rent of lands cultivated with cotton amounted to 63,000 rupees; in 1833, 76,000 rupees; and in 1834-35, the season reported upon, it has attained to 1,36,000, and I imagine will, in 1835-36, be nearly two lacs.

(signed) W. S. Boyd, Collector.

Endorsement by Mr. Williamson.

Increasing revenues of Candeish; proof that the state of the public revenue is improving, and that it would be politic, even in a strictly financial point of view, to abolish the rhadaree. Candeish abounds in exportable and exchangeable produce, such as lint-seed, madder-root, &c. for which, if the rhadaree was taken off, the demand would necessarily increase.

There is abundance of fine rich soil lying waste, which, under increased commercial demand, would soon be cultivated, to the great advantage of the revenue and the people.

(signed) T. W.

(True extracts.)
(signed) T. J. Taylor, Secretary.

APPENDIX (B.) referred to in Paras. 4 and 10, Report V.

APPLICABILITY OF BENGAL TARIFF to Madras.

NOTE by Secretary.

Madras.

1. THE Secretary has the honour to submit the annexed statements in illustration of the effect of applying the Bengal Tariff to the Madras Presidency.

2. Statement (A.) shows the amount of the import trade, Madras Presidency, from places other than British Indian ports, with the amount of duty leviable thereon. This trade would appear to be as follows:

	Rs.	Rs.
In British bottoms - - - - -	52,85,444	
In Foreign bottoms - - - - -	5,88,085	
TOTAL Imports - - - - -		58,73,529
The amount of duty leviable on the former is -	5,16,617	
On the latter - - - - -	1,03,171	
TOTAL Import Duty - - - - -		6,19,788

3. As sugar is exported from British Indian ports "free," it will pay duty on import; I have, therefore, added it to the import statement. I have likewise added coffee imported from Canara, as that article would have to pay $7\frac{1}{2}$ per cent. duty on import; sugar and coffee are accordingly excluded from Statement (C.) of exports from subordinate ports.

4. The total imports, therefore, by Statement (A.), appear to be 60,35,012 rupees, and the duty to be 6,27,957 rupees.

5. It must be remembered that of this sum, no less an amount than 3,21,435 * rupees, is the duty on spirits, and which includes sums at present brought to account under abkarree, but of the amount of which there is no information before the committee; I mean, that the committee do not know what additional loss will be entailed on Government by adopting the new tariff in lieu of the present abkarree, over and above the loss in customs and in stamps. Deducting, therefore, the amount leviable on spirits imported for the Government,† the whole import customs revenue, Madras Presidency, would appear to be only 3,81,176 rupees.

6. At present, salt to the value of 1,00,000 rupees a year, is imported into Malabar from Bombay, and sold to Government, and by Government retailed at the monopoly price. Were this salt subjected to the rate of duty established by the Bengal tariff, a rate about treble that at present realized under the Madras monopoly, it would necessarily cease to be imported. The duty would be perfectly prohibitory.

7. I have divided the export trade of the Presidency into two Statements (B.) and (C.); (B.) shows the entire export trade of the Madras Presidency beyond the limits of such Presidency; (C.) the entire export trade within such limits, i. e. from port to port.

8. By statement (B.) the exports would appear to be—

	Rs.
In British bottoms - - - - -	1,30,81,461
In Foreign bottoms - - - - -	7,63,599
	Rs. 1,38,47,060
On the former, the duty, agreeably to the new tariff, would be - - - - -	3,85,548
On the latter - - - - -	37,547
Making the total duty leviable on the export trade beyond the Madras Presidency - - - - -	Rs. 4,23,095

* On private spirits - - - - -	74,554
On arrack imported and sold to Government for the troops and abkarree - - - - -	2,46,781
TOTAL - - - - -	3,21,435

† For further explanation on this point relative to the import of Colombo arrack on account of Government, vide separate note hereto appended, and marked Appendix (C.)

9. Statement (C.) shows the amount value of export trade from port to port to be - - - - - Rs. 53,91,543

From this amount must be deducted the following items:

Cotton, included in general exports - - -	Rs. 3,15,186
Sugar, included in general imports - - -	15,542
Coffee - ditto - - - ditto - - -	62,976
Salt and precious stones, free - - -	—
Wines and spirits, evidently included in Import Statement - - - - -	1,96,741
Metals - - - ditto - - - ditto - - -	1,14,267
	7,04,712

Leaving the amount of export trade from port to port, subject to duty, at - - - - - Rs. 46,86,831

10. This sum of 46,86,831 rupees may be divided into three heads: cotton, subsequently re-exported to Great Britain, and the duty on which is repaid as drawback; grain; and sundries.

	Amount Value of Exports.	Rate of Duty.	Duty on Exports.
Cotton - - - - -	2,32,137	5	11,607
Grain - - - - -	22,04,102	2	*44,082
All other Articles - - -	22,50,592	3	67,514
TOTAL - - - - -	46,86,831	- - -	1,23,203

11. The total Sea Customs may, therefore, be stated as follows:

	Rs.
General imports (excluding Government spirits) - - -	3,81,176
General exports - - - - -	4,23,095
Exports within the Presidency - - - - -	1,23,203
	9,27,474
From this must be deducted the drawback on re-export, as per Statement (D.), amounting to - - - - -	50,403
Which reduces the gross collections, Sea Customs Madras Presidency, realizable by adopting the new Bengal tariff to - - - - -	8,77,071

12. About a lac of rupees will be realized on the frontier of foreign European settlements, and a further sum perhaps, if the frontier system in Travancore and along the Nizam's frontier be continued; but I have not included any receipt under this head in the present note.

	Rs.
Sea Customs - - - - -	8,77,071
Frontier duty, European settlements - - - - -	1,00,000
	9,77,071

* The duty in reality does not, on an average, exceed 1.14 per cent.; but I have adopted 2 per cent. for facility of calculation.

13. By the returns received from the Accountant-general, Madras, the Customs of that Presidency average as follows:

	Rs.
Land Customs and town duties - - - - -	40,74,916
Sea Customs - - - - -	10,69,172
Stamps on rowannahs - - - - -	1,91,657
Total - - - - -	53,35,745
Deduct drawback - - - - -	4,67,523
Net Total Customs Receipts - - -	Rs. 48,68,222

14. The charges under the existing system are:

	Rs.	Rs.
Land Customs - - - - -	2,84,744	
Sea Customs - - - - -	1,65,615	
Stamps on rowannahs - - - - -	19,165	
		4,69,524
Which deducted from Net Collections leaves a Net Revenue amounting to - - - - -	Rs.	43,98,698

Under the revised system, the charges would be as follows:

	Rs.	Rs.
Sea Customs, as at present - - - - -	1,65,615	
Frontier chokees at European foreign settlements, about - - - - -	20,000	
Total Charges - - - - -	1,85,615	
Which deducted from Net Collections (excluding salt and Government spirits) - - - - -	9,77,071	
Leaves a Net Revenue of Customs amounting to - - -	Rs.	7,91,456

or a net loss on the existing system of 36,07,242 rupees on Sea and Land Customs and town duties, Madras Presidency.

Calcutta, Customs Committee,
20 June 1836.

(signed) T. J. Taylor,
Secretary.

(True copy.)
(signed) T. J. Taylor, Secretary.

Statement (A.) referred to in Paras. 2 to 5, Secretary's Note.

STATEMENT showing the Amount of IMPORT TRADE, Madras Presidency, from Places other than British Indian Ports, together with the Amount of Duty leviable thereupon agreeably to the New Bengal Tariff.

ENUMERATION of GOODS.	ON BRITISH BOTTOMS.			ON FOREIGN BOTTOMS.		
	Amount of Trade.	Rate of Duty.	Amount of Duty.	Amount of Trade.	Rate of Duty.	Amount of Duty.
Marines Stores:						
British - - - - -	35,987	3	1,079	- - - - -	6	-
Foreign - - - - -	84,139	6	5,048	726	12	87
Metals:						
British - - - - -	1,08,047	3	3,241	- - - - -	6	-
Foreign - - - - -	22,308	6	1,338	36,674	12	4,400
Tin:						
British - - - - -	43,457	3	1,303	- - - - -	6	-
Foreign - - - - -	3,652	10	365	- - - - -	20	-
Woollens:						
British - - - - -	99,319	2	1,986	- - - - -	4	-
Foreign - - - - -	3,233	4	129	1,272	8	101
Cotton Piece Goods:						
British - - - - -	2,37,395	3½	8,308	- - - - -	7	-
Foreign - - - - -	33,913	7	2,373	1,19,503	14	16,730
Cotton Twist:						
British - - - - -	45,380	3½	1,588	- - - - -	7	-
Foreign - - - - -	812	7	56	1,427	14	199
Silk Piece Goods:						
British - - - - -	23,485	3½	821	- - - - -	7	-
Foreign - - - - -	31,828	7	2,227	13,968	14	1,955
Alum - - - - -	3,477	10	347	- - - - -	20	-
Camphor - - - - -	21,020	10	2,102	361	20	72
Cassia - - - - -	10,668	10	1,066	- - - - -	20	-
Cloves - - - - -	9,309	10	930	18,712	20	3,742
Coffee - - - - -	30,725	7½	2,304	1,044	15	156
Coral - - - - -	- - - - -	10	- - - - -	- - - - -	20	-
Nutmegs and Mace - - - - -	17,667	10	1,766	5,286	20	1,057
Pepper - - - - -	1,12,235	10	11,223	2,188	20	437
Rattans - - - - -	5,086	7½	381	497	15	74
Tea - - - - -	44,320	10	4,432	16	20	3
Vermilion - - - - -	996	10	99	- - - - -	20	-
Wines and Liqueurs - - - - -	6,46,707	10	64,670	1,01,678	20	20,335
Spirits - - - - -	* 3,19,884	{ 9 annas per gal. 3½	* 2,82,272	75,302	16 annas	39,163
All other articles - - - - -	32,90,395		1,15,163	2,09,431	7	14,660
TOTAL - - - - -	52,85,444	- - -	5,16,617	5,88,085	- - -	1,03,171
Sugar from Bengal and Bombay - - - - -	82,965	3½	2,903	-		
Sugar from Madras Subordinates - - - - -	15,542	3½	543	- salt.		
Coffee from Canara - - - - -	62,976	7½	4,723	1,12,045		
GRAND TOTAL - - - - -	54,46,927	- - -	5,24,786	7,00,130		

Calcutta, Customs Committee,
20 June 1836.

(signed) T. J. Taylor, Secretary.

(True copy.)
(signed) T. J. Taylor, Secretary.

Statement (B.) referred to in Paras. 7 and 8, Secretary's Note.

STATEMENT showing Amount Value of EXPORT TRADE, Madras Presidency, to Places beyond limits of such Presidency, together with the Duty leviable thereupon, agreeably to revised Bengal Tariff.

	British Bottoms.		Duty.	Foreign Bottoms.		Duty.
Cotton to Europe or North America -	2,39,564	free	- - -	7,705	5	385
Cotton to any other place - -	5,58,771	5	27,938	- - -	10	
Sugar to Great Britain or any British Port.	44,738	free	- - -	- - -	3	This is all re-exported.
Sugar to any other place - -	1,743	3	- - -	834	6	
Grain - - - - -	20,68,780	{ at ½ anna per maund. }	40,955	1,93,688	{ at 1 anna per maund. }	7,580
Indigo - - - - -	4,93,859	{ 3 rupees per maund. }	14,816	1,18,382	{ 6 rupees per maund. }	7,102
Silk - - - - -	8,722	3	261	270	6	16
Tobacco - - - - -	74,570	{ 4 annas per maund. }	1,864	2,334	{ 8 annas per maund. }	116
All other Articles - - - -	95,90,714	3	2,87,723	3,72,386	6	22,348
TOTAL - - -	1,30,81,461	- -	3,73,557	7,65,599	- -	37,547

N.B.—The duty on grain at ½ anna per maund, is about 1. 14, say 2 per cent.
The duty on indigo at 3 rupees per maund, is about 3 per cent.
The duty on tobacco at 4 annas per maund, is 2½ per cent.

Calcutta, Customs Committee, }
20 June 1836.(signed) T. J. Taylor,
Secretary.(True copy.)
(signed) T. J. Taylor, Secretary.

Statement (C.) referred to in Paras. 9 and 10, Secretary's Note.

STATEMENT showing the Amount Value of EXPORT TRADE from each Port, Madras Presidency, to Places within the Limits of such Presidency.

	1829-30.	1830-31.	1831-32.	1832-33.	1833-34.	
Ganjam - - - - -	7,72,875	6,45,140	3,42,471	6,41,808	5,19,149	
Vizagapatam - - - - -	5,32,163	4,38,313	5,18,765	6,25,537	1,60,616	
Rajahmundry - - - - -	3,78,806	2,86,683	2,57,919	1,42,936	2,61,792	
Masulipatam - - - - -	1,09,301	1,17,371	32,974	93,616	98,421	
Guntoor - - - - -	1,42,386	1,40,241	79,629	1,01,224	80,049	
Nellore - - - - -	3,77,218	4,75,698	3,98,829	3,92,890	1,35,542	
Madras - - - - -	6,49,489	6,62,617	6,09,975	7,47,350	11,09,693	
South Arcot - - - - -	4,39,782	2,49,585	2,35,292	3,86,185	2,73,737	
Tanjore - - - - -	4,66,175	7,81,560	7,83,785	13,03,614	16,35,823	
Madura - - - - -	45,575	1,97,796	2,41,087	64,435	1,14,729	
Tinnevelly - - - - -	13,75,090	10,16,864	7,01,038	5,41,318	5,33,406	
Malabar - - - - -	2,15,549	2,89,677	2,43,614	1,61,858	1,59,243	
Canara - - - - -	3,08,670	1,66,907	2,48,901	3,21,780	3,75,157	
TOTAL Exports - - -	58,13,079	54,68,452	46,94,279	55,24,551	54,57,357	2,69,57,718

Average - - - 53,91,543

Deduct - - - 7,04,812

Balance - - - 46,86,731

Deduct Cotton - - - 3,15,286
Deduct Sugar - - - 15,542 - - - included in Import Statement.
Deduct Coffee - - - 62,976
Wines and Spirits (Re-export) } - - - 1,96,741 - - - included in Import Statement, or free.
Salt and Precious Stones - }
Metals (Re-export) - - - 1,14,267 - - - included in Import Statement, or free.
7,04,812

Balance - - - 46,86,731 consisting of Cotton - - - 2,32,137

Grain - - - 22,04,102

All other Articles - 22,50,492

46,86,731

(signed) T. J. Taylor,
Secretary.Calcutta, Customs Committee, }
20 June 1836.(True copy.)
(signed) T. J. Taylor, Secretary.

Statement (D.) referred to in Para. 11, Secretary's Note, and Para. 4, Report V.

STATEMENT showing the Description and Value of GOODS RE-EXPORTED from Madras, to Places other than British Indian Ports, together with the Amount of Duty originally leviable on the same, and the Amount of Duty returned on the Re-Exports.

ENUMERATION of GOODS.	Amount Value of Re-Exports.	Rate of Duty.	Amount of Duty leviable on Import.	Drawback.
Marine Stores - - - - -	11,025	3	330	$\frac{7}{8}$ 289
Metals - - - - -	61,250	3	1,837	$\frac{7}{8}$ 1,632
Tin - - - - -	—	—	—	—
Woollens - - - - -	26,821	2	536	$\frac{7}{8}$ 469
Cotton and Silk Piece Goods, Estimated.	- - -	$3\frac{1}{2}$	3,500	$\frac{7}{8}$ 3,062
Alum - - - - -	1,611	10	161	$\frac{7}{8}$ 140
Camphor - - - - -	3,339	10	333	$\frac{7}{8}$ 291
Cassia - - - - -	10,943	10	1,094	$\frac{7}{8}$ 957
Cloves - - - - -	5,980	10	598	$\frac{7}{8}$ 523
Coffee - - - - -	62,807	$7\frac{1}{2}$	4,710	$\frac{7}{8}$ 4,121
Coral - - - - -	—	—	—	—
Nutmegs and Mace - - - - -	28,807	10	2,880	$\frac{7}{8}$ 2,520
Pepper - - - - -	24,265	10	2,426	$\frac{7}{8}$ 2,123
Rattans - - - - -	—	—	—	—
Tea - - - - -	12,413	10	1,241	$\frac{7}{8}$ 1,083
Vermilion - - - - -	—	—	—	—
Wines and Liqueurs - - - - -	1,07,436	10	10,743	$\frac{7}{8}$ 9,400
All other Articles - - - - -	3,43,807	$3\frac{1}{2}$	12,033	$\frac{7}{8}$ 10,529
TOTAL - - - - -	7,00,504	- - -	42,422	$\frac{7}{8}$ 37,142
Cotton to Europe - - - - -	2,32,139	- - -	- - -	whole 11,607
Sugar to British Possessions - - - - -	44,738	- - -	- - -	whole 1,565
„ elsewhere - - - - -	2,577	- - -	- - -	$\frac{7}{8}$ 89
TOTAL - - - - -	9,79,958	- - -	42,422	50,403

Calcutta, Customs Committee, }
20 June 1836.

(signed) T. J. Taylor,
Secretary.

(True copy.)

(signed) T. J. Taylor,
Secretary.

APPENDIX (C.) referred to in Para. 5, Appendix (B.)

APPLICABILITY of revised BENGAL TARIFF to Madras.

NOTE by Secretary.

1. WITH reference to the duty on spirits of 9 annas per gallon in the new Bengal tariff, the secretary has the honour to offer the following observations, which may possibly induce a belief that the rate is not exactly applicable to Madras, at least as respects the import of Colombo arrack at that Presidency. Spirits, Madras.

2. In Bengal, large quantities of rum are distilled, not only sufficient to provide for internal consumption, including the supply of the troops, but also for export to an extent of 50,000 gallons a year.

3. The spirit is subjected to a still-head duty of 8 annas a gallon, in order to protect which, and to preclude the possibility of foreign spirits being imported and sold wholesale in any quantities, the duty on import wholesale has been fixed at 9 annas per gallon.

4. On the sale of such spirit retail, there is no further duty levied under the head of abkaree, save the charge for a license, which is, however, very trifling.

5. In the Madras territories, there is no such manufacture of rum. The only spirit manufactured in that Presidency, and which is ordinarily consumed by the lower orders, is called "country arrack," a villanous compound, extracted from jaggery and the bark of the babool tree, or from the flowers of the mowrah tree. It is this spirit which is usually sold throughout the country by the abkaree contractors, whether civil or military; at some few of the larger towns, such as Madras, Cannanore, Bangalore, Trichinopoly, a small quantity of Colombo arrack is also sold. It is dearer than country arrack, and not so much liked by the lower orders generally. Colombo arrack is always reduced to 10 per cent. below London proof.

6. As no good and wholesome spirit is manufactured in the Madras territories, the whole quantity required for the European soldiery, as also for the moderate wants of the abkaree contractors, is imported from Ceylon, by natives, in dhonies, and sold to the Commissariat at a price averaging about 70 rupees for 150 gallons, London proof; the duty of 8 per cent. being paid by the importer.

7. The quantity so imported varies from 4 lacs to $4\frac{1}{2}$ lacs of gallons a year. It is reduced to 10 per cent. below London proof, is then stored in large vats in the Commissary-general's office, and kept there for one year prior to despatch to the several military stations, or its supply to the Collector of Madras, on indent, for the supply of the licensed liquor shops.

8. This spirit is supplied to the Collector at a certain enhanced price. By that officer it is supplied to the retail dealers at a further enhanced price, in which is included the excise duty, not exceeding Rs. 3. 8. per gallon. As far as my recollection serves, about 450 gallons a week are thus supplied to the Collector of Madras by the Commissariat.

9. In order to protect these licensed retail dealers, no spirit manufactured on this side of the Cape of Good Hope can be imported at Madras without payment of an excise duty of 350 rupees per leaguer of 150 gallons, in addition to the customs duty of 8 per cent., and even then such spirit cannot be sold for internal consumption in less quantities than five leaguers at a time.

10. On re-export, $5\frac{1}{2}$ per cent. customs is refunded as drawback, and if to Great Britain, the entire excise duty is refunded in addition.

11. All foreign spirit manufactured the other side of the Cape pays an import duty of 8 per cent. if imported in British bottoms; but European shopkeepers are prohibited from selling such spirit in less quantities than one dozen quarts, and which spirit cannot be removed from their shops without a permit from the Collector of Madras. The average quantity of spirit imported at Madras is as follows:

Gin - - - - -	Gallons.
Brandy, Rum, Whiskey, &c. - - - - -	9,546
	95,569
Gallons - - - - -	1,05,115
Arrack, solely imported for use of the Troops and supply of the Abkaree - - - - -	4,35,868
Total Gallons - - - - -	5,40,983

12. On the larger portion of the above imports, arrack, it seems evident that a customs duty of 9 annas per gallon could not be realized as revenue; if levied at all, it could only be brought to account by a book transfer; the receipt being entered as customs, and the payment debited to the head of military charges.

13. I have accordingly applied the new tariff to the gallons 1,05,115 of other spirits imported for private consumption, and beg to submit the accompanying statement of the revised rate contrasted with the existing rate.

14. I have adopted the valuation of the Madras Trade Returns; Rs. 2. 12. per gallon, gin; Rs. 2. 4. per gallon, rum, brandy, whisky, &c.

NAME OF SPIRIT.	Value of 100 Gallons of Spirits.	Present Duty.	Proposed Duty.	Increase.
	<i>Rupees.</i>	<i>Rupees.</i>	<i>Rupees.</i>	<i>Rupees.</i>
English Gin - - - -	275	22	56 4	34 4
Foreign Gin - - - -	275	44	100 -	56 -
English Brandy - - - -	225	18	56 4	38 4
Foreign Brandy - - - -	225	36	100 -	64 -

15. The proposed duty would therefore appear to be as follows:—

On British Gin - - - -	20½ per cent.
On Foreign Gin - - - -	36½ per cent.
On British Brandy - - - -	25 per cent.
On Foreign Brandy - - - -	44½ per cent.

16. The amount of duty leviable on spirit, supposing Government arrack to be excluded,

On British bottoms, would be - - - -	Rs. 39,161
On Foreign bottoms - - - -	35,493
Total - - - -	Rs. 74,654

And which sum has accordingly been entered in the Statement of Trade, and the amount duty realizable therefrom.

(signed) T. J. Taylor,
Customs and Post-Office Committee, Calcutta,
21 June 1836. Secretary.

(True copy.)
(signed) T. J. Taylor, Secretary.

APPENDIX (D.), referred to in Paras. 5 and 10, Report V.

APPLICABILITY OF BENGAL TARIFF TO *Bombay*.

NOTE by Secretary.

Bombay.

1. THE Secretary has the honour to submit the annexed statements in illustration of the effect of applying the Bengal Tariff to the Bombay Presidency.

2. Bombay Island being in its nature an entrepôt, it is only necessary here to observe, that no export duty has been calculated on the trade from that port, except the difference of duty leviable on foreign bottoms. Import duty has alone been calculated on the trade of Bombay, from all places other than British India. This will be found in Statements (A.) and (B.)

3. Statement (A.) shows the trade at Bombay, as above described, to be—

In British bottoms - - - -	Rs. 2,12,93,350
Ditto in Foreign bottoms - - - -	19,85,750
Total Value of Trade - - - -	Rs. 2,32,79,100

The Amount of Duty leviable on the former is - - - -	Rs. 9,45,538
On the latter - - - -	2,07,834

Total Duty - - - - 11,53,372

To this must be added, duty on sugar imported from Bengal,
in value 2,75,650 rupees - - - - 9,647

Making a Total Import Duty of - - - - Rs. 11,63,019

4. Statement

4. Statement (B.) is merely a supplemental return, explanatory of the value of articles included under the "Unenumerated Head," and the countries whence the same are imported.

5. At the Bombay outports, import duty has been estimated alone on the trade from foreign states and settlements, whether native or European. The average value of such trade may be stated at 6,47,000 rupees, which, at 7 per cent., on the supposition that the same is carried on in foreign bottoms, would yield a revenue of - - Rs. 45,290

6. At the Bombay outports, export duty has been estimated on the entire export trade. This trade, as far as returns enable us to judge, appears to amount to 1,50,00,000 rupees. The duty on which, on cotton 1,00,00,000 rupees at 5 per cent., and other articles 50,00,000 at 3 per cent., amounts to - - - 6,50,000

Making a total revenue realizable at the outports, of - Rs. 6,95,290

These details are explained in appended Statement (C.)

7. The export duty from Bombay in foreign bottoms, may be estimated at its present amount, 14,200 rupees.

8. The total gross Sea Customs Revenue realizable under the revised Bengal Tariff, may be thus stated—

At Bombay, import duty - - - -	11,63,019
Ditto, foreign export duty - - - -	14,200
Bombay outports, foreign import duty - - - -	45,290
„ export duty - - - -	6,50,000

Total Gross Sea Customs - - - Rs. 18,72,509

9. It must be remembered that this sum includes, in the duty levied on spirits, a certain amount of abkaree, as the duty of 9 annas a gallon, equivalent to about 37 per cent. on brandy, and upwards of 100 per cent. on arrack; as the valuations fixed in the Bombay tariff would appear to include something more than mere Customs.

10. In the foregoing collections, moreover, no account has yet been taken of refunds as drawback, and which it is necessary to notice here.

11. Statement (D.) shows the amount value of articles re-exported from Bombay to places other than British Indian ports, the amount of duty originally leviable on such trade, and the amount of duty refunded on re-export, except in the case of nankeens. It has been assumed that re-exports had been imported at the lowest rates of duty, and in British bottoms, from a belief that it was better, in cases of doubt, rather to under-estimate than over-rate the amount payable as drawback.

12. No account has been taken of re-exports to British Indian ports, on the assumption that certificates would, in all such cases, be granted in preference to the payment of drawback on re-export, and collection of duty anew at the place of second import.

13. The amount value of this re-export trade is 85,59,051 rupees.

The amount of duty originally leviable, 3,74,810 rupees, of which sum seven-eighths refunded as drawback, would amount to 3,27,631 rupees.

This sum must accordingly be deducted from the gross Sea Customs Revenue, 18,72,509, thus reducing those collections to 15,44,878 rupees.

14. But a still further reduction must be made from the above sum, on account of cotton and of sugar, which are exported free to Great Britain and other specified countries, as in the foregoing calculations; the full collections of export duty on cotton from subordinate ports, and import duty on sugar from all places, whether in India or elsewhere, have been included, the whole of which would be refunded on export.

15. The amount would appear to be as follows, on cotton exported to Great Britain and Europe, to the amount of 38,05,500 rupees. The duty at 5 per cent. would be 1,90,275 rupees; on sugar re-exported to Great Britain, to the amount of 6,65,950 rupees; the entire import duty, of 23,396 rupees, would be refunded.

And on that re-exported to other countries, amounting to 16,15,500 rupees, seven-eighths of the import duty would be refunded, amounting to 49,472 rupees.

Making a total drawback on cotton and sugar amounting to 2,63,143 rupees,* which deducted from the above-mentioned Customs Revenue 15,44,878 rupees, reduces the entire Sea Customs remaining in the Treasury, without deducting charges, to 12,81,735 rupees.

666.

G 2

16. By

2,63,143

* Cotton 1,90,275
Sugar - - 72,868

16. By the amended returns of Bombay Customs, received from the Accountant-general of that Presidency, the entire collections under the existing system appear to be as follows :

Land Customs and town duty	-	-	-	-	-	20,99,030
Sea Customs	-	-	-	-	-	23,43,603
TOTAL						44,42,633
Deduct Drawback	-	-	-	-	-	4,89,657
Gross collections after deducting Drawback						39,52,976

Boat passes	-	-	-	4,271	17. In this amount are, however, included the following six items, boat-passes, warehouse-rent, anchorage fee, passage-boats, toll on the Bhore ghaut (a toll granted to a private individual for having opened the ghaut), and duty on ferries; none of these items are properly customs, and would be equally leviable, whether the Bengal tariff be or be not adopted; the average amount is	-	-	-	-	-	Rs. 72,364
Warehouse-rent	-	-	-	410							
Anchorage fee	-	-	-	5,514							
Passage-boats	-	-	-	53,899							
Bhore Ghaut	-	-	-	6,019							
Duty on ferries	-	-	-	2,251							
TOTAL - - - 72,364 which deducted from											- 39,52,976

leaves the sum of - - - - - Rs. 38,80,612

as the existing gross Customs Revenue Bombay, after deducting drawback, but including liquor and tobacco fees, which average 2,93,973 rupees per annum.

18. The Sea Customs, by applying the revised Bengal tariff, would produce, as above shown, exclusive of salt, only 12,81,735 rupees, to which must be added certain collections on account of inland frontier duty at the foreign settlements of Goa and Damaun; say 40,000 rupees, which would swell the gross receipts, deducting drawback, to 13,21,735 rupees. Some additional collections might also be effected, were the territories of the Hubshee and Angria treated as foreign European settlements, but such collections I have not estimated here.

19. The charges under the existing system are as follows :—

Land Customs	-	-	-	Rs. 2,45,555
Sea Customs	-	-	-	2,73,060
				5,18,615

This amount deducted from the net collections of - - - 38,80,612

Leaves a net customs revenue of - - - - - Rs. 33,61,997

Under the revised system, the charges for sea customs would remain as at present - - - - - Rs. 2,73,060

Frontier chokies at Goa and Damaun, &c.; say - - - - - 7,000

Rs. 2,80,060

which, deducted from collections, 13,21,735 rupees, would reduce the net revenue to 10,41,675 rupees, which contrasted with the existing net collections, 33,61,997 rupees, shows a net loss of revenue in the Bombay Presidency, amounting to 23,20,322 rupees.

Calcutta, Customs Committee, }
14 June 1836.

(signed) T. J. Taylor, Secretary.

(True copy.)

(signed) T. J. Taylor, Secretary.

Statement (A.) referred to in Para. 3, of Secretary's Note.

STATEMENT showing the Average Value of IMPORT TRADE at Bombay, from Places other than the Ports and Settlements of British India, together with the Amount of Duty leviable on the same, at the rates of the new Bengal Tariff.

	Rate of Duty Per Cent.	Value of Trade, British Bottoms.	Rate of Duty Per Cent.	Value of Trade, Foreign Bottoms.	Amount of Duty in British Bottoms.	Duty in Foreign Bottoms.
Marine Stores:						
British	3	67,700	6	-	2,031	-
Foreign	6	1,000	12	18,200	60	2,184
Metals:						
British	3	19,97,700	6	-	59,931	-
Foreign	6	2,69,500	12	2,01,350	16,170	24,156
Tin:						
Foreign	10	-	20	2,36,000	23,600	-
Woollens:						
British	2	5,45,400	4	-	10,908	-
Foreign	4	-	8	2,300	-	184
Cotton Piece Goods:						
British	3½	59,69,000	7	-	2,08,915	-
Foreign	7	6,10,000	14	43,000	42,700	6,020
Alum	10	39,000	20	-	3,900	-
Camphor	10	64,000	20	-	6,400	-
Cassia	10	2,74,000	20	-	27,400	-
Cloves	10	1,61,000	20	10,000	16,100	3,800
Coffee	7½	6,00,000	15	-	45,000	-
Coral	10	75,000	20	5,500	7,500	1,100
Nutmegs and Mace	10	71,000	20	-	7,100	-
Pepper	10	42,000	20	-	4,200	-
Rattans	7½	4,500	15	-	327	-
Tea	10	2,00,000	20	-	20,000	-
Vermilion	10	71,000	20	-	7,100	-
Wines and Liqueurs	10	4,89,000	20	2,21,500	48,950	44,300
Spirits	{ 9 annas p' gallon }	1,08,300	{ 16 annas p' gallon }	63,100	50,049	43,834
All other articles	3½	96,34,250	7	11,75,800	3,37,197	82,256
Rs.	-	2,12,93,350	-	19,85,750	9,45,538	2,07,834

Total Trade - - - - - Rs. 2,32,79,100 - - Duty Rs. 11,53,372
Sugar from Bengal and Konkan - - - - - 2,75,650 - - Duty 9,647

Rs. 2,35,54,750

Rs. 11,63,019

Calcutta, Customs Committee, }
14 June 1836.

(signed) T. J. Taylor, Secretary.

(True copy.)

(signed) T. J. Taylor, Secretary.

Statement (B.) referred to in Para. 4, Secretary's Note.

STATEMENT showing the Value of IMPORTS at *Bombay*, from Ports other than the Ports and Settlements of British India, included under the head of Unenumerated Articles.—*Vide* Statement (A.)

	Amount Value of Unenumerated Imports.	Total Amount Value of Unenumerated Imports.
IMPORTS IN BRITISH VESSELS.		
Great Britain - - - - -	15,77,050	96,34,250
Ceylon - - - - -	36,250	
Mauritius - - - - -	1,38,000	
Cape of Good Hope - - - - -	4,500	
New South Wales - - - - -	1,400	
Penang and Eastern Islands - - - - -	4,69,250	
China - - - - -	43,43,400	
Africa - - - - -	2,96,250	
Persian Gulf - - - - -	19,92,750	
Cutch - - - - -	7,75,400	
		11,75,800
IMPORTS IN FOREIGN VESSELS.		1,08,10,050
France - - - - -	98,050	11,75,800
Rotterdam - - - - -	2,400	
United States - - - - -	1,16,500	
Brazils - - - - -	45,400	
Goa - - - - -	1,73,300	
Manilla - - - - -	7,45,150	
		1,08,10,050

Calcutta, Customs Committee, }
14 June 1836.

(signed) T. J. Taylor, Secretary.

(True copy.)

(signed) T. J. Taylor, Secretary.

Statement (C.) referred to in Para. 6, Secretary's Note.

IMPORTS from Foreign States at Subordinate Ports, *Bombay* Presidency.

	Average Value of Imports from Foreign States at the several Subordinate Ports, <i>Bombay</i> Presidency.	RATE of DUTY.	AMOUNT of DUTY.
Surat - - - - -	1,70,000	7 per cent. -	11,900
Tankavia - - - - -	1,30,000	ditto -	9,100
Broach - - - - -	- none - -	ditto -	-
Bhowlearee - - - - -	53,000	ditto -	3,710
Dholera - - - - -	69,000	ditto -	4,830
Gogo - - - - -	- none - -	ditto -	-
The Konkans - - - - -	2,25,000	ditto -	15,750
TOTAL - - - - -	6,47,000	- - -	45,290

EXPORTS from Subordinate Ports, *Bombay* Presidency.

	Average Value of Exports from Subordinate Ports.	RATE of DUTY.	AMOUNT of DUTY.
Surat - - - - -	24,21,000	Three per cent. on all articles except Cotton, and Five per cent. on Cotton.	
Tankavia - - - - -	9,43,000		
Broach - - - - -	15,64,000		
Bhowleara - - - - -	17,23,000		
Dholera - - - - -	54,000		
Gogo - - - - -	3,55,000		
North Konkan - - - - -	38,00,000		
South Konkan } no Returns - - - - -	13,00,000	on Cotton -	5,00,000
Bulsar, &c. - }	15,00,000		
	1,36,60,000	on Sundries	1,50,000
TOTAL - -	1,50,00,000	- - -	6,50,000

Calcutta, Customs Committee, }
14 June 1836.

(signed) T. J. Taylor, Secretary.

(True copy.)

(signed) T. J. Taylor, Secretary.

Statement (D.), referred to in Paras. 11 to 15, Secretary's Note, and Para. 5, Report No. V.

STATEMENT showing the Description and Value of GOODS RE-EXPORTED from Bombay to Places other than British Indian Ports; together with the Amount of Duty originally leviable on the same, and the Amount of Duty returned on Re-export.

ENUMERATION of GOODS.	Amount Value of Re-Exports.	Rate of Duty.	Amount of Duty leviable on Import.	Drawback.
Marine Stores - - - -	5,750	3	172	$\frac{7}{8}$ 150
Metals - - - - -	3,49,400	3	10,482	$\frac{7}{8}$ 9,172
Tin - - - - -	57,350	3	1,720	$\frac{7}{8}$ 1,505
Woollens - - - - -	19,100	2	382	$\frac{7}{8}$ 334
Cotton Piece Goods :				
British - - - - -	29,51,506	$3\frac{1}{2}$	1,03,303	$\frac{7}{8}$ 90,285
Foreign - - - - -	46,000	7	3,220	$\frac{7}{8}$ 2,817
Cotton Twist - - - - -	1,33,250	$3\frac{1}{2}$	4,663	$\frac{7}{8}$ 4,080
Silk Piece Goods - - - -	—	—	—	—
Alum - - - - -	4,800	10	480	$\frac{7}{8}$ 420
Camphor - - - - -	18,600	10	1,860	$\frac{7}{8}$ 1,628
Cassia - - - - -	1,64,800	10	16,480	$\frac{7}{8}$ 14,420
Cloves - - - - -	22,150	10	2,215	$\frac{7}{8}$ 1,938
Corals - - - - -	6,150	10	615	$\frac{7}{8}$ 538
Coffee - - - - -	5,42,600	$7\frac{1}{2}$	40,695	$\frac{7}{8}$ 35,608
Nutmegs and Maco - - - -	10,050	10	1,005	$\frac{7}{8}$ 879
Pepper - - - - -	4,98,150	10	49,815	$\frac{7}{8}$ 43,588
Rattans - - - - -	9,475	$7\frac{1}{2}$	710	$\frac{7}{8}$ 621
Tea - - - - -	62,150	10	6,215	$\frac{7}{8}$ 5,438
Vermilion - - - - -	8,550	10	855	$\frac{7}{8}$ 748
Wines and Liqueurs - - - -	54,950	10	5,495	$\frac{7}{8}$ 4,808
Spirits - - - - -	10,600	-	5,300	$\frac{7}{8}$ 4,637
All other Articles - - - -	34,03,670	$3\frac{1}{2}$	1,19,128	$\frac{7}{8}$ 1,04,237
TOTAL - - -	85,59,051	-	3,74,810	$\frac{7}{8}$ 3,27,631
Cotton to Europe - - - -	38,05,500	5	-	whole 1,90,275
Sugar to British Possessions - -	6,65,950	$3\frac{1}{2}$	-	whole 23,396
Elsewhere - - - - -	16,15,500	-	-	$\frac{7}{8}$ 49,472
GRAND TOTAL - - -	1,46,46,001	-	TOTAL Drawback	- - 5,90,774

Calcutta, Customs Committee, }
14 June 1836.

(signed) T. J. Taylor,
Secretary.

(True copy.)
(signed) T. J. Taylor, Secretary.

No. 1.

1. I REGRET that I am compelled to dissent from the opinion of my colleagues as to the tenor of the Report we are required to submit upon the applicability to the other two Presidencies of the tariff promulgated for that of Bengal. Bombay Customs,

2. It appears to me that the new tariff cannot be considered applicable to the Sea Customs if it is likely to occasion a reduction in that branch of the Customs revenue, and I think, when we find that such a result is to be apprehended from it, that we ought to declare it relatively inapplicable, and in doing so, to show with what modifications it may be made applicable, in other words, capable of yielding a revenue the same in amount as is now obtained from that branch.

3. I submit that the term applicability may refer to local circumstances as well as to the state of the revenue, and in both senses I consider the schedules inapplicable; it is unsuited in some respects to the local peculiarities of the Bombay Presidency; since the revenue derived from the outports is in a great measure distinct from that realized at Bombay itself (though often levied on the same articles), whilst the insular situation of Bombay precluding the export of goods except such as have been originally imported by sea, renders the levy of an export duty at Bombay impossible, without charging the same goods with duty twice over, contrary to the spirit of the new Act.

4. The only duty at Bombay of the nature of an export duty, is that charged on exports on foreign bottoms 3 $\frac{5}{8}$ per cent., but this is rather a supplemental duty, calculated to make the original import duty of $3\frac{1}{2}$ per cent. equal to the amount leviable generally on foreign bottoms, 7 per cent., than an export duty strictly so called; it averages only 14,200 rupees.

5. Under these circumstances it becomes necessary to consider the effect of the Act at Bombay itself, distinct from its effect at the outports.

6. The rates of import duty prescribed for the enumerated articles in Schedule (A.) from No. 7 to No. 16 inclusive, being applicable to the trade of India generally, and calculated as well to raise an equivalent for existing burthens as to put an end to the exclusive advantages which British goods have hitherto most unjustly been permitted to enjoy in the markets of India, I consider entirely suited to the Bombay Presidency.

7. Those upon the enumerated articles from No. 20 to 32, are much higher than have hitherto been paid at Bombay, but as they are levelled at luxuries, and also calculated to aid in affording an equivalent, and are no higher than have for many years been exacted at Calcutta, and consequently borne by the consumers of such articles on this side of India, there is no reason why the consumers of Western India should not bear the same rate of duty as is paid here.

8. The rates of import duty on unenumerated articles being as nearly as possible the same as are now levied at Bombay itself, I consider Schedule (A.), (if separated from the provision respecting drawback in the notes annexed thereto, which I shall hereafter show to be quite unsuited to that port), entirely and immediately applicable to the port of Bombay.

9. But here its applicability in its present state ceases, since it does not sufficiently provide compensation for the Sea Customs of the outports, averaging 11,15,000 rupees, distinct from the customs of Bombay, which yield a further sum, 9,77,000 rupees, including the liquor and tobacco duty.

10. To cover the aggregate Sea Customs of the Presidency as I have assumed them, at 20,92,000 rupees, or at the Committee's estimate, excluding liquor and tobacco, 2,93,000 rupees; fees, 20,50,000 rupees, the schedule of imports and foreign exports will only give 10,71,219 rupees (excluding liquor duty, 1,06,000 rupees), bearing a deficit of 9,78,781 rupees, I have shown that no export duty can be enforced at Bombay.

11. The realizations at the outports under Schedule (B.) upon exports from them, whether to Bombay or other places, we have in our calculations assumed to yield 6,95,290 rupees, calculating cotton at 5 per cent. (which is about 9 annas per new maund), and all other articles at 3 per cent.

Rs.
11,15,000
9,77,000
20,92,000
20,50,000
10,71,219
9,78,781

6,95,290
2,83,491

Net Land Customs	Rs.
toms -	9,32,214
Town Duty -	5,63,614
Deficit -	14,95,828
Sea Customs	2,73,491
	17,69,319

12. This gives a deficit of about 2½ lacs in the existing Sea Customs of the Presidency, in addition to the Land Customs and town duties, leaving the total loss of the Presidency, about 17,70,000 rupees, by adoption of the new tariff.

13. The Committee agree in assuming the charges under the new system likely to be the same as under the old one, so that the loss will remain as I have stated it, whether the gross or net revenue be looked at. Under this view I am compelled to the opinion, that the tariff adopted for Bengal is inapplicable, because as appears to me, it was never contemplated to adopt any plan but such an one as would in part make up for the loss of the Land Customs, whilst it preserved the Sea Customs of the Presidencies at their present amount.

14. I have thus far considered the question as one of actual realization, but when the deductions from them which may be expected under the extended drawback system of the new tariff are taken into account, it will appear quite ruinous in a financial point of view.

15. Up to the present time drawback (which was altogether unknown in Bombay until 1815) is granted only on the trade with Great Britain, and that (always excepting cotton, indigo, hemp and sunn) only to an amount which shall leave 2½ per cent. in the Treasury.

16. This limited drawback will, by the new Act, be extended to a refund of 7-8ths of the whole duty originally levied on import when the goods are re-exported, not only to Great Britain, but to any part of the world.

17. Even admitting, as seems reasonable, that the drawback on re-export is to be confined to sea imports from places beyond the Honourable Company's dominions, and that goods imported at one port in the Honourable Company's dominions, and subsequently re-exported to another port in the same, are not to have drawback of 7-8ths, but are to be, as now, furnished with a certificate in exemption of further duty on import, still the refund of 7-8ths at Bombay, on re-exports to all places, "Forth of India," will amount to a very considerable sum, involving 7-8ths of the import on goods from China and the eastward re-exported to Great Britain, to Persia, Arabia, Scind, Cutch, &c., and goods from Persia, Arabia, and re-exported to Great Britain, the eastward, &c.

18. From my former remarks on the impracticability of imposing a duty on export at Bombay itself, it will be apparent that the export Schedule (B.) must be made to apply to the outports, whence every article, the produce of the country, whether enumerated or unenumerated, must be in the first instance exported, in order to reach Bombay or other places, and having already paid export duty, could not be again subjected to duty at Bombay, even if destined for that port.

19. The rates of Schedule (B.) however are far too low to give the amount of revenue now realized on the produce of the Presidency, and although the exaction of duty, both on import and export, as is done in many instances, is improper, and has been long doomed to reform, I conceive that the general export duty of the Presidency must be fixed at a higher rate than that laid down in the Schedule.

20. I have before stated, and the statement accompanying this report will show, that an export duty of 3 per cent. at the outports, with 5 per cent. (or 9 annas per maund) on cotton (the trade being carried on in British bottoms), will only yield a revenue of 6,95,290 out of 9,78,781 rupees, still leaving a deficit of 2,73,491 rupees.

21. If my assumption is correct, that the existing Sea Customs revenue is to be secured by the new plan, in addition to partial compensation for the Land Customs, a higher rate must be sought, and for this purpose the export duty ought not to be lower than 5 per cent. on cotton and all other articles; this, upon 1,50,00,000 rupees, the value at which I have estimated the entire exports from the outports of the Presidency, including cotton, would give a revenue of 7,50,000 instead of 6,50,000 rupees, and the deficit be 1,73,491 rupees instead of that above shown.

Rs. 1,73,491.

22. This rate, 5 per cent., was fixed by the Bombay Customs Committee, and with the additional information elicited by ourselves, I still think it a proper and moderate one.

23. It is indeed much below the rate of duty exacted on one portion of the coast, viz. between Damaun and Bombay, but the excessive weight of the Customs

in that district, both land and sea, has been loudly complained of, and considerable reduction of the Customs there is peremptorily required.

24. The difference of about 1,73,000 rupees will partly be compensated by a strict attention to valuation by the Customs officers, and I believe that the same amount of revenue can immediately be raised by the new tariff, enhanced as I have suggested, that is gained in the Sea Customs under the old one.

25. The valuation which I have assumed for the exports from the outports, 1,50,00,000 rupees, is likely to increase progressively, owing to the great demand for cotton, and the consequent spread of its cultivation, both in our own districts and in those of our neighbours, the whole of which must pass through our ports to reach Bombay, and add to the Customs revenue. The general improvement in the state of the country warrants our anticipating a larger increase in production of all kinds of produce, when the export duties are lowered even to 5 per cent.; we have, in support of this opinion, the remarkable fact that the Land Customs in the province of Goojurat are as productive in the present year as they were two years ago, although the transit duties on cotton and cattle, and a few minor items of revenue, have been since abolished.

26. Indeed, the difficulty in which we are placed by having so large an amount of revenue to make up in each branch of the Customs, is owing to the great increase which has taken place in that portion of the resources of late years.

27. The whole of the Land Customs and town duties of the Presidency, averaging 14,95,000 rupees revenue, remaining to be provided for.

28. In seeking an equivalent, we find that the Bombay Customs Committee always contemplated an enhancement of the duty on the salt manufacture of the Presidency, to be taken at the place of manufacture, and at such enhanced rate as should afford a surplus sufficiently large to compensate for the transit duties now levied from that article on its passage through the country.

29. The papers hitherto received from the Bombay Government do not enable me to say with perfect certainty what this surplus may be. The Bombay Committee assumed it at 3,00,000 rupees, the papers just received rate it much higher; but, assuming from these latter, that the present revenue derived from salt, both at the pans and in transit, is about 5,00,000 rupees, and omitting the estimates of the new duty in the inland districts, those of the produce of the zillahs where salt-works exist, would give a revenue of about 9,00,000 rupees, showing a surplus of 4,00,000 rupees; we may, therefore, safely adopt the Customs Committee's former estimate of 3,00,000 rupees, as that likely to be realized.

30. I would further propose adopting the plan of the Bombay Customs Committee, to the extent of charging upon imports of unenumerated articles at subordinates, whether from Bombay or from the ports of another Presidency, 1½ per cent., making the aggregate duty on the articles imported 5 per cent. instead of 3½, the rate of Schedule (A.)

31. And I would make the import duty at subordinates on unenumerated articles coming from foreign ports 5 per cent.

32. The effect would be to leave Bombay on its present scale of low entrepôt duties 3½ per cent., and to put the subordinates under an uniform system of 5 per cent. in import and export.

33. This would not affect the enumerated articles of import in Schedule (A.), which already highly taxed, or considered by the Government of India entitled to special protection, cannot be further subjugated to duty in India.

34. These rates I consider moderate, whether as bearing on the consumption in the country of foreign articles, or on the produce and manufactures exported elsewhere. They are in all cases much lower than the Presidency has hitherto borne, and as low as the state of the revenue will admit of their being reduced to.

35. I have no doubt that nearly 3,00,000 rupees would be secured by the additional 1½ per cent. at the outports. The loss in the revenues of the Presidency still apparent above at my own showing, I have the best authority for stating can only be temporary, and will be fully covered in three years at furthest, by

improvement of the land revenue under freedom of transit for produce of all kinds.

N. Konkan	- 2,29,746
S. Konkan	- 27,480
	2,57,226
Peonah	- 2,60,297
Ahmednugur	- 1,42,991
Candeish	- 1,53,041
	8,19,555

36. The Commissioners of Revenue for the Presidency of Bombay, whose experience in every branch is undoubted, and whose jurisdiction extends over the Customs as well as the land revenue of the Presidency, has favoured me with his opinion, that the abolition of the transit duties throughout the Dekhan, Candeish, and the Konkans, would be covered and more than covered in three years, by the improvement of the land revenue. An extract from his letter and its accompaniments, I have the honour to annex to the minute, and will merely add, that the Land Customs of the district in question amount to eight lacs of rupees, as shown in the margin.

(signed) *H. Borradaile.*

Calcutta, 25 June 1836.

No. 2.

I CANNOT agree with Mr. Borradaile, that the large loss of revenue which the statements exhibit, as the probable result of introducing the new Act at Bombay, is a sufficient ground for stating it to be inapplicable; I think there can be no doubt whatever that the new system, if applied to the whole of India, and if accompanied with a simultaneous abolition of all transit and town duties, would be productive of immense benefit to the trade, general prosperity and comfort of the country. It is for Government to determine, having a fair and undisguised statement before them, showing the most unfavourable financial result of the measure, whether, to accomplish these great benefits, the revenue should be put in jeopardy to the extent assumed.

The Committee have already placed before Government the objections which appeared to them to attach to the new system, but the passing of the Act has, as I conceive, disposed of these objections; and it appears to me, that the only choice now lies between a large loss of revenue, or the maintenance of different systems in the several Presidencies; Government alone can make the choice, but the Committee have expressed a strong opinion on various occasions against the separation of the Presidencies.

If we had to consider the case of Bombay alone, I think Mr. Borradaile's scheme would be better than that now in force here; but would it be applicable to Madras and Bengal?

The state of the question appears to me to be this: Government have pronounced the new system to be applicable to Bengal, and the Committee are called upon to say, whether it is equally applicable to Madras and Bombay; I can see no reason for saying that it is not equally applicable; the financial part of the subject being submitted for the consideration of Government, who alone can determine it.

(signed) *W. R. Young.*

No. 3.

I CONCUR in the views taken by Mr. Young.

(signed) *W. Babington.*

No. 4.

I ENTIRELY concur with Mr. Young and Mr. Babington. The present state of the question seems to me to be as follows: a commercial system highly conducive to the prosperity of the country has been granted to Bengal and Agra; and justice and policy demand that the system should be extended to Madras and Bombay, if the state of the public finances admits of its being done.

As far as the circumstances and interests of the Presidencies of Madras and Bombay are concerned, the Bengal plan is not only applicable, but is in an eminent degree favourable to them.

The only doubt is, whether, in the present state of the finances of India, the Government would venture upon such a suspension of revenue (for the amount remitted

remitted would certainly return to the Treasury in a few years as increased land revenue, and in other forms) as the extension of the Bengal system would require, and this doubt a Customs Committee is not competent to solve; in short, the question is, at its present stage, not a commercial, but a financial one, and can be decided only by the Government, which has the finances of the country, with all the demands upon them, before it.

It will be time enough to take the circumstances adverted to in Mr. Borradaile's minute into consideration, when the Supreme Government shall have declared that it cannot afford to put the Presidencies of Madras and Bombay on a footing of commercial equality with those of Bengal and Agra. The sum which must be remitted, in order to effect this object, is, as we have shown, about 60 lacs of rupees a year. This, therefore, is the additional burden borne by Madras and Bombay, over and above what is borne by Bengal and Agra. If the whole can be remitted, there will be nothing further to be desired; but if not, it will be our duty to point out the manner in which the amount retained can be levied with the least injury to the country, until the time arrives (and I hope it is, at any rate, not far distant) when all commercial restrictions in the interior having been abolished, equal and moderate duties may be established in every part of the coast of British India.

The superior advantages offered by the port of Bombay have led to a higher entrepôt duty being levied there than anywhere else in India. This duty is very productive, and I am of opinion, that its retention would not trench upon the equality which it is so desirable to establish among all the British Indian ports; I understand an entrepôt duty to be, in principle, an equivalent for the use of an entrepôt, and its equality to consist in the duty levied at one entrepôt bearing the same proportion to the advantages afforded by that entrepôt, as the duties levied at other entrepôts do to the advantages offered by them. It is no answer to this to say, that it would lead to interminable shades of difference, and that it would be impossible exactly to proportion the duty to the benefits conferred, because Bombay, as an entrepôt, stands out from all the other ports of India, having greatly the advantage of them in this respect. If the present system of levying a duty from the trade which uses Bombay merely as a place of deposit be adhered to, the deficit will be diminished between two and three lacs of rupees.

(signed) *C. E. Trevelyan.*

Calcutta, 29 June 1836.

MINUTES, No. 5 to 7, to accompany Report No. V.

No. 5.

1. I THINK it incumbent on me to record my dissent from the resolution of the Committee to retain in our Financial Statement for the Bombay Presidency, the item of 2,93,000 rupees, yielded by "Liquors and Tobacco Fees," as a component of the Sea Customs revenue, particularly since further explanation of the question is precluded by the determination of the majority of the Committee, that it is unnecessary for us to send in a separate Report upon the present state of the Customs revenues of the Madras and Bombay Presidencies, although we, in our First Report upon the Customs System of India, proposed to make the financial question the subject of our Second Report.

2. The item in question is comprised in the amended Return from the Accountant-general of Bombay as an item of Sea Customs, but may, with as much propriety, be left out of our calculations of the Sea Customs revenue, as the minor items which the Committee have resolved to reject from that Return, as realizable under the old as well as under the new system.

3. In the Abstract of the Sea Customs revenues of Bombay, prepared by me from the six years' accounts obtained here, and in that prepared by me from the Accountant-general's amended Return, this item was entirely omitted, and the two Abstracts, leaving it out, will be found to agree within 50,000 rupees.

4. I propose to show that the item ought to be left out of our estimate of Sea Customs, both present and future; first, because we cannot tell which of the two very unequal estimates of its amount is correct; secondly, because it is not a Customs

but an Excise or special duty, and would be realized equally under any Customs system; thirdly, because the including it as Sea Customs will add a further deficit of 1,62,000 rupees to the enormous one of 16,50,000 rupees assumed by us, and which, under the peculiar circumstances in which the Bombay Presidency stands, viewed and treated as a burthen and a drain on the resources of India, I cannot join in recommending, at the risk of being made personally responsible to my own Government (as I should justly be), for permitting such a result to occur, without bringing the fact fully and fairly to the notice of the Government, who have to weigh the plans submitted by us.

5. The item stands in the two sets of accounts as under:

	Accountant-General's Amended Return; Liquor and Tobacco Fees.	Accountant-General's Returns framed here; Excise.	Difference.
	Rs.	Rs.	Rs.
A. D. 1829-30 -	2,08,337	1,16,409	
„ 1830-31 -	1,78,029	83,815	
„ 1831-32 -	3,08,972	1,22,589	
„ 1832-33 -	3,19,229	1,15,306	
„ 1833-34 -	3,56,073	1,33,003	
„ 1834-35 -	3,93,200	1,52,174	
TOTAL - - -	17,63,840	7,23,296	
AVERAGE - - -	2,93,973	1,20,549	1,73,424

6. The secretary, against this item of 2,93,973 rupees, sets about 1,06,934 rupees as the sum realizable on import of spirits at Bombay at the new rate of 9 annas a gallon; and since the present spirit duty in the island of Bombay at 8 annas a gallon, and the import Sea Customs at $3\frac{1}{2}$ per cent., is about equal to the new duty, and the "Excise" (by which I understand the spirit duty on the island of Bombay), in the above quoted accounts, averages 1,20,549 rupees, I am willing to admit that what he has estimated for the spirit duty is not very far wrong. But I contend that the fairest as well as the most obvious course for the Committee to pursue in sending up a statement of Sea Customs for that Presidency, would be to leave the item out of both sides of the account.

7. Admitting that 1,20,549 rupees exhibits the present, and 1,06,934 rupees the expected revenue from the new duty on spirits at Bombay, we have to account for the tobacco at Bombay, and for 1,73,424 rupees, the difference shown above between the two statements by the Accountant-general. We have not the means of accounting for this extraordinary difference. The produce of the special duty on tobacco at the outports is under.

8. We have no return of what it yields at Bombay, but we know that it is in excess everywhere of the regular Sea Customs, being 8 annas per Bombay maund at the out-ports, and 3 rupees per Bombay maund at Bombay itself.

9. The Bombay maund being 28 lbs., and that of Calcutta, 82 lbs., we may safely say, that the existing duty is equal in the first case to $23\frac{1}{2}$ annas, or 1. $7\frac{1}{2}$, in the second to 8 rupees 12 annas, upon a quantity which, by the new tariff, would in either case pay 4 annas.

10. If the present duty of 1. $7\frac{1}{2}$ at the outports yields 1,00,000 rupees, a duty of 4 annas will yield a loss of five-sixths of that sum. What it gives at Bombay we do not know, but the produce of the new duty will be only 1-35th of the present.

11. By throwing the revenue now derived from the special duty on spirits and tobacco in the Bombay Presidency into the sum total of Sea Customs, and declar-

ing the duty of the new tariff to be applicable thereto, we at once deprive the Bombay Government of a portion of their already insufficient resources (devised in 1827 expressly for the purpose of aiding them), without, as I conceive, sufficient warrant or necessity for so doing.

12. We are not borne out by our instructions in touching any special revenues distinct from Customs. The wording and working of the Bombay Regulations take this extra duty on spirits and tobacco out of the Customs revenue, since it is throughout declared to be exacted "in addition to the established Customs of the port."

Reg. XXI. of 1827,
Sect. 46 and 48;
Reg. XXXIII. of
1827;
Reg. XV. of
1828.

13. It is urged that the duty levied at Bombay on spirits is a town duty, but the abolition of the town duty at Calcutta has not been allowed to affect this spirit duty; and that of Bombay is known to have been originally a police tax, as that is still, and the old duty of Bombay, levied as a town duty, was abrogated by Regulation XXXIII. of 1827, Section II., Clause 7, and reimposed by the succeeding clause of the same section as a general duty, and distinguished from the Customs, by the 3d clause declaring it to be in addition to Sea Customs.

14. I cannot think the loss necessary, because the new tariff, so far from covering the Sea and Land Customs of the Presidency, will not afford an equivalent for the present Sea Customs without this item of liquor and tobacco fees; and however favourable the circumstances of the Madras Presidency may be for reduction of the burthen which oppresses it, the Bombay Presidency, as labouring under an insufficient revenue, is not in a position to surrender any source of revenue unconnected with the Customs.

15. I conclude by expressing my opinion, that in order to exhibit a correct statement of the existing Sea Customs of Bombay, distinct from those special and other items of revenue which may and will be realized under any system, we ought to omit this item of "liquor" and "tobacco fees," and in order to exhibit a correct estimate of what the new tariff is calculated to yield, we ought to omit all calculation of the duty on the same substances at the new rates.

(signed) H. Borradaile.

25 June 1836.

No. 6.

It appears to me that the question, whether the Regulation XXI. of 1827, and XXXIII. of 1827, of the Bombay Code, would or would not be abrogated by the introduction at that Presidency of the new Act and tariff, is extremely doubtful; the wording of those Regulations leaves it very uncertain whether the duties they impose are Custom duties or special duties.

(signed) H. Babington.

29 June 1836.

No. 7.

WHATEVER causes may have led to the imposition of these duties, and in whatever manner they may be designated in the Bombay Regulations, they are now Sea Customs duties. They are levied on the import of spirits and tobacco by sea, and that without any distinction as to whether those articles are consumed at Bombay, or are sent for sale in the interior; if, therefore, Bombay is to be put on the same footing as Bengal, the duties on spirits and tobacco must be levied there according to the Bengal tariff.

As far as the present question is concerned, I cannot see any ground for making a distinction between these duties and any other part of the existing Bombay system. If the Government can afford it, Bombay ought to have the same commercial advantages as Bengal. If it cannot, then it will be necessary to consider how that portion of the additional burden now borne by Bombay which cannot be remitted, may be adjusted, so as to press in the least injurious manner upon the industry of that Presidency. We should then have to determine whether an additional duty on tobacco would be a proper mode of making up a portion of that amount. I am disposed to think it would. Indeed, a much higher rate of

import duty on tobacco than that imposed by the Bengal tariff, might, in my opinion, be demanded in all the ports of India. With regard to spirits, it appears that the Bengal duty is about equal to the excise and import duty on that article taken together.

(signed) C. E. Trevelyan.

29 June 1836.

REPORT VI.

From the Committee for Revising the Customs and Post-Office Regulations in India, to *H. T. Prinsep*, Esq., Secretary to Government of India, General Department.

Sir,

REFERRING to the 8th paragraph of your letter of instructions in this department, No. 74, of the 31st August last, we have now the honour to acquaint you, for the information of the Right Honourable the Governor-general of India in Council, that, in consequence of the manner in which the Inland Customs of the Madras Presidency have been let to farm in almost every instance, under the authority vested in the Board of Revenue, by section III. Regulation V. of 1821, of the Madras Code,* viz., including in one lease, and in one specified sum, the general inland duty on goods passing through or consumed within the several collectorates of that Presidency, and the duties collected on the frontiers of foreign native states, and also of the manner in which the accounts of the Sea and Land Customs revenue have been mingled with each other in many cases, we should have found it quite impossible to make a classification of the inland duties, as regards the revenue derived from each, in the mode pointed out in your letter now under reply, even without the additional difficulty created by the circumstance of the town duty on the five enumerated articles of Regulation V. of 1812 (betel, tobacco, ganjah, bang and godauk), being usually leased to the same party as the general inland and frontier duties.

2. A separate bidding is, it is true, made in most cases for the produce of the five town duty articles; but as this sum necessarily forms part of the farmer's general calculation, and the collections on them are made by the same servants as the other inland duties, the charges of realization are of course less than they would be if the town duties were collected by a separate establishment, and the amount at which these duties are valued in the farmer's lease does not, in consequence, afford a safe criterion from which to judge of their probable value after the other internal duties are abolished.

3. But this is not all, for to the impediments already mentioned, we must add the further one of the variety of classifications assigned to the several inland duties in the accounts rendered to us by the different Collectors and the Accountant-general; and the difference also between the sums realized under each head of revenue, as shown in the accounts in question.

4. Under these circumstances, the Governor-general in Council will, we trust, acquit us of all backwardness in the discharge of our duty, and fulfilment of his wishes, when we state that it is entirely out of our power to submit any classification of inland duties, inclusive of value, on which the slightest dependence could be placed by Government.

5. But as we gather from the general tenor of our recent instructions, that some notice of the character and effect of the several classes of duties now in force in the Madras territories, in their general or local application to the trade of that Presidency, will still be acceptable to his Lordship in Council, notwithstanding our inability to afford that information in respect to the fiscal results of each which his Lordship desires to receive; we beg leave to submit the following observations on that separate portion of the subject generally referred to us, for the further information of Government.

6. The

* Section III. Regulation V. of 1821.—“The rents shall be granted inclusive or exclusive of the duties collected on the frontier of foreign European states, and of the duties levied under Regulation VI. of 1812 (*i. e.* the duties on betel, tobacco, ganjah, bang and godauk) as the Board of Revenue may direct.”

6. The Madras Customs imposts may be classed under the heads of :

1. Sea duties.
2. General inland 5 per cent. duties.
3. Eight per cent. duty on nearly every article of consumption imported by land into the town of Madras or the surrounding villages, or produced or manufactured or sold within them; special duties on piece goods from 3 to 16 per cent. according to quality; and duties on areca-nut from 12 to 20 per cent., also according to quality.
4. Town duty, of from 50 to 100 per cent. on betel-leaf, tobacco, gunja, bang and godauck.
5. Special sea duties and hawlut duties in the provinces of Canara and Malabar.
6. Three per cent. duty on grain exported by the land frontier into native states, or foreign European settlements.
7. Eight per cent. duty on cotton and cotton thread exported by the land frontier into the territories of native powers.
8. Sixteen per cent. duty on goods passing by land from the Company's territories into the settlements of foreign European nations, or *vice versa*, from such settlements into the Company's territories.

7. (Class 1 and 2.) The Sea Customs and general inland 5 per cent. duty have already been fully reported upon, and no particular notice of them is required at present; but as it appears to be the object of Government to obtain from us a comparative sketch of the relative degrees of oppressiveness of the several Customs imposts, we may take this opportunity of remarking, that the general 5 per cent. duty, with reference to the mode and extent of its operation, is by far the most objectionable of them all.

8. (Class 3.) The Madras land duties are levied at the town of Madras and the surrounding villages on all those articles which, in the interior, are subject to 5 per cent. duties. The tariff valuations on which these duties are levied, are also higher than those of the interior. Goods accompanied by a certificate of the inland duty having been paid upon them, receive credit for the same, and are charged the difference of the inland and Madras duties calculated on the Madras tariff valuation.

9. The gross revenue derived from these duties, from Fusly 1231 to 1244 inclusive, according to statements compiled from the detailed ones furnished to the Committee by the Collector of Land Customs at Madras, in the month of April last, was rupees two lacs twenty thousand nine hundred and ninety (2,20,990) per annum.*

10. The character of this impost is exactly the same as that of the general inland 5 per cent. duties, but besides its being liable to all the objections which can be urged against the inland duties, except as to the extent of its operation, it is further objectionable on account of its greater weight, its partial operation, and the annoyance it occasions by entailing the necessity of a second adjustment of duties on all goods imported from the interior, and the heavy charges which, owing to local circumstances, attend its collection. These imposts are not rented.

11. The relief afforded by their abolition would be very imperfect, unless it were united with the abolition of the town duties on the five articles which are levied at Madras, as at other large towns in the interior, for if the Madras land duties were abolished, and the town duties retained, the machinery employed for their collection would most assuredly bring the whole trade and consumption of Madras and its neighbourhood under contribution; authority to search confers the power of universal exaction, but if revenue is to be realized, that authority could

* Collected on general goods	-	-	-	-	-	-	83,918
On piece goods with rowannahs	-	-	-	-	-	-	1,00,996
On piece goods without rowannahs, or wove in the collectorate							31,076
							2,20,990

could not be withheld from the officers employed in the collection of the town duties.

12. Should the Madras land duties be abolished, while a strong town duty establishment is maintained for the search of all merchandize, baggage and passengers, though revenue would have been sacrificed, little advance would be made in the work of relief.

13. Again, if an equivalent could be found for the produce of the Madras land and town duties, which together amount to about six lacs eight thousand and fifty-nine rupees (6,08,059) gross revenue, or five lacs seventy-five thousand one hundred and seventy rupees (5,75,170) per annum net revenue*, the result of their abolition would be that the most wealthy part of the community, the residents in Madras, would be relieved not only from a general tax imposed upon the poor inhabitants of the interior, but also from a consumption tax on five articles of luxury, which would continue to be levied in towns of comparative insignificance.

14. (Class 4.) The town duties are duties of about 100 per cent. (the rate varies in different districts) on the five articles of betel-leaf, tobacco, ganja, bang and godauck. They are levied at the town of Madras and the principal towns in the interior; in several† districts they are levied at every Customs chokey throughout the district.

† Madras, Trichinopoly, Tanjore.

‡ Malabar, Canara.

15. Two districts‡ only are free from them; these duties are in addition to the general five per cent. to which the five articles are likewise liable. As they are considered as consumption duties, no drawback of the five per cent. duty is allowed.

16. As these duties are generally farmed, as mentioned in our first paragraph, to the same individuals who rent the general inland duty, and who are specially exempted from producing their accounts, there are no means of ascertaining what they yield. The charges of collection too are equally unknown, both from the circumstance of the want of accounts, and from that of the same establishments being employed, as we have also noticed in paragraph 1, in the collection of the town duties as are employed in that of the general inland duties. On both these points there are no grounds on which to form an opinion but the statements of the renters, which are manifestly false; they invariably report their collections to be far below the amount for which they rent the duties.

See paras. 181 and 182 of Report No. 1, on Customs, dated 27 January 1836.

17. As long as the general inland duties are retained, little relief would be afforded by abolishing town duties; but if the general inland duties were abolished, the effect of retaining the town duties would probably be much the same as that produced by the imposition of town duties in 1803, when the country at large was free from Customs duties, viz. the desertion of the towns; for though at first sight there appears no ground for supposing that a duty confined to five articles of luxury would produce the same effects as the general town duty imposed in 1803, it is to be remembered, that such is the nature of these imposts, and such the character of our native servants, that when a chokey is established, though for the purpose of levying duty on a single article only, it not only brings the whole trade of the country in transit under contribution, but subjects every passenger to search and detention. It is every one's interest rather to bribe the Customs officer, than to submit to the annoyances which they have a legitimate right to exercise. The imposition of Customs duties upon the country at large has taken away the inducement to desert the towns which existed in 1803; for though an extra duty is imposed on the towns to which the inhabitants of the country are not legally subjected, yet, as it is not the legal amount of the duties nearly

	Rs.
* Madras Land Duties, <i>vide</i> para. 9	2,20,990
Collected on areca-nut	57,465
On betel, tobacco, ganja, opium and godauck	3,29,604
	<u>3,87,069</u>
	6,08,059
Deduct charges of collection, per annum	<u>32,889</u>
	Rs. 5,75,170

* How very little of the grievance of the Customs duties consists in the duties themselves, may be inferred from the comparatively flourishing condition of those districts in which the town duties are levied generally, instead of being confined to the towns.

nearly so much as the exactions of the Customs officers, which it is desirable to escape; and as these would not be escaped by retiring into the country, no adequate advantage would be derived by the removal. But if the country at large were cleared of the Customs officers while they continued to exercise their authority in the precincts of the towns, the inducement to quit the towns would become even greater than it was on the introduction of the town duties in 1803; for the Madras manufactures having of late years been nearly ruined, the towns are not now inhabited by a class of people so interested as the manufacturers were in continuing to reside in them. As marts of commerce, the towns in the Madras territories, which are small in size, do not hold out to the mercantile part of the community any advantages which counterbalance the annoyances which would arise from dwelling in a spot surrounded by a cordon of chokeys, supposing those annoyances might be avoided, which they cannot at present, by a retreat into the country. As long as chokeys are maintained at the towns for the collection of the general inland duty, little relief would be afforded by the abolition of the town duties; and again, little advantage would accrue to the revenue from the retention of the town duties after the abolition of the general inland. The two imposts appear to be bound up together. Suffering, as the Madras ryots are, from the great reduction that has taken place in the price of grain since the fixing of the land assessment, it would not appear to be the policy of the Government to impose or continue any taxes, the effect of which is to discourage the formation and extension of markets for agricultural produce.

18. The expediency of commuting the town duties, in some instances, for an excise on the articles when brought to market, and in others for a higher assessment on the crops, has engaged our attention; so many questions, however, arise requiring reference, both to the local officers and the records of the Madras Government, that we consider it would be impossible to arrive at a satisfactory conclusion within any reasonable time, if, situated as we are, we could ever arrive at it at all. The imposition of local and partial taxes is a subject which the local authorities are most competent to deal with. The commutation of the duties on tobacco and betel-leaf for a higher assessment on the crops, may possibly be feasible, but the land assessment in the Madras territories being already far higher than in Bengal and Bombay, a considerable addition to it appears neither fair nor expedient.

19. (Class 5.) The particular duties and hawlut duties of Canara and Malabar are classed together, as imposed on nearly the same articles, but they differ in their character.

20. The particular duties of Malabar are sea export duties, of from 10 to 15 per cent., imposed on the tariff valuation, on betel-nut, cardamums, cinnamon, cassia, pepper and sandal-wood.

21. In Canara, both hawlut duties and particular sea export duties are levied on the same articles that are subject to particular duties in Malabar, with the exception of cinnamon and cassia, which are not produced in the former district. The hawlut duties are levied on export of the above articles, either by sea or by the land frontier. In the former case, a particular sea export duty is levied in addition. Annexed is a statement of the rates of duty, showing the hawlut duty to be from 5 to 30 per cent., and the sea duty from 5 to 10 per cent.* The tariff valuation (in one article at least, betel-nut) is excessive. The Collector reports the selling price of betel-nut to be from 14 to 18 rupees, while the tariff valuation is 40 rupees, making the selling price and the duty nearly equivalent. The aggregate hawlut and sea duties on betel-nut are 35 per cent. The assessment on the lands producing the nut was originally fixed with reference to this heavy duty, but a great reduction having since taken place in its market value, principally owing to an extended cultivation of it in Mysore, a reduction of the rate would be likely to improve the revenue, as well as to relieve the cultivation.†

* Appendix (A.)

22. (Classes 6 and 7.) With regard to the 3 per cent. duty on grain exported by the land frontier into the territories of native powers, and the 8 per cent. duty

† *Fide* our Secretary's letter to Government of India, No. 134, dated 26 September 1835.

duty on cotton and cotton thread, it appears expedient that in every district (with perhaps one or two exceptions) in which the inland duties may hereafter be abolished, these two imposts should be abolished also; for the country on the frontier, being generally of an open character, a very strong frontier line would be necessary to ensure their collection, the charges of which would far exceed not only the collections on grain and cotton, but all the collections that would be realized on the whole of the trade that passes the frontier, supposing it to continue liable to the existing 5 per cent. duties.

23. The frontier duties, or duties collected on the frontier only, are confined to the duties on cotton and grain, and to the hawlut of Canara, which is both frontier and sea exports.

24. (Class 8.) The duties collected on the frontiers of the settlements of foreign European nations, will of course continue and be regulated as at present, with reference to the amount of the duties charged on goods exported and imported in foreign vessels by sea.

25. With respect to the question of applying the system of gradual relief now contemplated by the Governor-general in Council for the Madras Presidency, and referred for our consideration in the 10th paragraph of our recent instructions locally by districts, in preference to doing it by articles and items of taxation, we have no hesitation, with reference to our earlier observations in paragraph 17, in offering it as our decided opinion that the former will be the far more advisable course of the two, being perfectly satisfied, as we have indeed there stated in detail, that so long as the general right of search is maintained in the interior of that Presidency, the exemption of any particular article or articles from duty, whether by order of Government or by legislative enactment, will be of no avail in protecting such articles from the vexatious detentions and onerous exactions practised by the farmers of the inland duties and their servants, as well as the Government native servants, where the inland duty happens to be under amanece management, on the internal trade at large.

26. Entertaining these sentiments, our inquiries have necessarily been directed to the ascertainment of what districts should be selected for relief in the first instance; and we have, on mature consideration, come to the conclusion that those of Ganjam, Vizagapatam, Rajahmundry and Masulipatam, are, on the whole, the best suited for the commencement of a system of entire abolition.

27. Bounded on the north by Cuttack, a portion of the Bengal Presidency already entitled to unrestricted freedom in respect to internal trade; on the west by nearly impenetrable jungles and the territories of the Nagpore and Hyderabad states; on the east by the sea; and on the south by the Kistna, a river of considerable magnitude, we do not know any part of the Madras territories where the local position of the provinces to be freed from internal customs taxation, offers so many recommendations to immediate relief as the districts in question. In adopting this opinion, we have not lost sight of the advantage that might attend the introduction of the proposed change in the immediate vicinity of Madras itself; but as goods passing into the interior would still be subject to the general inland duty immediately they passed the limits of the district freed from internal chokies, and again, as all goods arriving from the interior would in like manner have paid the inland duty previous to their entrance into the relieved districts, we have thought that the benefit that must attend the unlimited freedom of trade through so large a portion of territory as that which we propose for present relief, will materially exceed any advantages that may be expected to result from the immediate abolition of the inland duties in the more central district of the Madras Presidency.

28. As regards the sacrifice of revenue to be made by Government in the event of our suggestions in respect to the quarter in which abolition is to take place meeting with the approval of the Governor-general in Council, we have ascertained, by a statement compiled from the accounts of the Madras Customs receipts and disbursements, furnished by the Accountant-general of that Presidency to the Accountant-general in Bengal (Appendix B.), that the average net Land Customs revenue of the four districts in question for the years 1832-33, 1833-34, 1834-35, inclusive of town duties, which, according to the best estimate we can form, yield about

about forty-two thousand (42,000) rupees per annum,* amounted to something less than three and a half lacs of rupees per annum (3,48,137 rupees), and that the Sea Customs collections during the same period, yielded a net average revenue of about thirty-three thousand rupees (33,063 rupees) per annum, or, together, a trifle more than three lacs and eighty-one thousand rupees (3,81,000 rupees).

29. Believing, however, that some portion of the revenue now realized in the shape of inland duties, and admitted in part payment of sea export dues, will hereafter be realized as Sea Customs export collections, we do not think, on a careful examination of the several statements before us, that we shall over-estimate the future receipts in the Sea Customs department of the four provinces at sixty thousand rupees (60,000 rupees) per annum, and consider, therefore, that the total amount of revenue to be relinquished by Government in attainment of the relief recommended for the districts of Ganjam, Vizagapatam, Rajahmundry and Masulipatam, will scarcely exceed three lacs and twenty thousand rupees (3,20,000 rupees) per annum, even if it should be found inexpedient with reference to the probable amount of collections on the frontiers of the Hyderabad state, and the expense of the establishment necessary for the future realization of duty in that quarter, distinct from the inland system, to withdraw all frontier chokies on the line in question.

30. But this is a point on which we are not able to offer any satisfactory opinion at the present moment, and we have therefore addressed inquiries on the subject to the local officers of Government most competent to assist us in forming a correct judgment of the advantage or otherwise of continuing to maintain such frontier chokies, after the general inland duties and town duties shall have been abolished throughout the tract already described, and we shall have the honour of submitting the result of these inquiries to Government at the earliest date in our power.

31. With reference to that portion of our present instructions which requires us to consider what substitutes can be provided so as to admit of a partial commencement with the work of remission at the Madras Presidency in particular, we are sorry to be obliged to state, that under the measures of separate legislation and relief which it has been deemed advisable to adopt with respect to the other two Presidencies, we are unable to devise any means by which any portion of the revenue now recommended to be relinquished in the Madras Presidency can be made good to the state, unless as regards betel and tobacco, the commutation adverted to in paragraph 18 should hereafter be deemed worthy of adoption. The present rate of import and export duty on the general sea-borne trade is, as already mentioned in a former part of this letter, eight (8) per cent., a scale so much in excess of the existing duties in Bengal, and of those also recommended for Bombay, that we do not think it would be either just or expedient to extend the operation of the duties on metals, marine stores and woollens, the only new source of taxation that has fallen within our observation, and the additional duty on British piece goods and unenumerated articles from Great Britain and Ireland, sanctioned by Act XIV. of 1836 to the Madras Presidency, so long as the existing duties remain in force there, even if this additional impost were likely to be more productive than we have ever considered it would prove; but when we find by statement compiled from the trade returns furnished by the Reporter-general on External Commerce at that Presidency to the Supreme Government, of which extracts in respect to the above enumerated articles for a period of five years (1829-30 to 1833-34) will be found in Appendix (C.), that the whole increase of revenue derivable from the immediate taxation of those articles would fall short of twelve thousand rupees per annum (11,877 rupees),† and that the additional duty of

* The average of the Town Duties for Fuslies 1239, 1240, 1241, 1242, 1243, as given by the several Collectors, is as under:—

Ganjam	-	-	-	-	-	-	-	-	1,450
Vizagapatam	-	-	-	-	-	-	-	-	2,000
Rajahmundry	-	-	-	-	-	-	-	-	4,326
Masulipatam	-	-	-	-	-	-	-	-	33,034
									Rs. 41,660

† Metals, average annual value	-	-	Rs. 2,23,346	at 3 per cent.	-	-	6,700
Marine Stores ditto	-	-	13,159	ditto	-	-	394
Woollens ditto	-	-	96,738	at 2 per cent.	-	-	1,935
Piece Goods and Cotton Twist, ditto	-	-	2,84,975	at 1 per cent. additional	-	-	2,848

Rs. 11,877

of 1 per cent. on unenumerated articles would not exceed the same sum, twelve thousand (12,000) rupees, or together about twenty-four thousand (24,000) rupees per annum, we are convinced that the dissatisfaction the measure would give rise to as an isolated act of taxation, unconnected with a general reform of the Madras Sea Customs Laws, would greatly outweigh the fiscal benefits to be expected from the new tax.

32. It is at the same time right that we should state, in reference to the small amount of revenue likely to be realized from this branch of the commerce of the Madras Presidency, that its western coast is chiefly supplied with articles of European growth or manufacture from Bombay, and that considerable shipments of metals, &c., appear also from the trade returns to be made from Calcutta to that Presidency, giving in the aggregate a much greater consumption of articles from Great Britain than would be supposed to take place if we attended solely to the direct importations from that quarter. These latter, it is believed, are chiefly imported into Madras itself, and we regret that the entire disregard that has been shown to our repeated applications to the Collector of Sea Customs there on the subject of free goods and other matters connected with the external trade of that port, commencing as far back as the 30th of April 1835, and ending with an application to the Madras Government for its interference in furtherance of our inquiries on the 17th of August last,* should have put it out of our power to submit any other information on the subject now under consideration to the Government of India, than that which we have been able to collect from the returns we have already mentioned, and which we fear afford but very imperfect data on which to found just inferences and conclusions regarding the general commerce of that Presidency.

33. But, however insufficient these data may be for our present purpose, they are the best within our reach, and if the information now submitted in respect to future revenue from the English trade with the Madras territories be less satisfactory than the Governor-general in Council may have been prepared to expect, we can only assure his Lordship that it is the most accurate that the circumstances we have just stated will allow us to lay before Government at this time.

34. We have not ventured to recommend more extensive abolitions in the commencement, lest we should carry the work of immediate reform further than the Governor-general in Council may deem expedient at present; but we shall not, we conceive, overstep the line of our duty in stating it as our opinion, that the geographical position of Canara and Malabar, and the intimate commercial connection that subsists between those provinces and the Bombay Presidency, point them out as the next districts in the Madras Presidency, to which it will be advisable to apply the principle of entire relief from the general inland duty.

Appendix (D.)

35. The statement forwarded herewith, Appendix (D.), compiled from the same documents as that for the districts in the Northern Circars, exhibits a net revenue derived from the inland duties in Canara, in the year 1831-32, 1832-33, 1833-34, of something less than one lac and ninety-eight thousand (1,97,766) rupees per annum, and as there are no inland chokies either in this province or the adjoining one of Malabar, except on the boundary lines of each in the interior, the sum in question must consist, we imagine, of the realizations made from the frontier duty and hawlut duty jointly.

36. It is known that a large portion of the latter duty, though brought to account as Land Customs revenue, is in reality collected, when the articles which are subject to it are exported by sea, and as the portion may of course continue to be so collected, as long as it shall be considered right to maintain the hawlut duties at their present rates, we think that the immediate sacrifice of revenue, from the removal of the frontier chokies in Canara, will not exceed one lac and thirty thousand (1,30,000) or one lac and thirty-five thousand (1,35,000) rupees per annum. The further statement we enclose, Appendix (E.), showing the rates and amount of duty leviable on a candy of betel-nut of 560 lbs., grown within the province of Canara, to its final export by sea, gives a sum of upwards of ten thousand (10,748) rupees annually as sea duty on betel-nut exported from Canara to the port of Bombay only, from Fusly 1240 to 1244, both inclusive,

Appendix (E.)

* This letter has never been acknowledged by the Madras Government.

inclusive, and shows that a further sum of nearly forty thousand (39,882) rupees might have been collected on the betel-nut in question when so exported, had no hawlut duty existed in the interior, and which was in all probability so collected, though brought to account as inland special duty, agreeably to general usage, in order, we have heard, to avoid all liability to future drawback.

37. The statement from which the above inferences are deduced, proceeds, it will be observed, in the absence of any positive information on the subject, on the supposition that one-half of the quantity of betel-nut carried from Canara to Bombay by sea, is the produce of that portion of the province which is above the Ghauts, and the remainder of the country below the Ghauts, the one quality being more valuable than the other, and the rate of hawlut duty being also different, although the aggregate of land and sea duties is, in both instances, the same, viz., 35 per cent. on a very high tariff valuation.*

38. Having shown, that on the article of betel-nut alone, exported to Bombay, revenue to the extent of 40,000 rupees per annum, now credited as hawlut duty, may be realized on shipment by sea; we do not believe that we over-estimate the collections that may, in like manner, be made on pepper, cardamums and sandal-wood, in taking them at twenty-five thousand (25,000) rupees though we are not in possession of any sufficient data to authorize a more confident assurance of accuracy on this part of the subject.

Rupees	-	-	1,98,000
Less	-	40,000	
	-	25,000	65,000
Leaves as deficit	-		1,33,000

39. Referring again to Appendix (D.), it will be found that the net inland customs revenue of Malabar for the years 1832-33, 1833-34, 1834-35, was a trifle more than one lac and twenty-three thousand rupees per annum (1,23,283 rupees), almost the whole of which is collected at the chokies at Paulghautcherry, the great inlet from the Carnatic into Malabar, and considering that by far the largest portion of the piece goods passing by that route from the interior is destined for export by sea, and that there may be other articles also of which we are at present uninformed pursuing the same course, we think that deductions to the amount of the surplus sum of 23,000 rupees, may safely be allowed for collections realizable on the sea-coast if the Land Customs chokies were no longer in existence, and for sums paid in the Sea Customs Department, as the Malabar Inland Customs portion of drawback due on piece goods exported from the Western Coast, that have paid higher duties in the interior than are retainable by Government under the Sea Customs Regulations and orders at present in force in this province.

40. With respect to drawbacks, we find by statements furnished us by the Principal Collector of Malabar, under date 7th January 1836, that the total amount of inland duty returned on piece goods exported by sea, in the years of which we are treating, imported in the first instance into Malabar from Coimbatore and other eastern districts, was nearly thirty four thousand (33,937) rupees per annum. The sum retained by Government ought only to be $2\frac{1}{2}$ per cent. on the tariff valuation at the place of export, but as the value put on these goods at Paulghautcherry, where an additional demand of 5 per cent. is made on the difference between the land tariff of Malabar and that of the place where the inland duty was first paid,† is much higher than the sea tariff valuations would warrant, and that a larger amount of drawback would be payable to the exporter by a strict adherence to the latter than is returned by the adoption of the former, it has been the practice to take the Paulghautcherry valuations as the standard for drawbacks by sea, and to return one-half only of the whole inland duties previously paid.

1831-32	-	26,77
1832-33	-	32,43
1833-34	-	40,60

3/1,01,81

33,93

† Regulation I. of 1812, sec. XIII. clause 4.

41. This being the case, it is clear that the sum returned as drawback ($2\frac{1}{2}$ per cent.) is the one-fortieth part of the value of the goods themselves, and taking this

• The betel-nut grown above the Ghauts pays a hawlut duty of	-	-	30 per cent.
And a Sea duty of	-	-	5 „
	-	-	35 per cent.
That grown below the Ghauts pays a hawlut duty of	-	-	25 per cent.
And a Sea duty of	-	-	10 „
	-	-	35 per cent.

this drawback, as in the preceding paragraph, at 34,000 rupees, we have thirteen lacs sixty thousand (13,60,000) rupees as the total value, according to the Paulghautcherry rates, of the piece goods from Coimbatore and other eastern districts, exported annually from Malabar in the years in question.

42. But it is well known that these Paulghaut rates are usually in excess of the original tariff valuation certified by the rowannah accompanying the goods in transit, to the extent of about 80 per cent. It follows, therefore, that the 5 per cent. levied in this instance, at the place where the duty was first paid, will have been calculated on a valuation of 7,55,555 rupees, or say, on seven lacs and fifty-six thousand (7,56,000) rupees in the sum of 37,800 rupees; and at Paulghautcherry, on an additional valuation of 6,04,444 rupees, or say, six lacs and four thousand rupees, in the further sum of 30,200 rupees, making a total inland duty of 68,000 rupees, one-half of which being retained on export by sea, should place, to the debit of the inland collections of the district in which the first duty was paid, the sum of 18,888 rupees, or say, 19,000 rupees; and the sum of 15,112 rupees, or say, 15,000 rupees, to the debit of the inland duties of Malabar, as an actual deduction from present revenue, in part of the sum of 23,000 rupees allowed for by estimate in paragraph 38, and thus leave the sum of 8,000 rupees only per annum in doubt in any way.

43. With these data before him, the Governor-general in Council will, perhaps, be disposed to concur with us in the belief now expressed, that the inland duties, both in Malabar and Canara, may be immediately abolished, at a sacrifice of not more than two lacs and thirty thousand (2,30,000) rupees, or two lacs and thirty-five thousand (2,35,000) rupees, which, added to the sum required to be relinquished in the districts of Ganjam, Vizagapatam, Rajamundry and Masulipatam, something less than three lacs and twenty thousand (3,20,000) rupees would give full scope to the introduction of the scheme of entire abolition in these six maritime provinces, and the early development of their internal resources, at an immediate cost to Government of about five and a half lacs (5,50,000) of rupees per annum.

44. To render the work of abolition complete on the western coast of the Madras Presidency, and give entire relief from inland duties to the whole line of coast from Cape Comorin in the south, to the port of Cambay in the north, and thence inland to Kaira and Ahmedabad (with the exception of the town duties proposed to be retained at present on the island of Bombay and Guzerat), supposing our recent suggestions for the relief of the Bombay Presidency at large to be acquiesced in by Government, it will only be necessary to add the district of Tinnevely to the number of those we have already recommended for relief in this port.

45. That this would be a very desirable measure we have no doubt, particularly if our information respecting the recent abolition of all transit duties in Travancore is correct; but as the net inland customs revenue of Tinnevely is considerable, averaging for the years 1832-33, 1833-34, 1834-35, about two lacs and thirty-three (2,33,428) rupees per annum, and we are unable, from any documents in our possession, to form an estimate of the amount of frontier revenue that would still be realizable on the trade passing to and from the Travancore state, or of the addition that might be expected to the Sea Customs revenue from the change; we can only advert to the resources of this district in general terms, leaving it to the Governor-general in Council to determine the degree of consideration that may be due to our present suggestions regarding Tinnevely, in connection with the utmost sacrifice of revenue that can be required of Government to carry them at once into effect.

46. The adoption of the scheme of abolition now submitted in its fullest extent, would leave only the following maritime districts unrelieved; viz. Madura, Tanjore, South Arcot, Chingleput, Madras, Nellore and Guntoor, and trusting that the financial condition of the state may allow of these being also freed from all internal customs dues at an early period, we have the honour to enclose a statement, Appendix (F.), showing the net amount of inland customs revenue derivable from the districts in question for the years 1832-33, 1833-34, 1834-35, with the exception of Madras, of which, for the reasons given in paragraph 32, we can render no account at present, amounting in the aggregate to 10,09,334

rupees per annum, as per margin, some portion of this would, no doubt, be made good by increased collections in the Sea Customs Department, but of the amount likely to be so available, we are not able to afford any satisfactory information to Government.

47. The extension of this measure of relief to the whole sea-coast of the Madras Presidency, and which would, in effect, introduce a system of complete freedom in respect to internal trade throughout the entire sea-coast of British India, would afford an opportunity of remodelling the Sea Customs Laws of that Presidency, which, in connection with the changes that have already taken place in Bengal, and we hope in progress at Bombay, is, we think, an object of great importance at this time, not only in view to the utmost practicable uniformity in the Sea Custom Laws of India, but the possibility also of an augmentation of revenue from this source in the territories subject to the Madras Government.

We have, &c.

(signed) J. H. Crawford.
W. R. Young.
H. Borradaile.
H. Babington.
C. E. Trevelyan.

30 November 1836.

(signed) G. J. Siddons,
Honorary Member.
(signed) T. J. Taylor,
Secretary.

I have signed this report under a reservation which I shall have the honour of explaining in a separate Minute.

(signed) H. Babington.

APPENDIX.

APPENDIX (A.) referred to in Para. 21, Report VI.

STATEMENT, showing the particular Duties levied on the under-mentioned Articles in the Zillah of Canara.

ARTICLES.	Tariff Value per Candy.	Land Duty.	Sea Duty.	Total Land and Sea Duty.	REMARKS.
	Rupees.	Rupees.	Rupees.	Rupees.	
Pepper - - - - -	60	10 per cent.	5 per cent.	15 per cent.	
Cardamums - - - 1st sort	750	15 per cent.	5 per cent.	20 per cent.	
2d sort	500	15 per cent.	5 per cent.	20 per cent.	
Betel-nut :					
Balaghaut produce - 1st sort	40	30 per cent.	5 per cent.	35 per cent.	
2d sort	35				
3d sort	20				
Payenghaut produce - 1st sort	30	25 per cent.	10 per cent.	35 per cent.	
2d sort	25				
3d sort	20				
Sandal-wood - - - 1st sort	150	5 per cent.	5 per cent.	10 per cent.	- - On exportation by land, at 10 per cent.
2d sort	128				
3d sort	108				
4th sort	87				
5th sort	80				
roots -	70				
chips -	20				

Canara, Principal Collector's, Cutcherry on Circuit,
Odipy, 3 February 1836.

(signed) C. R. Cotton,
Principal Collector.

Customs and Post-Office Committee,
Calcutta, 30 November 1836.

(True copy.)
(signed) T. J. Taylor, Secretary.

APPENDIX (B.) referred to in Para. 28, Report VI.

ABSTRACT STATEMENT, showing the Net Land and Sea Customs Revenue realized in the four Districts of the Madras Presidency, North of the Kistna River, viz. *Ganjam, Vizagapatam, Rajahmundry* and *Masulipatam*, in the years 1831-32, 1832-33 and 1833-34 respectively, and the Average Collections of the entire Period, framed from the Accounts of the Customs Receipts and Disbursements of the Madras Government for the years in question, as rendered by the Accountant-General of that Presidency to the Accountant-General in Bengal, excluding from this Abstract the fractional parts of a Rupee.

LAND CUSTOMS.

	1831-32.	1832-33.	1833-34.	Total of Three Years.	Average per Annum.
Ganjam - - -	59,961	55,004	52,219	1,67,184	55,728
Vizagapatam - - -	66,478	70,663	74,725	2,11,866	70,622
Rajahmundry - - -	1,44,382	1,28,717	1,20,221	3,93,320	1,31,106
Masulipatam - - -	1,25,229	71,883	74,933	2,72,045	90,681
	3,96,050	3,26,267	3,22,098		
TOTAL Net Land Customs of the above four Districts - }				10,44,415	3,48,137

SEA CUSTOMS.

	1831-32.	1832-33.	1833-34.	Total of Three Years.	Average per Annum.
Ganjam - - -	5,569	2,954	8,711	11,326	*3,775
Vizagapatam - - -	20,758	8,756	2,018	31,532	10,510
Rajahmundry - - -	7,996	9,775	5,771	23,542	7,847
Masulipata - - -	18,185	6,463	8,147	32,795	10,931
	52,508	*22,048	24,647		
TOTAL Net Sea Customs of the above four Districts - }				99,195	33,063

* Note to rupees 3,775 and rupees 22,048.—The charges in the Sea Customs Department at Ganjam, in the year 1831-32, exceed the receipts in the sum of rupees 2,954, as above. The Statement therefore stands thus as regards the Total Collections at Ganjam in the three years under consideration: 5,569 — 2,954 = 2,615 + 8,711 = 11,326; and thus as regards the column of $\div 3$ 3,775

Total Collections in the four districts in 1832-33:

	8,756
	9,775
	6,463
	24,994
Deduct Charges in excess of Receipts at Ganjam, in that year - - -	2,954
	22,040

Customs and Post-Office Committee,
Calcutta, 30 November 1836.

(signed) T. J. Taylor, Secretary.

APPENDIX (C.), referred to in Para. 31, Report VI.

STATEMENT showing the Value of all Metals, Marine Stores, Woollens and Piece Goods imported annually into the Port of *Madras*, and Subordinates direct from the United Kingdom, from the Year 1829-30 to 1833-34 inclusive, together with the Total and Average Value of the same for the Five Years in question, compiled from the Returns forwarded by the Reporter-General on External Commerce at Madras to the Accountant-General in Bengal during the same period, and the Amount of Duty that would be realized thereon under the Bengal Schedules, annexed to Act XIV. of 1836.

	1829-30.	1830-31.	1831-32.	1832-33.	1833-34.	TOTAL.	AVERAGE.
METALS:							
Brass - - -	-	-	-	-	-	-	-
Brass ware - - -	5,527	3,999	4,590	2,473	2,590	19,179	
Copper of sorts - - -	53,190	63,815	62,173	21,061	5,036	2,05,275	
Copper, Japan - - -	-	-	4,500	-	-	4,500	
Copper, sheet - - -	45,204	42,991	75,385	16,414	17,108	1,97,102	
Copper ware - - -	-	-	-	385	-	385	
Files - - -	1,065	1,750	-	-	-	2,815	
Iron, British, &c. - - -	82,482	75,312	42,700	53,562	19,996	2,74,052	
Iron hoops - - -	13,562	4,697	1,468	-	-	19,727	
Ironmongery - - -	65,104	44,015	19,716	15,059	7,905	1,51,799	
Iron nails - - -	12,714	10,716	5,327	1,588	-	30,345	
Iron, sheets - - -	-	-	5,950	5,853	-	11,803	
Lead - - -	5,418	4,163	-	2,691	-	12,262	
Lead, sheet - - -	-	-	-	924	-	924	
Metals - - -	5,650	3,001	5,912	4,774	4,745	24,082	
Spelter - - -	24,460	16,397	-	1,452	4,126	46,435	
Steel - - -	3,768	4,203	-	1,761	-	9,722	
Steam engines, &c. - - -	32,150	1,780	1,007	-	-	34,937	
Suspension bridge - - -	8,500	-	-	-	-	8,500	
Tin plates - - -	5,983	22,337	2,731	6,795	971	38,817	
Tin ware - - -	-	3,086	3,813	1,743	-	8,642	
Tutenaque - - -	-	-	-	-	-	-	
Copper nails - - -	-	1,718	-	-	-	1,718	
Swedish iron - - -	-	2,880	-	-	-	2,880	
Swedish steel - - -	-	3,058	1,475	6,300	-	10,833	
TOTAL - - -	3,64,767	3,09,908	2,36,747	1,42,835	62,477	11,16,734	$\div 5 = 2,23,347$
MARINE STORES:							
Canvass - - -	18,540	1,107	3,103	5,956	4,836	33,542	
Chain cables - - -	2,716	2,661	-	1,776	-	7,153	
Coir ropes - - -	1,100	-	-	-	-	1,100	
Cordage - - -	1,762	-	-	-	5,094	6,856	
Tar - - -	5,075	30	1,776	1,248	911	9,040	
Naval stores - - -	-	831	3,883	240	1,270	6,224	
Twine - - -	-	-	52	231	968	1,251	
Grease - - -	-	-	-	211	421	632	
TOTAL - - -	29,193	4,629	8,814	9,662	13,500	65,798	$\div 5 = 13,159$
PIECE GOODS and TWIST:							
Piece goods, cotton - - -	2,52,762	1,51,149	2,00,388	4,48,901	85,363	11,38,563	
Shirtings - - -	-	-	39,061	14,838	9,302	63,201	
Cotton twist and yarn - - -	49,110	40,549	86,445	37,485	9,022	2,22,611	
TOTAL - - -	3,01,872	1,91,698	3,25,894	5,01,224	1,03,687	14,24,375	$\div 5 = 2,84,875$

The Committee are not quite sure that the articles of Spelter, Swedish Iron and Swedish Steel have been viewed as articles manufactured in Great Britain, and imported, therefore, free of duty in the Madras Presidency; but the error, if any, is on the right side, as their removal from this settlement would diminish in a small degree the amount of revenue realizable from a duty on metals in that Presidency.

APPENDIX (C.)—continued.

	1829-30.	1830-31.	1831-32.	1832-33.	1833-34.	TOTAL.	AVERAGE.
WOOLLENS:							
Broad cloth - - -	—	—	—	—	—	—	—
Carpets - - - -	13,979	1,346	- -	1,908	- -	17,233	
Flannel - - - -	22,069	1,885	1,934	9,374	3,570	38,832	
Green cloth - - -	1,245	- -	- -	2,565	- -	3,810	
Shawls - - - -	23,996	10,125	12,253	18,942	1,479	66,795	
Woollens - - - -	1,60,537	41,656	63,787	56,952	23,212	3,46,144	
Blankets - - - -	- -	2,322	- -	2,984	1,592	6,898	
Serge - - - -	- -	1,645	- -	- -	- -	1,645	
Floor-cloth - - -	- -	- -	- -	2,584	- -	2,584	
TOTAL - - -	2,21,826	58,979	77,974	95,309	29,853	4,83,941	÷ 5 = 96,788

The Total Amount of all Goods imported into the Madras Presidency from the United Kingdom,

In 1829-30, was	- - - - -	Rs.	32,98,746
1830-31	- - - - -		21,78,744
1831-32	- - - - -		23,36,080
1832-33	- - - - -		28,39,693
1833-34	- - - - -		19,00,345
		5)	1,25,53,608
Average per Annum - - -	Rs.		25,10,721

Deduct the amount of the under-mentioned free articles, included in the above:—

Metals, during the five years in question, as per statement above	- - - - -	Rs.	11,16,734
Marine stores - - - -	- - - - -		65,798
Piece goods and cotton twist - - - -	- - - - -		14,24,375
Woollens - - - -	- - - - -		4,83,941
			30,90,848

Also, the amount of articles that would be free under the new Bengal Tariff:—

Horses - - - -	- - - - -	Rs.	3,500
Precious stones - - - -	- - - - -		5,950
Books - - - -	- - - - -		4,77,831
Coals and chalk - - - -	- - - - -		4,108
			4,91,389

And of those paying a higher duty than 3½ per cent.:—

Coral - - - -	- - - - -		5,86,618
Wines and spirits - - - -	- - - - -		23,86,294
			29,72,912

5)

65,55,149

13,11,029

Leaves - - - Rs. 11,99,692

The additional duty on which, at 1 per cent., would be - - Rs. 11,996 per annum.

(signed) T. J. Taylor, Secretary.

Customs and Post-Office Committee, Calcutta,
30 November 1836.

APPENDIX (D.) referred to in Para. 35, Report VI.

ABSTRACT STATEMENT showing the Net LAND CUSTOMS REVENUE realized in the Provinces of Canara and Malabar, in the Years 1831-32, 1832-33 and 1833-34 respectively, and the Average Collections of the entire Period, framed from the Accounts of Customs Receipts and Disbursements of the Madras Government for the Years in question, as rendered by the Accountant-General of that Presidency, to the Accountant-General in Bengal, excluding from this Abstract the fractional parts of a Rupee.

LAND CUSTOMS.

	1831-32.	1832-33.	1833-34.	Total of Three Years.	Average per Annum.
Canara - - -	2,52,273	1,99,806	1,41,220	5,93,299	1,97,766
Malabar - - -	1,24,166	1,23,680	1,22,005	3,69,851	1,23,283
	3,76,439	3,23,486	2,63,225		
TOTAL Net Land Customs of the above } two Districts - - - - }				9,63,150	3,21,050

Customs and Post-Office Committee, Calcutta, }
30 November 1836.

(signed) T. J. Taylor, Secretary.

APPENDIX (E.) referred to in Para. 36, Report VI.

CANARA.

STATEMENT showing the Rates and Amount of Duty leviable on a Candy of Betel-nut of 560 lbs. grown within the Province of Canara, to its final departure from that Province by Sea.

The produce of the Balaghaut, or country above the Ghauts, including Soudah, Soopah, Bilghy and Hunnar.

General Inland or Hawlut Duty at 30 per cent. on a valuation of 40 rupees per candy of 560 lbs. - - - - 12 - -

Sea Export Duty at 5 per cent. at a valuation of 40 rupees per candy of 560 lbs. - - - - 2 - -

Rs. 14 - -

The Duty collected at the Inland Chowkies established in the Balaghaut is called the Hawlut Duty; no other Inland Duty is collected.

Second sort Betel-nut, 30 per cent. on a valuation of 35 rupees per candy of 560 lbs. - - - - 10 8 -

Sea Export Duty at 5 per cent. on ditto - - - - 1 12 -

Rs. 12 4 -

Third sort Betel-nut, 30 per cent. on a valuation of 20 rupees per candy of 560 lbs. - - - - 6 - -

Sea Export Duty at 5 per cent. on ditto - - - - 1 - -

Rs. 7 - -

The Produce of Payenghaut, or low country of Canara.

General Inland or Hawlut Duty at 25 per cent. on a valuation of 30 rupees per candy of 560 lbs. is - - - - - 7 8 -

Sea Export Duty at 10 per cent. on a valuation of 30 rupees per candy of 560 lbs. - - - - - 3 - -

Rs. 10 8 -

Second sort Betel-nut, at a valuation of 25 rupees per candy, of 560 lbs. at 25 per cent. - - - - - 6 4 -

Sea Export Duty at 10 per cent. on ditto - - - - - 2 8 -

Rs. 8 12 -

Third sort Betel-nut, at 25 per cent. on a valuation of 20 rupees per candy, of 560 lbs. - - - - - 5 - -

Sea Export Duty at 10 per cent. on ditto - - - - - 2 - -

Rs. 7 - -

The information contained in this page, and the one immediately preceding, is from a statement furnished to the Customs Committee by the Principal Collector of Canara, with his letter of the 1st March 1836; and it is further shown, by a second Statement accompanying the same letter, that the rates and amount of Duty leviable on a candy of Betel-nut of 560 lbs. from its first introduction into Canara from a foreign state by land to its final departure from that Province by sea, would be the same as that shown on betel-nut grown in the Balaghaut country.

Foreign Duty at 30 per cent. on a valuation of 40 rupees per candy of 560 lbs. - - - - - 12 - -

Sea Export Duty at 5 per cent. on a valuation of 40 rupees per candy of 560 lbs. - - - - - 2 - -

Rs. 14 - -

The duty collected at the Frontier Chowkies is the Hawlut Duty; no separate Import Duty is levied.

Memorandum:—

Second sort Betel-nut - - - - 35 } 30 per cent. on the frontier
Third sort Betel-nut - - - - 20 } 5 per cent. by sea.

It appears also, from a Statement sent to the Committee by the same public officer with his letter of the 30 October 1835, that the Exportation of Betel-nut from Canara to Bombay alone in five years, from Fuslie 1240 to 1244 inclusive, was nearly 6,000 candies per annum, as per particular memorandum below.

	Cands.	Mt.	Lbs.		Cands.	Mt.	Lbs.
First sort	1,712	7	21	÷ 5 =	342	9	15
Second sort	10,812	7	6½	÷ 5 =	2,162	9	12½
Third sort	16,766	14	10¼	÷ 5 =	3,353	6	24¼
	29,291	9	9¾	÷ 5 =	5,858	5	24¼

560 lbs. per candy.

It is of course not in the power of the Committee to state at this time, and it would probably occasion a vast deal of trouble to the Principal Collector to endeavour to ascertain what proportion of

of the above exports was the produce of the Balaghaut country, and what of the Payenghaut; but it may be assumed to have been half and half. It will thence follow, that the amount of Sea Export Duty collected on the first sort, candies 342 (excluding fractions), was as under:

342—171 Candies at 2 rupees per candy	- - -	342 - -
171 Candies at 3 rupees per candy	- - -	513 - -
342		855 - -
On the second sort Candies:		
2,162—1,081 Candies at Rs. 1 12 -	- 1,891 12 -	
1,081 Candies at Rs. 2 8 -	- 2,702 8 -	4,594 4 -
2,162		
On the third sort Candies:		
3,353—1,676½ Candies at 1 rupee	- 1,676 8 -	
1,676½ Candies at 2 rupees	- 3,353 - -	5,029 8 -
3,353		
5,857	- - - - -	Rs. 10,478 12 -

And that the further sum of 39,882 rupees 12 annas, as below, might have been collected as Sea Customs Duty, had no Hawlut Duty existed in the interior.

171 Candies at Rs. 12 per cent.	- - -	2,052 - -
171 Candies at Rs. 7 8 -	- - -	1,282 8 -
342		3,334 8 -
1,081 Candies at Rs. 10 8 -	- 11,350 8 -	
1,081 Candies at Rs. 6 4 -	- 6,756 4 -	18,106 12 -
2,162		
1,676½ Candies at Rs. 6 -	- 10,059 - -	
1,676½ Candies at Rs. 5 -	- 8,382 8 -	18,441 8 -
3,353		39,882 12 -
		Rs. 50,361 8 -

Proof of the above—

342	{ 171 × 14 - - = - 2,394 - -	
	{ 171 × 10 8 - = - 1,795 8 -	4,189 8 -
2,162	{ 1,081 × 12 4 - = - 13,242 4 -	
	{ 1,081 × 8 - - = - 9,458 12 -	22,701 - -
3,353	{ 1,676½ × 7 - - = - 11,735 8 -	
	{ 1,676½ × 7 - - = - 11,735 8 -	23,471 - -
5,857 Candies	- - - - -	Rs. 50,361 8 -

Customs and Post-Office Committee, Calcutta, }
30 November 1836.

(signed) T. J. Taylor, Secretary.

APPENDIX (F.), referred to in Para. 46, Report VI.

STATEMENT of the Gross and Net Proceeds of the INLAND CUSTOMS in the Maritime Districts of the Madras Presidency on the *Coromandel Coast*, South of the Kishna, for the Years 1831-32, 1832-33 and 1833-34 (exclusive of Madras).

District.	Year.	Collections.	Drawback.	Balance.	Charges.	Net Revenue.	Average.
Guntoor -	1831-32	91,269	- -	91,269	23,304	67,965	48,789
	1832-33	79,270	- -	79,270	23,297	55,973	
	1833-34	45,257	- -	45,257	22,826	22,431	
	TOTAL -	2,15,796	- -	2,15,796	69,427	1,46,369	
Nellore -	1831-32	1,09,382	- -	1,09,382	879	1,08,503	93,507
	1832-33	96,476	- -	96,476	876	95,600	
	1833-34	77,293	- -	77,293	876	76,417	
	TOTAL -	2,83,151	- -	2,83,151	2,631	2,80,520	
TOTAL Average North of Madras - - -							1,42,296
Chingleput -	1831-32	72,878	131	72,747	2,303	70,444	67,301
	1832-33	65,583	298	65,285	1,875	63,410	
	1833-34	78,320	274	78,046	9,997	68,049	
	TOTAL -	2,16,781	703	2,16,078	14,175	2,01,903	
South Arcot-	1831-32	2,12,788	- -	2,12,788	25,852	1,86,936	1,72,653
	1832-33	2,24,936	- -	2,24,936	32,144	1,92,792	
	1833-34	1,70,377	- -	1,70,377	32,144	1,38,233	
	TOTAL -	6,08,101	- -	6,08,101	90,140	5,17,961	
Tanjore -	1831-32	3,47,784	- -	3,47,784	26,048	3,21,736	3,04,618
	1832-33	3,02,571	- -	3,02,571	14,681	2,87,890	
	1833-34	3,12,487	297	3,12,190	7,961	3,04,229	
	TOTAL -	9,62,842	297	9,62,545	48,690	9,13,855	
Madura -	1831-32	3,42,101	- -	3,42,101	2,089	3,40,012	3,22,466
	1832-33	3,21,598	- -	3,21,598	3,685	3,17,913	
	1833-34	3,13,131	- -	3,13,131	3,657	3,09,474	
	TOTAL -	9,76,830	- -	9,76,830	9,431	9,67,399	
TOTAL Average South of Madras - - -							8,67,038
TOTAL Average Inland Duties of the above Six Districts - - Rs							10,09,334

Customs and Post-Office Committee, Calcutta,
30 November 1836.

(signed) T. J. Taylor,
Secretary.

MINUTE of Mr. H. Babington.

1. I CONCUR with the Committee in opinion as to the mode in which it is advisable that relief from the inland duties should be extended to the Madras territories, viz. by abolishing them by districts, in preference to doing it by articles and items of taxation; also in the expediency of commencing with the Northern Circars, in the event of a large immediate remission of revenue being impracticable; but with regard to the abolition of the inland duties in Canara and Malabar, if it should not be in the power of Government to extend the relief simultaneously to the adjoining districts to the eastward, I cannot concur with the Committee in recommending that these two districts should be the next in which the abolition should take place; I should not have thought it necessary to record my dissent, had the Committee submitted such a statement of the circumstances of those two districts, and the comparative degree in which they are affected by the existing duties, as would have empowered the Government to arrive at a more just conclusion on the expediency of the proposed measure, than the Report in its present state will, in my opinion, enable them to do.

2. No other reason is assigned in it for the selection of Canara and Malabar, than the general one of granting relief; if there is no other reason, the question appears to be whether the abolition of the inland duties is as much required in those as in other districts, and whether the relief it would afford would be as great as that which would attend an equal sacrifice of revenue elsewhere; I believe that in Canara and Malabar the abolition of the inland duties is less needed, and would afford less benefit to the inhabitants than would be the case in any of the midland and eastern coast districts.

3. The Committee are not disposed to admit that Canara and Malabar are better circumstanced than other districts of the Madras territories, but in Madras they are considered to be so, and were the point referred to those Madras officers whose land revenue experience qualifies them to estimate the comparative weight of the fiscal burdens of these two districts and those of any others, I have no doubt that they would be able to show that the balance is much in favour of the former; they are exempted altogether from town duties, and the inland duties, instead of being levied as in other districts everywhere throughout the interior, on the produce and consumption of the district within itself, is levied on the frontiers only, and hence falls exclusively on their external trade; they enjoy, besides, a ready market at Bombay, and a steady demand for their staple productions, and are never visited by those severe dearths which so often desolate other parts of the Madras territories; as a set-off to these exclusive advantages, the inhabitants have to pay a monopoly price for their tobacco, and special export duties are levied on the exportation of several articles, the peculiar produce of the soil. The inland duties of Canara and Malabar levied on the trade crossing the frontiers, are not to be compared in their pernicious effects on the prosperity of the country, or in the amount of annoyance they occasion, or the number of individuals directly subjected to their influence, with the inland duties of other districts, which instead of being borne as in Canara and Malabar by the external trade, fall in the proportion of 70 per cent. on the produce of each district consumed within itself; in Canara and Malabar the ryot and retail dealer are not directly affected by the inland duties, these duties are paid by the exporting merchant, and the internal traffic and consumption of the country are left perfectly free, but the duties of other districts are collected from all classes; from the ryot and the petty bazaar man as well as from the wholesale merchant, and no individual can pass along the road without being subject to the insolence and exactions of the sayer peons. The complaints which have been made against the inland duties of Canara and Malabar relate to grievances which admit of removal, if abuse in the collection of frontier duties can be checked anywhere, it may be checked there; but the multifarious evils which attend the collection of the inland and town duties of other districts admit of no correction, they are inherent in the system, and no individual can escape them; they entail as much annoyance on every owner of a shop or small garden as on the trading capitalists.

4. As the improvident habits of the natives of Southern India keep the greater portion of them in the hands of money-lenders, a measure of remission, in order materially to benefit them, must be very direct in its operation. The abolition of the inland duties would, in other districts than Canara and Malabar, be a measure

of this nature; but the inland duties in those two districts being levied from the exporting merchants only, the circumstance of his being relieved from them will not prevent his striking as hard a bargain as ever with his debtors, the ryot or the weaver, whose crops are mortgaged to him before they are sown, or whose loom his advances keep in employ. I am, therefore, disposed to think that their abolition is quite as much, if not more calculated to benefit the foreign consumer than the inhabitants of Canara and Malabar, and, if relief is the object, should not precede the abolition of duties which more directly affect the great mass of the people. I believe there are no two districts in the Madras territories in which the necessity for lightening the existing taxation is less urgent, and none in which the benefits to be derived by the inhabitants from the abolition of the inland duties will be so disproportioned to the amount of the sacrifice. If, however, the inland duties were abolished in the adjoining districts, the abolition of them on the frontiers of Malabar and Canara would then become necessary, in order to make the relief complete by opening the road to the sea.

5. When abolition is once commenced, I apprehend that Government will be under the necessity of proceeding with it very rapidly, and that the outcry from the unrelieved districts and from the Madras merchants, who already consider themselves sufficiently aggrieved by their exclusion from the benefits of the new sugar duties, will become so overpowering, that it will be found expedient to go on with the work, without stopping to ascertain the financial results of what has been done. It may, therefore, be worthy the consideration of Government, whether, if they are in a condition to remit revenue to a considerable extent, it may not be expedient to remit it in the southern districts, where relief is most needed, rather than in the Northern Circars; but if it is not in their power at present to remit revenue to a large amount, the Committee's proposition regarding the Northern Circars may, perhaps, be considered preferable to any other.

6. I may take this opportunity of supplying what I consider to be an omission in the Report relative to the financial effect of the abolition of the inland duties in the Northern Circars. It is not noticed that the land settlement of the Northern Circars is zemindaree, and, therefore, that the benefit which the inhabitants would derive from the abolition of the duties would not occasion that improvement in the land revenue which might be anticipated from their abolition in districts in which the settlement is ryotwaree.

5 December 1836.

(signed) *H. Babington.*

MINUTE of Mr. J. H. Crawford.

1. DIFFERING entirely from Mr. Babington in some of the opinions he has expressed in his separate Minute of this date, and believing that it may, if left unanswered, create impressions in the minds of the Governor-general in Council, in respect to the views and recommendations of the Committee, unfavourable to its discrimination and candour, I cannot allow that Minute to be laid before Government without offering a few words in the way of explanation and reply.

2. If in deciding on the districts to which relief from inland duties, inland chowkies, and all their attendant evils, should be first conceded, we had had to regulate our decision by the necessity of affording relief, in the first instance, to those districts which stand most in need of immediate amelioration, with reference to all the sources of taxation to which they are subject, our task would, to my mind, have been one of hopeless execution here, for I am not aware of any documents in our possession that could lead us to a correct understanding of the comparative injury inflicted on the various provinces of the Madras Presidency, by the several branches of taxation in operation in each; nor do I believe that even on the spot we should be likely to arrive, except at the cost of much time and labour, at any safe and satisfactory conclusion on that head; I doubt, indeed, if we could do so under any circumstances.

3. But it has not appeared to me that we were called upon, or were even at liberty to entertain the question of relief in any more extensive shape than as it was connected with the mischiefs created by the existing Inland and Sea Customs Laws; and as regards the part I have individually taken in our recent communication to Government, I may state that, surrounded by difficulties, and having only a

choice of evils before us—for, begin where we may, the unrelieved districts will necessarily be dissatisfied—I have leant to those arrangements which, as the foundation of a system of entire though progressive abolition, seemed to promise the greatest immediate good, according to the best exercise of my judgment at this time.

4. Mr. Babington says, that he takes the opportunity of supplying what he considers to be an omission in the Committee's Report relative to the financial effect of the abolition of the inland duties in the Northern Circars, and states that it is not mentioned that the land settlement of those districts is zemindaree, and, therefore, that the benefit which the inhabitants would derive from the abolition of the duties would not occasion that improvement in the land revenue which might be expected in districts in which the settlement is ryotwaree.

5. I was at one time disposed to concur with Mr. Babington in the propriety of bringing this circumstance, of which the Committee have however no other knowledge than that which it derives from Mr. Babington's experience in the revenue matters of the Madras Presidency, to the notice of Government; but considering that if we entered into the examination of land tenures in one case, it would be incumbent in us to do so in all, and also, that if we discussed these, we could hardly steer clear of advertence to the mooturpha, abkaree and other taxes contributing to the general revenue of other provinces, thereby involving ourselves in inquiries and reports on matters on which our information is very imperfect, and with which, as will be gathered from the 3d para. of this Minute, I consider that we are precluded from interfering. I came to the conclusion adopted by the rest of the Committee, that the subject adverted to by Mr. Babington had better not be touched upon in our Report of the 30th ultimo, particularly as the declaration made in the 31st para. of that Report, that "we are unable to devise any means by which any portion of the revenue now recommended to be relinquished in the Madras Presidency can be made good to the state, unless as regards betel and tobacco, the commutation adverted to in para. 18 should hereafter be deemed worthy of adoption," must prepare Government not to expect any other return for the boon to be conferred on the four northern districts than that which may result from the impulse given to their general industry and improved commercial relations with each other, as well as with the exterior, by the removal of all the onerous and vexatious internal exactions by which they have hitherto been oppressed.

6. In treating of Malabar and Canara, Mr. Babington says, that no other reason is assigned for the selection of those provinces than that of affording relief. I cannot reconcile this declaration with the fact, though it is probable Mr. Babington considered it an unimportant one, of our having stated in para. 34 of our Report, that the geographical position of Canara and Malabar, and the intimate commercial connection that subsists between those provinces and the Bombay Presidency, point them out as the next districts in the Madras Presidency to which it will be advisable to apply the principle of entire relief from the general inland duty, nor with the inference fairly, and as respects my own view of the subject, strictly deducible, from the 37th and 43d para. of our Report, that the small amount of revenue to be sacrificed, and the early developement of the internal resources of those provinces consequent on the measure in question, had material influence with the Committee in selecting them as the next in order of freedom from all inland Customs Duties.

7. The general terms in which Mr. Babington alludes to the monopoly price paid for their tobacco by the inhabitants of Canara and Malabar, when adverting to it as a set-off to other exclusive advantages he considers them to enjoy, would lead to the conclusion that this price was neither onerous in amount nor the system vexatious in operation; but when it is stated from Mr. Babington's minute of the 6th July last, confirmed by statements accompanying my minute of the 24th September, framed from official documents furnished by the Principal Collectors of Canara and Malabar, that the net revenue derived by Government from this monopoly in those districts amounted, on an average of the last five years, for which we have accounts before us, to four lacs and eighty thousand rupees (4,80,000) per annum, and that my statements show also that two-fifths of the tobacco supplied for the latter from Coimbatore, are of a quality that never ought to be furnished by Government, I cannot think that the inhabitants of

Canara and Malabar would have much to congratulate themselves upon on the score of exemption from evils to which the districts in the interior are liable, even if the machinery necessary to the strict enforcement of the tobacco monopoly were of a less rigorous and oppressive character than I have shown it to be in the minute to which I have referred above. But as this subject will come under the consideration of Government in one of our next Reports, it is not necessary for me to allude to it in greater detail at present, though it may be desirable to bear in mind, with reference to the particular situation of these provinces in respect to the operation of the transit or inland duty system, that every article liable to that duty in the interior is made subject by special enactments in the Madras and Sea Customs Laws (Regulation I. & II. of 1812), to additional taxation on crossing their frontiers, by the adoption of an increased tariff valuation there, amounting, in Malabar, to an advance of about 80 per cent. in most cases, on the tariff valuation of the place where the original rowanah is granted, thereby raising the inland duty, which in all the other districts of the Madras Presidency is 5 per cent., to 9 per cent. on the original valuation of all goods from the interior passing through or consumed within this particular province.

8. The increase in the tariff valuation is not, I believe, so great in Canara as in Malabar, though the adoption of the same system in both provinces necessarily makes the actual amount of inland duty paid on all goods passing into Canara higher than that which is levied in any of the inland districts.

9. I am not able to state the amount of taxation to which the several provinces of the Madras Presidency are subjected, from the various sources of collection in force in each; but I find from a memorandum furnished me by Mr. Clementson, the Principal Collector of Malabar in December 1834, that the gross receipts in

Land Revenue	-	16,07,564	-	10
Sayer	-	1,26,975	4	4
Abkarry	-	63,925	13	5
Farms and Licenses	-	59,510	14	1
Salt Monopoly	-	2,85,731	13	9
Sea Customs	-	1,82,375	15	11
Mooturpha	-	1,12,451	9	9
Tobacco Monopoly	-	4,43,288	6	3
Stamps	-	48,019	8	4

Rs. 29,29,843 6 8

that province in Fuzlie 1243, exceeded 29 lacs of rupees, and though some portion of this amount, say, on such part of the salt imported from Bombay as is not consumed within the province, may, with the Customs on sea exports, fall on foreign consumers, and that deductions must be made for the prime cost of the tobacco and salt, to the extent, probably, of about a lac and thirty thousand rupees, there is yet a sufficient amount of revenue realized from the inhabitants of Malabar themselves, and of vexatious and oppressive interference through the medium of the tobacco monopoly, to make me somewhat sceptical as to their very favourable condition, generally, in comparison with that of the

inhabitants of the Madras Presidency at large; though I am aware that Canara and Malabar are, as stated by Mr. Babington, considered in Madras to be better circumstanced than other districts of the Madras territories.

10. But whether this be the case or not, I think the Committee, with reference to the triple question, of immediate abolition of all inland duties in certain districts, the amount of revenue to be given up by such abolition, and the quantum of good to be realized from the extent and geographical position of the districts recommended for present and consecutive relief, viz., Ganjam, Vizagapatam, Rajamundry and Masulipatam in the first instance, Canara and Malabar in the next, and then Tinnevely, has exercised a sound discretion at this time, and paved the way, I hope, for the introduction of a more extended scheme of amelioration, at no very distant date.

5 December 1836.

(signed) J. H. Crawford.

MINUTE of Mr. W. R. Young.

1. I concur generally in the sentiments set forth in the Report, considering that all plans falling short of entire abolition must be open to serious objections, and that amidst a choice of difficulties, the Committee have selected the course which is least objectionable.

2. The scheme now placed before Government is divided into four parts.

3. If it should be found practicable to carry the entire plan into effect, the measure of relief afforded would be very full and efficacious; but if financial or other considerations render a more gradual progression necessary, I think the Committee have placed the steps by which relief should advance in their right order.

4. I do

4. I do not know on what grounds Mr. Babington has arrived at the conclusion that the people of Malabar and Canara stand in less need of the relief which the abolition of the inland duties in those provinces would impart, than do the inhabitants of the midland and eastern coast districts. There is certainly no evidence before the Committee which in my estimation at all bears out this opinion; Mr. Babington dwells at considerable length on the benefits enjoyed by the people of Malabar and Canara, and on the evils endured by the inhabitants of other districts, but he only incidentally alludes to the tobacco monopoly, and to the special export duties which press exclusively on the former, as an off-set against the advantages they possess. Now, it appears to me, that if a just balance is to be struck, a more minute weightment of benefits and evils than that shown in Mr. Babington's minute is requisite; Government will find, when the subject comes before them, that the tobacco monopoly is no light and unvexatious tax, and that the triple evil of high price, inadequate supply and bad quality, in respect to an article represented by the local authorities as almost a necessary of life to the labouring classes, interferes in no trifling degree with the wealth and comfort of the population subjected to the operation of the monopoly. As far as the very full documentary evidence before the Committee enables me, without the aid of local experience, to judge, I should consider the tobacco monopoly as it now exists in Malabar, to be an ample counterpoise for any advantages which the people of that district appear to enjoy in respect to land assessment or the operation of the inland duties. Mr. Babington says, that "the complaints which have been made against the inland duties of Canara and Malabar relate to grievances which admit of removal." I am not aware of any mode by which their removal could be ensured, nor do I think that the various experiments which have been tried in the Madras territories for the mitigation of the evils of the inland system, hold out much hope of success in any future attempts to check abuse by improved administration.

5. I cannot by any means acquiesce in Mr. Babington's reasoning by which he endeavours to show, that because the inland duties in Malabar and Canara are levied from the exporting merchant, therefore their abolition would little improve the condition of the labouring classes, who, being improvident, are generally in debt to the merchant, and must therefore submit to whatever conditions he chooses to impose. If the exporting merchant is enabled by the remission of a tax to offer the producer a better price, and at the same time to secure to himself an equal profit, and if he has not the means of excluding other competitors, it appears to me, that unless the state of things in those districts be anomalous, the producer must, the demand and supply remaining unaltered, in some degree benefit; even allowing as Mr. Babington supposes, that the foreign consumer will be the party chiefly profiting by the remission, still, if the diminution of price have the effect of increasing the foreign demand, as may reasonably be expected, the producer will ultimately derive advantage from the change.

6. With respect to Mr. Babington's remark, that the land settlement in the Northern Circars being zemindaree, the abolition of the inland duties in those districts "would not occasion that improvement in the land revenue which might be anticipated from their abolition in districts in which the settlement is ryot-waree," I have only to observe, that it appears to me that the Committee must greatly extend their inquiries before they can be in a condition to offer an estimate of the effect on the productiveness of the other various sources of revenue, of an abolition of the inland duties. It seems to me that the Committee have done right in abstaining on the one hand, from holding out expectations of financial advantage, and on the other hand from anticipating losses to result from the indirect operation of a change calculated to effect obvious and immediate benefit. Even, however, if the certainty that no direct increase of land revenue can arise from the abolition of inland duties in the Northern Circars had forced itself on the mind of the Committee, it does not necessarily follow that an equal certainty exists, that the land revenue would not indirectly benefit by such an important measure of relief as that contemplated.

8 December 1836.

(signed) W. R. Young.

MINUTE of Mr. H. Borradaile.

It is unnecessary for me to say more on this subject, than that I concur in what has been so fully set forth by Mr. Crawford and Mr. Young.

9 December 1836.

(signed) H. Borradaile.

MINUTE of Mr. C. E. Trevelyan.

1. I CONCURRED in the recommendation of the Committee to abolish the Inland Custom system first of all in the maritime districts of the Madras Presidency, for the following reasons :

2. As a larger proportion of the goods which now pay inland duty is afterwards exported in the maritime than in the inland districts, the Government is likely to lose less by abolishing the Inland Customs in those districts than in any other. In other words, the experiment of abolition is likely, financially speaking, to answer best in the neighbourhood of the sea-coast, and we shall consequently have it in our power to extend it sooner to the rest of the Presidency.

3. By abolishing the inland duties first in the maritime districts, the Government will be able at once to remodel the Sea Duties, which is of great importance both with a view to establish uniformity to the greatest practicable extent in all the coasts of India, and to raise additional funds for the purpose of carrying on the work of abolition in the interior. The tariff which has been proposed for the Bombay Presidency furnishes, in my opinion, a sound standard, which I hope to see extended with more or less modification to the rest of India.

4. According to the plan which has been proposed, a double benefit will be conferred on the country. The maritime districts will be relieved both as regards duty and transit; and the inland districts will at least have their commercial intercourse with the coast, so far as it is carried on through the intervening maritime districts, freed from the interruption which is now afforded to it by the Inland Customs Establishment; and when it is recollected that the main evil of the inland system is not so much the duty which is levied, as the detentions and exactions arising from the frequent necessity of search, this extent of relief, though less than that which will be granted to the maritime districts, must be allowed to be no small boon. It appears to me that we shall have made a great step towards establishing the entire freedom of the home market, when we shall have secured entire freedom of intercourse between the coast and the districts in the interior, and as we depend upon the development of the maritime trade for the means of extending relief to the remaining districts, whatever gives an impulse to that branch of trade will indirectly benefit the inland districts, by hastening the period of their relief.

5. It is mentioned in our Report as one reason for selecting the Northern Circars to try the measure of abolition in the first instance, that they stand by themselves, and that there are no adjoining British districts in the interior in which duty will still be levied. I do not think that this is a good ground for preferring these districts. On the contrary, I should be glad if there were adjoining inland districts which would participate, in some degree, in the benefit of the abolition by having their communications with the coast laid open. Notwithstanding this, however, I think that the Northern Circars ought to be included with the rest of the maritime districts in the proposed measure of abolition.

6. Mr. Babington observes, that Malabar and Canara being more lightly taxed than other districts of the Madras Presidency, are not entitled to priority of relief; but he also says, that the duties which it is proposed to abolish in that quarter, are really frontier duties between Malabar and Canara, and other inland districts. The main advantage arising from their abolition, therefore, will accrue, not to Malabar and Canara, but to Coimbatore and other inland districts, whose exports to the coast will now be freed from the oppressive extra duties levied on the Malabar frontier.

10 Dec. 1836.

(signed) C. E. Trevelyan.

MINUTE of Mr. H. Babington.

With reference to Mr. Crawford's and Mr. Young's remarks on the tobacco monopoly of Canara and Malabar, I think it necessary to add, that I very far from coincide in the opinions entertained by those gentlemen regarding its character and operation.

10 Dec. 1836.

(signed) H. Babington.

REPORT XI.

From the Committee for revision of Customs and Post-Office Departments of (No. 13.) India, to H. T. Prinsep, Esq., Secretary to Government of India, General Department.

Customs and Post-Office Committee, Calcutta,
24 June 1837.

Sir,

We were honoured on the 3d instant with your letter in this Department, No. 39, of the 24th May last, and on the 6th, with your further letters, Nos. 42 and 43 of the 31st May, with the several enclosures noticed in the margin.*

See below.

2. If the Committee rightly understand the wishes of the Right honourable the Governor-general in Council, as conveyed to them in the first of the letters now before them, it is his Lordship's desire to be informed, as correctly as circumstances will permit, what will be the net amount of revenue given up by Government in the first instance, from the abolition of the transit duties and all other duties levied as Land Customs in the Dekhan, North and South Concans, Southern Mahratta Country and Guzerat, with the exception of the town duties in the last-mentioned province, which with those of the island of Bombay, are to be retained for the present; and we gather further, from the 19th para. and other portions of your letter to Mr. Secretary Willoughby of the 24th ultimo, No. 38, that his Lordship in Council would be disposed to grant to re-exports from Bombay the full advantage conceded by the Bengal tariff of Act XIV. of 1836, to re-exports from Calcutta 7-8ths of the amount of duty originally levied, but for the opinion he entertains that the sacrifice of revenue consequent on such concession would amount to between five and six lacs of rupees per annum.

3. It will be our endeavour to place before his Lordship in Council, in as succinct a shape as the nature of the subject will admit, the measures we have taken to meet his Lordship's wishes on the first point, and to ascertain what would be the additional amount of drawback repayable by Government in the Bombay Presidency under the operation of the present Bengal rules, as compared with the drawback system now in force in the Bombay territories.

4. It is stated by the Revenue Commissioner, Mr. Williamson, in the 4th para. of his letter to Mr. Secretary Willoughby, of the 5th ultimo, that the total amount of transit and town duties to be given up in the Dekhan, two Concans and Guzerat,

* No. 39, 24th May 1837.—Letter from the Acting Secretary to the Bombay Government, Mr. Townsend, to Mr. Secretary Macnaghten; No. 374 of 1837, of the 22d March 1837, and the several enclosures therein noticed with the introduction of the warehousing system into the Bombay Presidency; also letter No. 1,135 of 1837, dated 24th April 1837, from Mr. Secretary Willoughby to Mr. Secretary Prinsep, and enclosures, having reference to the abolition of the transit duties throughout the Bombay Presidency, and the adoption of an improved Sea Customs system and Excise duty on salt in the territories subject to that Government, together with copy of the reply of the Government of India on those letters as conveyed in Mr. Secretary Prinsep's letter to Mr. Secretary Willoughby, No. 38, dated 24th May 1837.

The postscript to this letter, No. 39, adds further enclosures thereto; viz. letter No. 1,503 of 1837, of the 15th May 1837, from Mr. Secretary Willoughby to Mr. Secretary Macnaghten, with copy of one from the Commissioner of Revenue at Bombay, Mr. Williamson, to that Government, No. 1,749 of 1837, dated 5th May 1837, reporting the total loss of revenue likely to arise from the abolition of the transit and town duties of that Presidency.

No. 42.—In continuation of No. 39, transmits sketch draft of an Act for imposing an Excise Duty on Salt prepared in your office.

No. 43, 31st May 1837.—Letter from Mr. Secretary Willoughby to Mr. Secretary Macnaghten, No. 1,511 of 19th May 1837, forwarding copies of the enclosures to the Revenue Commissioner's letter of the 15th of that month, being the reports and replies from the Collectors of Land and Sea Customs revenue in the Dekhan, Concans and Guzerat, to queries put to them by the Commissioners connected with the transit duties, &c., and in which, as respects revenue, he has based his own statements in the letter of the 5th May, already referred to.

See below.

Guzerat, on an average of three years, will be as per margin* - - - - -	Rs.		
	14,91,382	9	4
The statement marked (A.) which accompanies our present letter, will show the authorities from whom the Revenue Commissioner has derived his information, and the dates of the same, and that the amounts agree, both separately and in the aggregate, with the statement he has given. To the above amount must be added the transit duties of the Southern Mahratta country, producing as per particulars in statement (A.) per annum	2,20,507	13	8
TOTAL - - - Rs.	17,11,890	7	-
And there must be deducted the amount of the Mook-hauds and town duties in Guzerat, averaging for the three years 1832-33, 1833-34, and 1834-35, per same enclosure (A.) - - - - -	3,78,499	-	-
	Rs.	13,33,391	7 -

5. It may be observed here, as in the Statement (A.) to which reference has been made above, that the result just shown does not differ very materially from the average of six years, i.e. 1829-30 to 1834-35, per accompaniment (A.) to the Committee's letter to the Bombay Government, of the 15th November 1836, Rs.13,77,923, and that the average of the three last years of the six in question (1832-33, 1833-34, 1834-35), per Enclosure (B.), is almost in exact accordance with our present calculation, viz. Rs.13,33,944. Allowing, therefore, for the possible error in the Principal Collector of Poonah's later return of the 14th December 1836, forwarded by the Commissioner, as contrasted with his former one of the 30th August 1836, we cannot be far wrong in assuming the loss of revenue from the abolition of the transit duties throughout the Bombay Presidency, and of all town duties, except those in Guzerat and the Island of Bombay, in round numbers, at Rs.13,50,000 (thirteen lacs and fifty thousand rupees).

6. In regard to the loss which would probably be caused in the Sea Customs Duties in the North and South Concan and Guzerat by the introduction of the Bengal Act XIV. of 1836, our inquiries have not, we are sorry to say, been equally satisfactory. This loss is estimated by the Revenue Commissioner at Rs.2,96,396, on the authority of a statement, of which a copy will be found in the margin,† but the data given in the latter are so vague and unsatisfactory, that we should not, under any circumstances, be disposed to place much confidence

See below.

* Guzerat Amount of Land Customs, Town Duties, &c.—

	Rs.	
Mookauds - - - - -	7,53,000	-
Candeish Land Customs and Town Duties - - - - -	1,62,000	-
Nuggur Land Customs and Town Duties - - - - -	1,62,002	7 6
Poonah Land Customs and Town Duties; average of two years - - - - -	2,18,046	10 3
North Concan ditto - - - - -	1,65,001	-
South Concan - - - - -	26,332	7 7
	14,91,382	9 4

†

	Average Revenue of Three Years.	Estimated Revenue as per Bengal Act.	Estimated Loss.
	Rs.	Rs.	Rs.
Sea Customs in Guzerat - - -	4,51,900	3,50,000	1,01,900
Ditto - North Concan - - -	6,49,913	5,69,015	1,80,898
Ditto - South Concan - - -	95,818	82,220	13,598
TOTAL - - - - - Rs.	11,97,631	9,01,235	2,96,396

‡ 80,391.

§ 1,96,396.

dence in this portion of Mr. Williamson's calculations; and we are the less inclined to do so at the present time, because we find it impossible to reconcile the amount of past and prospective revenue in the North Concan and Guzerat, with other returns now before us to which we shall have occasion to refer almost immediately; and because, also, we observe an error, to the extent of a lac of rupees under the former head, North Concan, arising either out of the carelessness of the copyist in transcribing the items belonging to that collectorate, or of the party who made the subtraction, connected with them. It is, of course, not in our power to say, at this distance, to which of the above causes the difference in question is really attributable, but it necessarily raises doubts in our minds as to the true difference intended to be exhibited, fatal, for the present, to the validity of the document in which the error occurs.

7. But although we are prevented, by the circumstances just detailed, and the non-receipt of further returns from the Collector of Customs in Guzerat and the Northern Concan, called for as far back as the 22d October last, with a renewed request for their early transmission under date the 25th February last, from submitting a statement of the probable loss to be expected in this branch of the general Customs Revenue, from the changes contemplated in the districts in question, we shall be able, we believe, to show the extreme loss that can arise in those districts from the adoption of the measures now under consideration, and which, in the absence of other more satisfactory information, it will probably be acceptable to his Lordship in Council to be made acquainted with at this time.

8. In a statement accompanying our letter to the Bombay Government, of the 15th November last (marked E.), we showed, from materials extracted from a return made to the Committee by the Collector of Customs in Guzerat, dated the 12th October 1835, that the amount of all import duties levied at the different ports in Guzerat, on an average of three years, was - Rs. 76,668

And from returns furnished by the Collector of Rutnagherry, dated 6th May 1837, that the import duties in the Southern Concan for the same period averaged - - - - - 32,784

And we are able now to add, from the statements of Mr. Davies, Second Assistant to the Collector of Tannah, of the 2d April 1836, accompanying our Report No. V., of the 29th June following, that the total amount of import duties levied in the Northern Concan in the year 1834-35, was, as shown in Enclosure (C.) to this letter - - - - - 1,00,332

Making the Total Sea Customs Import Duties levied in the Bombay Presidency annually, exclusive of the Port and Island of Bombay Rs.} 2,09,784

As regards sea export duties, we find, by again employing the returns furnished by the Collector of Customs in Guzerat, on the 12th October 1835, that the export dues on all articles exported from Guzerat, except cotton, which, for reasons that will be stated hereafter, has been excluded from the list of articles contributing to Sea Customs export duties for the present, amounted on an average of three years to - - - - - Rs. 1,24,461 Enclosure (F.)

And a return from the Collector of Rutnagherry, dated 5th May 1837, recently received, gives the amount of export duties in the Southern Concan in 1835-36, deducting the duties on cotton, as above, at - - - - - 46,210

Whilst the Abstract Statement herewith extracted from Mr. Davis's statement of the 2d April 1836, though somewhat differently arranged, give the amount of duties levied in the North Concan, on articles the produce of, or coming from the Dekhan, cotton again excluded, at - - - - - Rs. 50,806 Enclosure (D.)

And on exports, the produce of the Concan, principally grain, at - - - - - 3,44,370

3,95,176 Enclosure (E.)

Rs. 5,65,847 W.

We have thus the total amount of export duties (those on cotton excepted) levied at subordinate ports annually, in the sum of -	Rs. 5,65,847
And by adding the further sum of 2,09,784 rupees, amount as above of all import dues levied on the sea-borne trade of Guzerat and the two Concan -	2,09,784
We show that - - - Rs.	7,75,631

is the total sum realized as Sea Customs import and export dues at all such subordinate ports; and the extreme loss which can be incurred by the proposed change in this branch of the Sea Customs revenue, as our recommendation in respect to the future export duty on cotton, in a subsequent part of this communication, nine (9) annas per Indian maund of 40 seers of 80 tolas, or 82½ lbs., is so nearly equal to the existing rate of 5 per cent. on a valuation of 105 rupees per S^t candy, and 8 per cent. advance, or 5 per cent. on Rs. 113. 40, as to create but a very trifling loss on that score.

See below.

9. But, referring to the 25th paragraph of the Committee's letter to the Government of Bombay, of the 15th November last, on the subject of the duties in the North Concan, *vide margin*,* and to the opinion expressed by the Right honourable the Governor-general in Council that relief to the North Concan from the burthensome system of taxation pointed out by Mr. Davies as in force at Bombay in respect to the productions of that district, seem to require our earliest consideration; and to the further evidence afforded by the enclosures to the Revenue Commissioners' letter of the 5th May 1837, of the injurious effect produced by over-taxation in the Customs Department on the land revenue of the North Concan, we must respectfully state our conviction, that a sum very little short of three lacs (3,00,000) of rupees ought to be deducted from the amount of Customs Revenue shown in para. 8, rupees 7,75,631, as a boon to that province, totally unconnected with the general question of relief, by relinquishment and commutation now before us, and for which Government will receive an equivalent hereafter in the avoidance of that accumulation of balances, of which the existing Customs system has been the fruitful parent in time past.

10. Mr. Davies says, in his letter of the 2d April 1836, already before the Government of India, "The loss will be a serious one at first; but it must be remembered, that these are the receipts of a clever farmer, who is justly supposed to make a good profit out of small matters, such as fees (removing nakas to better places, and demanding cesses which the poor cannot well dispute. There can be no doubt of the fact, that Government have gained greatly by the farming system; but it is equally incontrovertible that the farm has deteriorated the country and depressed the agricultural interests. Look at the balances of the collectorate, twelve lacs of rupees, all accumulated in the districts where the Customs press most heavily. It is my firm opinion, that in five years the loss would be made up to Government by the land revenue, by extended cultivation, &c., by the greater distribution of exports and imports. At present the consumption of rice in Bombay is about Arabic candies of 8 maunds, 75,000 candies; of this only 45,000 is imported from the Bombay Presidency, the rest, or about 33,000 candies is yearly brought from Malabar, while our own rice is fettered by assessment and customs to the tune of 52 per cent. on the Bombay price; viz.

Average price in Bombay - - - - -	Rs. 17."
Assessment - - - - -	5½
Customs - - - - -	3½
	9

* "The loss that would occur in the Sea Customs of the Bombay Presidency from reducing the duties in the North Concan to the general rates above proposed for subordinates, 5 per cent. on import and export, cannot, the Committee conceive, be fairly set against the above surplus to be yielded by the new duties, but is one that must be made for the sake of saving that district from ruin, and placing it on the same footing as the rest of the Presidency, and is a separate measure of relief forcibly pointed out for immediate execution by the Government of India."

11. Again, the Acting Collector of Tannah, Mr. W. Simson, writes as follows, in the 16th paragraph of his letter to the Revenue Commissioner of the 19th August 1836:

"In fine, the only increase I anticipate will be at the port of Panwell, where, if the difference at first may be estimated as equal to the sum above the three lacs of deficits, which I fully anticipate on the exports, viz. 67,278 rupees, we calculate, I presume, as nearly as caution will permit. This will make the net deficiency equal to three lacs of rupees. As a set-off, however, to this heavy amount, we may fairly speculate on great advantages to be derived from the proposed system. Whatever loss will take place on the exported grain of the country (a large item), ought very soon to be made up in the land revenue, since the farm of the Customs on grain, &c. has obtained, the balances of land revenue have been steadily accumulating. By substituting the easy duties laid down in the new Act, the ability of the cultivator to pay his land-tax will be greatly strengthened; by a rise in prices, his circumstances will become changed; the purchasing power of the country will gradually increase, and in supplying the growing wants of a great empire, the Customs on imports will become a considerable source of revenue to the state. At the present day, the imports of many large talooks (the consumption of large tracts of country) are confined to such articles as are needed by man in the rudest state of society. Cocoa-nuts, dates and oil form the luxuries which alone are within the reach of millions, and even the cost of these is terribly enhanced by expensive carriage and heavy duties. What may be done by a judicious relinquishment of these heavy imposts may be augured from the increasing trade in cotton goods since the proclamation of 1825 (allowing the production of certificates from Bombay to clear the ports of Panwell and Bhewndy). Prior to that proclamation, the value of cotton goods imported was below five lacs of rupees. Last year, they amounted to 20 lacs, in addition to those which paid duty at the ports of the Concan."

12. It is evident from the testimony here borne to the numerous evils which the existing Customs system has produced in the Northern Concan, that the sums realized under it in that collectorate have not been a clear gain to the State. Laying aside, however, for the present all consideration of the consequences of that system on the general prosperity of the district, there can be no doubt, we conceive, that the large and steadily increasing deficit in the land revenue, of which both Mr. Simson and Mr. Davies state it to have been the cause, may in perfect fairness be made a set-off against the sums in question, and a reasonable belief be entertained under such circumstances, that the amount of revenue which may now be relinquished in the one department, will gradually be made good in the other. Seeing, therefore, from the statement which accompanies this letter, Enclosure (E.), that the sum realized as export Sea Customs Revenue in the North Concan on articles the produce of that district, valued at 9,60,000 rupees, and of which no less than 7,20,000 rupees appertain to rice and other grain, exceeds three lacs and forty-four thousand (3,44,000*) rupees, equal to 35¾ per cent., we propose to consider all duty heretofore levied in excess of 5¾ per cent., as a relief that must be extended to this impoverished district under any circumstances, and to deduct the sum of 2,88,982† rupees from the amount of future deficit likely to arise from the operation of the Bengal Act XIV. of 1836, as a sacrifice entirely unconnected with the introduction of the principle of that Act into the Bombay territories at this time, thereby leaving the deficit in the Sea Customs at subordinates to be made good from other sources, at—

Rs. 7,75,631, less
2,88,982, or
4,86,649

13. The amount of Sea Customs revenue realized at the port and island of Bombay in the year 1835-36, per Statement herewith, Enclosure (G.), and which is

† As 35.75 : 3,44,370 :: 5.75 : 55,388, which, deducted from 3,44,370, leaves 2,88,982.

is considered to be entirely relinquished to make room for the new Act and Tariff, was 10,00,015 rupees, say - - -

The salt duties to be given up yield, per statement accompanying the Committee's letter to the Bombay Government of the 2d November 1836, of which a copy is enclosed, Rs. 5,00,000

But from this must be deducted that portion of the above amount which is shown in the third column of the Statement in question, to be levied as transit duties in the Poonah, Sholapore, Candesh, Ahmednuggur and Dharwar districts, and which is included, therefore, in the sum of 13,50,000 rupees, stated to be relinquished in para. 5 of this letter, 1,42,340 rupees, or say - Rs. | 1,42,000

There must also be deducted a portion of the sum of 3,38,824 rupees, shown as the average total revenue realized from salt in the manufacturing districts of Ahmedabad, Kaira, Broach, Surat, Tannah and Rutnagherry, since the above sum, 3,38,824 rupees includes transit duties, which have also been brought to account in the large sum of 13,50,000 rupees; the Committee conceive that they do not over-rate the portion so credited in stating it at - - - Rs.

		<i>Rs.</i> 10,00,000
hed to make room for the pees, say - - - per statement accompany- bay Government of the 2d nclosed, Rs. 5,00,000		
at portion of n the third to be levied lapore, Can- istricts, and of 13,50,000 ra. 5 of this 1,42,000		
1,00,000	2,42,000	2,58,000*
	<i>Rs.</i>	12,58,000

See below.

which added to the other items already noticed and re-stated in the margin,† will make the total amount of revenue relinquished, exclusive of the separate relief to the North Concan, thirty lacs ninety-four thousand six hundred and forty-nine (30,94,649) rupees, or say in round numbers, thirty lacs and ninety-five thousand (30,95,000) rupees.

14. To make good this sum as far as seems practicable at present, we have the new salt duties at 8 annas per Indian maund, estimated by the statement to the Bombay Government alluded to in para. 12 to produce	-	-	15,14,000
Less the charge of collection, for which we now allow	-	2,00,000	
And the duty on salt exported to Madras and Calcutta, which will of course operate as a diminution of present revenue at those Presidencies, and may be credited to them if it should be so desired	-	-	
	-	2,25,000	
			4,25,000

Amount realizable under Bengal Act XIV. of 1836, as modified for Bombay, per Statement enclosed (H.)	- - - - -	13,19,000
Amount of import and export duties still to be realized in the Concans and Guzerat under the above Act, Enclosure (I.)	-	1,73,000

Rs.	25,81,000
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Leaving

* The average amount of revenue derived from salt in the Bombay Presidency for four years, 1832-33 to 1835-36, per Accountant-general's annual statement, is only 2,12,114 rupees per annum—*vide* Enclosure (K.)—so that this amount, 2,58,000 rupees, may be considered to exceed the real amount realized from that source.

† Transit Duties throughout the Presidency -	-	-	-	-	13,50,000
Sea Customs, Concan and Guzerat -	-	-	-	-	4,86,649
Bombay Sea Customs and Salt Revenue -	-	-	-	-	12,58,000

30,94,649

Leaving a deficit of 5,14,000 rupees, to which must be added the amount of compensation to be given to individuals for hugs, &c., relinquished, which the Right honourable the Governor in Council of Bombay does not suppose will exceed a lac of rupees per annum, and hopes will fall considerably below that amount,* and also the allowance which it is proper to make for the further amount of drawback which will be paid by Government on such portion of the additional amount now credited in Statement (H.) as duty at $1\frac{1}{2}$ and 3 per cent. on unenumerated articles by British and foreign ships (to raise the duty to 5 per cent. in the one case, and 10 per cent. in the other) as may belong to re-exports of those articles, say together, one lac and ten thousand (1,10,000) rupees, making the total loss consequent on the measures thus submitted to the notice of the Government of India, six lacs and twenty-four thousand (6,24,000) rupees, in the first instance.† This loss might, however, be further reduced, say to the extent of sixty or seventy thousand rupees, or to something between five lacs and fifty thousand (5,50,000) rupees, and five lacs and sixty thousand (5,60,000) rupees, by lowering the drawback at Bombay from $\frac{3}{4}$, as calculated in Enclosure (H.), to $\frac{1}{2}$, or one-half of the import duty originally levied, should the Right honourable the Governor-general in Council not think it advisable at present to grant to goods re-exported from Bombay the full amount of drawback conceded to goods similarly situated in Bengal; but such diminished drawbacks would operate very unfavourably on the re-export of all articles that are to pay an import duty hereafter of more than 5 per cent., particularly on coffee, cassia, camphor, pepper, &c. shipped to Great Britain, and would possibly diminish the import of those articles into Bombay from China and other parts in time to come. The difficulty might, no doubt, be got over, by fixing the drawback on all articles liable to the higher import duties of $7\frac{1}{2}$ and 10 per cent. at three-fourths ($\frac{3}{4}$) instead of one-half of such duties, but this would be a departure from the principle of uniformity which the Committee desire to see established, and of which we shall have occasion to speak more particularly in a subsequent paragraph.

15. It is right we should add, that of the total loss shown above, one lac and fifteen thousand rupees may be ascribed to the adoption of the rate of 3 per cent. as the sea export duty of the Bombay Presidency, instead of 5 per cent., as recommended by the Committee in November last, Enclosure (I.), and it is also due to the Bombay commercial community to state, that in taking into the foregoing account the full amount of fees at present realized at that port, we do in reality include a sum which does not strictly belong to Government Customs Revenue. The fees in question were originally levied for the benefit of the Custom-master and his Assistant, under the authority of clause 12, section VIII. Regulation VI. 1799, according to a list there given, and this clause is still unrepealed. They were appropriated to the joint use of the parties above-mentioned, conformably with the scale laid down in the Regulation to which we have just adverted, until the year 1808 or 1809, when, in consequence of the increased amount realized from this source, the surplus beyond fifty thousand (50,000) rupees per annum to the Custom-master, and twelve thousand rupees or thereabouts to his Assistant, was ordered to be paid into the Company's Treasury, to the credit of Government. The duties of the Collector of Land Revenue in Bombay have since been added to those of Collector of Customs (as the officer at the head of the latter department is now called), and the salary of the joint offices reduced to thirty-six thousand rupees per annum.

16. This appropriation of fees raised for a specific purpose to the subsequent use of Government, has always been viewed by the mercantile community at Bombay as an unequitable, if not illegal addition to the Government Customs Revenue, particularly since the Collector's remuneration for services performed in the department of Land Revenue has been paid from the above fund, and we have reason to believe, that a portion at least of that body look forward to the abolition of the fees in question, to the extent of the surplus amount carried to the credit of Government without the condition of an equivalent in some other shape, as a measure of justice that will not be withheld from them in the pending revision and amelioration of the existing Customs Laws.

17. It

* Para. 23 of Mr. Secretary Willoughby's letter to Mr. Secretary Prinsep, of the 24th April 1837.

666. M 3

17. It will be observed, that in framing the statement of future Customs Revenue realizable at the port of Bombay under Act XIV. of 1836, with certain modifications, Enclosure (H.), and estimating the amount of drawback receivable by the public on re-exports, we have adopted the scale of return authorized by that Act, viz. 7-8ths of the duty levied on import, and suggested in paragraph 14 of this letter, a reduced scale of 4-8ths return on re-export as the means of materially diminishing the sum to be repaid by Government, should the Right honourable the Governor-general in Council continue to be of opinion that the introduction of the large scale into the Bombay tariff would be a greater boon than Government can afford to concede to the trade of the Bombay Presidency at the present time; we are of opinion, after having given the subject of drawbacks generally, and the rates proposed for Bombay in the 3d paragraph of your letter of the 24th ultimo, No. 39 in particular, full and mature consideration, that the reduced scale in question, $\frac{4}{8}$ or $\frac{1}{2}$, or any other uniform rate that his Lordship in Council may be disposed to sanction, will be preferable in every respect to a diversity of rates, according to the places and countries of eventual destination, both as regards the convenience of the public, and the interests of Government; and it is very satisfactory to us to observe, that our sentiments on this point are in accordance with those entertained by his Lordship in Council, as communicated to the Government of Bombay in your letter to Mr. Secretary Willoughby also, of the 24th ultimo, No. 38.

18. Whilst on the subject of drawbacks, it is desirable we should state with reference to the 2d and 3d paragraphs of our present address, that the Statement (D.) accompanying our Report No. V. of the 29th June 1836, showing the description and value of goods re-exported from Bombay to places other than British Indian ports, together with the duty originally leviable on the same, and the amount of duty to be returned on re-export, according to the present practice of Bengal, was prepared from the trade returns of the Bombay Presidency for the years 1830-31, 1831-32, and 1832-33, furnished by the Reporter-general of External Commerce at Bombay, for the information of the Supreme Government, and were the latest returns procurable here at that time. The value of goods re-exported according to that statement, exclusive of cotton and sugar, was 85,59,051 rupees; the amount of duty originally levied, 3,74,810 rupees; and of drawback at $\frac{7}{8}$ of the foregoing sum - - - - - 3,27,361

The drawback on cotton to Europe, valued at 38,05,500 rupees, being the full amount of duty levied, 5 per cent. was stated at - - - 1,90,275
And on sugar, valued at 22,81,450 rupees, with duty at $3\frac{1}{2}$ per cent., also partly in full - - - - - Rs. 23,396
and partly $\frac{7}{8}$ - - - - - - - - - 49,472 } 72,868

Total - - - Rs. 5,90,504

The amount of drawback paid at Bombay on the re-exports of 1835-36, excluding cotton, by the statement of the Collector of Customs, Mr. Bruce, of the 29th June 1836, as arranged in Enclosure (G.) herewith, was - - - - -

Add on the re-export of cotton which had paid duty in Bombay - - - - -

And it appears by a memorandum annexed to that statement, that there were further sums paid at Bombay as drawback on cotton and other articles (but we may say, principally cotton), exported to the United Kingdom, the duties on which were levied at subordinate ports, amounting to - - - - -

Carried forward - - - - - 3,57,316 5,90,504

Brought forward - - -	- - -	Rs. 3,57,316	Rs. 5,90,504
Mr. Bruce calculates the return of duties to be made on the imports of 1835-36, re-exported according to the provisions of Act XIV. of 1836, <i>vide</i> statement (C.) accompanying our letter to the Bombay Government, of the 15th November 1836, and our present Enclosure (H.), cotton excluded, at - - - - -	Rs. 1,54,790		
From which, deduct the amount actually returned on the same goods as above -	40,366		
And we have an increase of drawback from the operation of the new law of - - -	- - -	Rs. 1,14,424	4,71,740
Being short of our former Estimate - - - - -	- - -	- - - Rs.	1,18,764

Which the Committee have no means of accounting for at present, except by supposing either that Mr. Bruce has omitted the article of sugar to which we had given a return of the whole duty levied, in his calculation of 7-8ths, or that the Bombay trade returns give the value of articles re-exported, at the market price of the day at the time and place of export, or with duties and all other charges, local profit included, superadded, instead of the import valuation, and that our estimate of drawback, which are of course paid by Government on import valuations, is consequently in excess of the true amount of drawbacks paid at Bombay.

19. Mr. Bruce has been requested to furnish the Committee with the particulars of the sum of 1,54,790 rupees, returned as the drawback payable on the trade of the port of Bombay in the statement already alluded to, and we shall be able, we trust, to submit the same to the Right honourable the Governor-general in Council, long before the draft referred to our consideration can pass into law. In the mean time we will briefly add, that it is more likely we should err, from the imperfect data on which we had to depend in our former calculations, than that the Collector of Customs at Bombay, with every material for a correct statement at hand, should either under or over-estimate the amount of duty leviable, and drawback payable, by the proposed new system, on goods that had actually passed through the Custom-house, under the existing laws of that Presidency.

20. We should feel it necessary to apologise to his Lordship in Council for the great length of our observations on this portion of the subject referred to the Committee, were we not satisfied that our desire to furnish his Lordship with the most authentic statements in our power, and to put him in full possession of the data on which our calculations and opinions are founded, together with the general importance of the questions under consideration, will be viewed by his Lordship as a sufficient excuse for more than usual detail; and we will only add, as regards the amount of revenue to be relinquished under the Bombay Presidency, from the abolition of transit duties and the introduction of a new Customs system, that it has been our wish on the present as on all former occasions, rather to place before his Lordship an amount of loss, in excess of that likely to attend the measures under consideration, than incur the risk of future disappointment to Government by adopting and encouraging more sanguine expectations than the materials at our command, and circumstances generally, would fairly warrant.

We have, &c.
(signed) J. H. Crawford.
W. R. Young.
H. Borradaile.
H. Babington.

(signed) G. J. Siddons, Hon. Member.
T. J. Taylor, Sec.

A P P E N D I X.

Enclosure (A.), *vide* Para. 4, Report XI.

THE following (says the Revenue Commissioner, Mr. Williamson, in his letter to Mr. Secretary Willoughby of the 5th May 1837, No. 749 of 1837) is the estimated loss from the abolition of the transit and town duties, on an average of three years.

Guzerat, amount of Land Customs, Town Duties, and Mookhauts - - - - -	(a) 7,58,000 - -
Candeish Land Customs and Town Duties - - - - -	(b) 1,62,000 - -
Nuggur Land Customs and Town Duties - - - - -	(c) 1,62,012 7 6
Poonah Land Customs and Town Duties, average of two years - - - - -	(d) 2,18,046 10 3
North Concan, ditto - - - - -	(e) 1,65,001 - -
South Concan, ditto - - - - -	(f) 26,332 7 7
	<u>Rs. 14,91,392 9 4</u>

(a) Average of three years per statement accompanying Collector of Customs Mr. Pelly's letter to Revenue Commissioner, dated 18th August 1836 (years not stated).

(b) Average of three years, 1832-33, 1833-34, 1834-35, per Collector Mr. Boyd's letter to Revenue Commissioner, dated 15th September 1836.

(c) Year 1834-35, per statement appended to letter from Collector Mr. Harrison to Revenue Commissioner, dated 30th July 1836.

(d) Average of two years, 1833-34, 1834-35, per statement appended to letter from Principal Collector Mr. Mills, to Revenue Commissioner, dated 14th December 1836.

(e) Average of three years, per letter from the Acting Collector Mr. Simson, to Revenue Commissioner, 8th August 1836 (last three years).

(f) Average of three years, per statement annexed to Collector Mr. Glass's letter to Revenue Commissioner, dated 19th August 1836.

Amount of loss from the abolition of the Transit and Town Duties in the Dekhan, Concans and Guzerat, as shown by the Revenue Commissioner Mr. Williamson - - - - - } 14,91,392 9 4
(carried to p. 98.)

There seems to be some doubt whether the return from Poonah (Rs. 2,18,046. 10. 3. (d) includes the revenue derived from transit duties in the sub-collectorate of Sholapore, which appears to have amounted to 49,867 rupees per annum on an average of the last three years of the returns before the Committee as follows (*vide* Sub-Collector Mr. Luard's letter to Principal Collector of 1st August 1836) :—

1833-34 - - - - -	53,200
1834-35 - - - - -	45,201
1835-36 - - - - -	51,200
	<u>1,49,601 ÷ 3</u>
	<u>49,867</u>

These items, or others of so nearly similar amount as to leave no doubt of their referring to the Sholapore Collections, are included in a statement of earlier date furnished to the Revenue Commissioner by the Principal Collector of Poonah on the 30th August 1836, and the amount there shown as the average of the same years as given in Statement (A.) compiled from the annual returns made to the Accountant-general in Bengal by the Accountant-general in Bombay, accompanying the Committee's letter to the Bombay Government, No. 345 of the 15th November 1836, so as to make it not unreasonable to suppose that the Principal Collector's present return to the Revenue Commissioner falls short of the actual collections by about 20,000 rupees, though the Committee do not feel themselves sufficiently confident on that point, to make any addition to the realizations of the Poonah Collectorate, as forwarded by the Revenue Commissioner at this time.

2. The annexed Statement, No. 1, says the Principal Collector (in his letter of the 30th August 1836) will show the amount of the duties on these articles, framed with as much accuracy as the records in this office, and those I have been able to procure, will admit of.

3. The statements, however, show the amount of transit duties, independent of other sources of revenue derived by the Land Custom farmer, such as sheep, bytuck, &c. &c., of the receipts of which account it is almost impossible to form a correct estimate; the fairest criterion, therefore, of the resources of the state from this branch is the amount for which the farm of Land Customs sold by public auction; and the following brief statement of the amount which the Customs farms realized for the last four years, will show the sacrifice which will be made by Government, if they relinquish the transit duties altogether, as follows:

Y E A R.	Principal Divisions, Eight Talooks, and City.	Subdivision.	TOTAL.
1832-33 - - -	1,95,000 - -	60,170 - -	2,55,170 - -
1833-34 - - -	1,90,000 - -	53,200 - -	2,43,200 - -
1834-35 - - -	1,86,160 - -	47,209 - -	*2,33,169 - 8
1835-36 - - -	2,04,880 - -	53,248 - -	2,58,128 - -
	<u>7,76,040 - -</u>	<u>*2,13,627 - -</u>	<u>9,89,667 - 8</u>
These ÷ by 4, will give	1,94,010 - -	53,406 12 -	2,47,416 12 2

The average of the two years 1833-34 and 1834-35, taken from the preceding statement, would, as already mentioned in general terms, be in excess of the Collector's later statement as under:

1833-34 - - - - -	2,43,200 - -
1834-35 - - - - -	2,33,169 - 8
	<u>2) 4,76,369 - 8</u>
	<u>2,38,184 8 4</u>
Deduct - - -	2,18,046 10 3
Difference - - -	<u>Rs. 20,137 14 1</u>

and for the same years, per statement accompanying Committee's letter, 15th November 1836, (A.), as follows:

1833-34 - - - - -	2,36,511 - -
1834-35 - - - - -	2,40,641 - -
	<u>2) 4,77,152 - -</u>
	<u>2,38,576 - -</u>
Deduct - - -	2,18,046 10 3
	<u>Rs. 20,529 5 9</u>

Southern

* *Mem.*—There is an error in these additions of 200 rupees, unless the item 47,209. 8, should have been 47,009. 8.

Southern Mahratta country, per statement from Acting Principal Collector Mr. Dunlop, to Accountant-general Bombay, Dhawar, 10th January 1836.

	Rs.	a.	p.
Brought from page 96	14,91,392	9	4
1832-33, Amount engaged by contractors to be paid to Government	2,06,661	12	4
1833-34	1,98,244	4	5
1834-35	1,73,225	9	-
3)	5,78,131	9	9
	1,92,710	8	7
Levied by farmer on account of Roosoomdars and Koomarkies, and which, as the amount is paid to those persons, must, I conceive, be made good by the State, when the inland Customs are abolished:			
1832-33	29,173	4	8
1833-34	26,032	9	1
1834-35	28,186	1	7
÷ 3)	83,391	15	4
	27,797	5	1
	2,20,507	13	8
TOTAL	17,11,900	7	-

Note.—The Land Customs Revenue from the Southern Mahratta Country, in the six years' statement referred to above, gives as nearly as possible the same average in the last three years as I have shown above:

1832-33	1,90,968
1833-34	1,65,790
1834-35	2,23,000

5,79,758 ÷ 3 = Rs. 1,93,252 per annum.

Further note.—There appears to be also a sum of about 20,000 rupees per annum paid by the farmer on account of Sebundies; but these, it is presumed, are required for his own purposes, and would be discontinued on the abolition of the transit duties. If necessary for other purposes, their cost can have no connexion with that measure.

	Rs.	a.	p.
Total amount of Revenue derived from Inland Customs, Transit Duties and Town Duties under the Bombay Presidency (the island of Bombay excepted), which will be sacrificed if the whole of those duties are relinquished, including compensation to Roosoomdars and Koomarkies in the Southern Mahratta country (27,797. 5. 1.)	17,11,900	7	-
Deduct mookauts and town duties in Guzerat, to be retained as per average of 1832-33, 1833-34, 1834-35, per separate statement	3,78,499	-	-
Loss	Rs. 13,33,401	7	-

It may be satisfactory to observe, that the amount of sacrifice on an average of six years, i. e. 1829-30 to 1834-35, accompaniment (A.) to Committee's letter of 15th November 1836, does not differ very materially from the above, being

Rs. 13,77,923 - -

And that the result deduced from the three last of those years, per separate Statement (B.) herewith, is in almost exact accordance with the above, being

Rs. 13,33,944 - -

We cannot, therefore, be very far wrong in estimating the loss of revenue in this case at 13½ lacs, thus making allowance for the possible error in the Poonah Collector's statement to nearly its full amount

Rs. 13,50,000 - -

The foregoing sum of 13,50,000 rupees must be considered as net revenue given up, as the Collectors of Poonah, Ahmednuggur, Candeish, Tannah and Rutnagherry all state in reply to the Revenue Commissioners' Inquiry on the subject, that the transit duties being in farm, no establishments are kept up, and no saving can in consequence be effected. The Committee have no advice on that head from the Collector in the Southern Mahratta Country, but the transit duties being in farm there also, it is to be inferred that no saving can be made there. The Collector of Customs in Guzerat and the North Concan thinks

there may be a possible saving of 18,000 rupees per annum on account of establishment, charitable allowances and hugs, but this is so inconsiderable an amount, and as it seems to the Committee of such doubtful realization, that it is not worth while to look upon it as a probable saving at this time.

Customs and Post-Office Committee, Calcutta,
24 June 1837.

(signed) T. J. Taylor,
Secretary.

Enclosure (B.), vide Para. 5, Report XI.

STATEMENT showing the Proceeds, on Average of Three Years, 1832-1833, 1833-34, 1834-35, of the Gross LAND CUSTOMS, including Guzerat Town Duties, in the two Divisions of the Bombay Presidency, extracted from the larger Statement (A.) for Six Years, 1829-30 to 1834-35, accompanying Customs Committee's Letter to the Bombay Government of the 15th November 1836.

DEKHAN AND CARNATIC.

	Poonah.	Ahmednuggur.	Candeish.	Carnatic, Dharwar, &c.	TOTAL.		North Konkan.	South Konkan.	TOTAL.
1832-33	2,72,675	1,36,603	1,49,911	1,90,968	7,50,157	1832-33	2,33,836	24,401	2,58,237
1833-34	2,36,511	1,60,273	1,40,648	1,65,790	7,03,222	1833-34	2,17,167	24,270	2,41,437
1834-35	2,40,641	1,51,117	1,82,927	2,23,000	7,97,685	1834-35	2,27,435	27,110	2,54,545
÷ 3	7,49,827	4,47,993	4,73,486	5,79,758	22,51,064	÷ 3	6,78,438	75,781	7,54,219
	2,49,942	1,49,331	1,57,828	1,93,252	7,50,354		2,26,146	25,260	2,51,406

	Rs.
Dekhan and Carnatic	7,50,354
Konkans	2,51,406
Guzerat	3,32,184
	Rs. 13,33,944

GUZERAT, Northern Division.

	Honourable Company.	Guicowar Subsidiary.	TOTAL.		Surat, Mookauts.	Ahmedabad, Town Duty.	District Town Duty.	TOTAL.
1832-33	4,24,765	3,37,594	7,62,359	1832-33	1,53,248	1,51,463	1,03,949	4,08,660
1833-34	4,05,522	2,53,741	6,59,263	1833-34	1,34,928	1,09,625	94,578	3,39,131
1834-35	3,99,005	3,11,423	7,10,428	1834-35	1,41,801	1,48,239	97,667	3,87,707
÷ 3	12,29,292	9,02,758	21,32,050	÷ 3	4,29,977	4,09,327	2,96,194	11,35,498
	4,09,764	3,00,919	7,10,683		1,43,325	1,36,442	98,731	3,78,499

	Rs.
Total	7,10,683
Deduct Mookauts and Town Duty	3,78,499

Rs. 3,32,184

Customs and Post-Office Committee, Calcutta,
24 June 1837.

(signed) T. J. Taylor,
Secretary.

Enclosure (C.), *vide* Para. 8, Report XI.

STATEMENT taken from Mr. *Davies's* Letter and Accompaniments to Mr. *Borradaile*, dated 2 April 1836; showing the Value of the Imports into the Continent through the Tannah Collectorate (or North Concan); and Amount and Description of Duty paid thereon, A. D. 1834-35.

N. B.—The Pioneer Road by the Boze Ghaut has added greatly to the premium possessed by Panwell, to the detriment of all other routes.

Total Value of Imports about - - - Rs. 32,00,000.

			CUSTOMS.
Imported at Panwell, about - - -	Rs. 25,00,000	- - -	worth 50,000
Imported at Bhewndy and at Bassien, about	Rs. 4,00,000	- - -	worth 30,000
Imported at all other Bunders, about -	Rs. 3,00,000	- - -	worth 20,332
Total Amount levied - - -			Rs. 1,00,332
viz. Eir Suckal - - -			71,592
Bubties - - -			24,293
Zemindaries - - -			4,447
			Rs. 1,00,332

Speaking of the advantages enjoyed by Panwell, in the portion of the paragraph which immediately precedes the above statement, Mr. *Davies* says, "No duties are levied on the Panwell Road ad valorem;" every thing is taxed on the load of weight or capacity, according to the description of goods.

Customs and Post-Office Committee, Calcutta,
24 June 1837.

(signed) T. J. Taylor,
Secretary.

Enclosure (D.) *vide* Para. 8, Report XI.

ABSTRACT STATEMENT arranged from Mr. *Davies's* Letter and Accompaniments to Mr. *Borradaile*, dated 2 April 1836; showing the Value of the Exports from the Dekhan through the Tannah Collectorate, and the Amount of Duties by Land and by Sea levied thereon, A. D. 1834-35.

Description and Estimated Value of the Exported Produce of the Dekhan.	Amount and Description of Duties.		
<i>Via</i> Panwell:		Duties thereon:	
Cotton - - - - -	17,61,424	Net Sea Customs - - -	1,17,276
Ghee - - - - -	92,000	Net Land Customs - - -	77,957
Cloths, very rich and valuable -	40,000	Add, zemindar's hucks and bubties upon Sea Customs -	11,727
Kosam or Safflower - - -	1,00,000	Add, huckdaree bubties, zemindaree on the Land Customs, and exchange and interest on the whole - - -	13,184
Grapes - - - - -	7,000		
Fruits, of various kinds - - -	5,000		
Vegetables, &c.; Sheep and Goats - - -	30,000		
Kerana, or medley of articles paying by the bullock-load -	2,00,000		
<i>Via</i> Bhewndy:			
Wheat - - - - -	3,00,000		
Bajvee - - - - -	1,14,000		
Gram - - - - -	1,00,000		
Sheep and Goats - - -	40,000		
Cotton - - - - -	25,000		
<i>Via</i> all other Bunders - - -	10,000		
	28,27,424		*2,20,144
		Deduct, Land Customs - - -	77,957
		" " - - -	13,184
			91,141
Rs.	28,27,424		†1,29,003
		Less duty on cotton - - -	78,197
			Rs. 50,806

The total value of Exports from the Dekhan is—

	Rs. 28,27,424	Total Duties - - -	Rs. 2,20,144
		Less the Land Duties - - -	91,141
Less value of cotton - - -	28,27,424	Sea Export Duties - - -	1,29,003
	17,61,424	and its duty - - -	*78,197
	Rs. 10,66,000	Duties, Sea Export - - -	50,806

equal to 4.766 decls., or 4 $\frac{1}{2}$ per cent.

* This sum is taken from Mr. *Davies's* detailed return of duty at each port. Under the head of Panwell, and opposite to the same, i. e., Rs. 78,197, he writes thus: "The uniform rate of five per cent. had not been introduced upon cotton in the beginning of this season."

(signed) T. J. Taylor,
Secretary.

Customs and Post-Office Committee, Calcutta,
24 June 1837.

Enclosure (E.) *vide* Para. 8, Report XI.

ABSTRACT STATEMENT arranged from Mr. *Davies's* Letter and Accompaniments to Mr. *Borradaile*, dated 2 April 1836; showing the Value of the Exported Produce of the North Concan, and the Amount of Duties by Land and by Sea, levied thereon, A. D. 1834-35.

Description and Value of the Exported Produce of the North Konkan, estimated from the Actual Exports.	Amount and Description of Duties.		
<i>Via</i> Panwell, Bassein, Calilian, Bhewndy, and Penn:		Duties thereon:	
Rice, valued at about - - -	6,20,000	Net Customs - - -	1,79,992
(Being estimated at 40,000 candies.)		Net Land Customs - - -	1,17,686
Grain, valued at about - - -	50,000	Add, zemindaree, hucks and bubties on the Sea Customs -	1,64,378
<i>Via</i> Omergaum, &c.:		Add, hucks, bubties, &c., on the Land Duties, exchange and interest on the whole - -	21,480
Wood for building and burning, valued at - - -	1,50,000		
Other poor grains, of various sorts - - -	50,000		
Salt fish - - - - -	50,000		
Cocoa-nuts - - - - -	10,000		
Sundries - - - - -	30,000		
	9,60,000		*483,536
		Deduct, Land Customs - - -	1,17,686
		" " - - -	21,480
			1,39,166
Rs.	9,60,000		Rs. †3,44,370

* Or about 50 per cent. ad valorem (50.36 decls.)

† Or about 35 $\frac{1}{2}$ per cent. ad valorem (35.87 decls.)

Customs and Post-Office Committee, Calcutta,
24 June 1837.

(signed) T. J. Taylor,
Secretary.

Enclosure (F.), *vide* Para. 8, Report XI.

STATEMENT showing the Sea Export Duties levied on all Articles except Cotton, exported from *Guzerat*, in the under-mentioned Years; compiled from Returns furnished by the Collector of Customs in *Guzerat*, dated 12 October 1835.

PORTS OF EXPORT.	1832-33.	1833-34.	1834-35.
Surat - - - - -	51,700	48,468	51,485
Broach - - - - -	16,416	13,922	12,708
Tunkaree - - - - -	6,073	4,828	6,014
Dholera - - - - -	4,328	1,874	4,792
Bhowharee - - - - -	32,861	3,498	3,603
Gogo - - - - -	9,154	6,575	8,294
Bhownugger - - - - -	14,489	4,251	3,549
Bulsaur - - - - -	5,963	12,366	18,234
Bugwarra - - - - -	1,268	5,743	6,012
Nowsaree - - - - -	925	787	1,588
Gundavee - - - - -	3,166	3,345	5,046
Cambay - - - - -	-	-	-
Rs.	1,46,343	1,05,657	1,21,385
1832-33 - - - - -	-	1,46,343	-
1833-34 - - - - -	-	1,05,657	-
1834-35 - - - - -	-	1,21,385	-
		3) 3,73,385	
		Rs. 1,24,461 per annum.	

Customs and Post-Office Committee, Calcutta,
24 June 1837.

(signed) *T. J. Taylor*,
Secretary.

Enclosure (G.), *vide* Para. 13, Report XI.

The present Revenue at Bombay is, by Mr. Bruce's Customs Statement for 1835-36, as follows:

Import Customs at 2½ per cent. - - - - -	-	-	-	-	-	Rs. 5,46,819 1 8
Additional Duty at 1 per cent. - - - - -	-	-	-	-	-	1,47,885 12 4
Duty on Foreign Goods, at 4½ per cent. - - - - -	-	-	-	-	-	39,730 6 -
						7,34,435 4 -
Less Drawback on 2½ per cent. - - - - -	-	-	-	-	14,388 12 11	
On additional Duty, 1 per cent. - - - - -	-	-	-	-	25,212 2 3	
On Duty at 4½ per cent. - - - - -	-	-	-	-	765 5 6	
					40,366 4 8	
Less also repaid on 2½ per cent. - - - - -	-	9,743	9	7		
An additional Duty 1 per cent. - - - - -	-	3,897	7	-		
					13,641 - 7	
					54,007 5 3	
					6,80,427 14 9	
Fees - - - - -	-	-	-	-	-	1,29,298 12 9
Tobacco farmed - - - - -	-	-	-	-	-	70,000 - -
Spirituuous Liquors - - - - -	-	-	-	-	-	1,04,930 5 -
						9,84,657 - 6
Customs at 3½ per cent. on Goods exported in Foreign Vessels - - -	-	-	-	-	-	15,458 10 1
TOTAL of Customs, exclusive of items below - - -	-	-	-	-	-	Rs. 10,00,115 10 7

Add, Customs on Cotton - - - - -	-	-	-	-	-	1,18,395 12 11	Rs.
Less Drawback - - - - -	-	-	-	-	-	44,956 14 3	
						73,438 14 8	
Add, Town Duty, 1½ per cent. - - - - -	-	-	-	-	-	1,50,186 15 10	
Less Drawback - - - - -	-	-	-	-	10,821 7 8		
Repaid - - - - -	-	-	-	-	563 9 6		
						11,385 1 2	
						1,38,801 14 8	
Passage-boats - - - - -	-	-	-	-	-	7,434 11 4	
Warehouse-rent - - - - -	-	-	-	-	-	1,466 15 3	
						Rs. 2,21,142 7 11	

The first sum is the amount derived from legitimate sources of Customs Revenue - - - - -	-	-	-	-	-	10,00,115 10 7	
The two next items, duty on Cotton and Town Duty, are equally Customs Revenue, but as the amount realized from the former will be very nearly the same by the new system as by the old, it will not enter either calculation - - -	-	-	-	-	Rs. 73,438 14 8		
Town Duty will be collected under both systems - - -	-	-	-	-	-	1,38,801 14 8	
						2,12,240 13 4	
Passage-boats are not legitimate Customs Revenue; but will be equally realizable under both systems - - -	-	-	-	-	7,434 11 4		
Warehouse-rent the same - - -	-	-	-	-	1,466 15 3		
						8,901 10 7	
						2,21,142 7 11	
TOTAL - - -	-	-	-	-	-	Rs. 12,21,258 2 6	

which agrees with the sum total of Customs Collections, as shown in Mr. Bruce's Statement, accompanying his letter to the Bombay Government, dated Poonah, 26 July 1836.

Customs and Post-Office Committee, Calcutta, 24 June 1837. (signed) *T. J. Taylor*, Secretary.

Enclosure (H.), *vide* Para. 14, Report XI.

STATEMENT by Mr. Bruce, the Collector of Customs at Bombay, of the probable Customs Revenue realizable at the Port, from the adoption of the Bengal Tariff, Accompaniment No. 3, to the Appendix to his Letter to the Bombay Government of the 26th July 1836, remodelled by the Customs Committee at Calcutta, conformably with the views of the Government of India, as conveyed to them in Mr. Secretary Prinsep's Letter of the 24th May 1837.

ARTICLES.	Value.	Rate of Duty.	Amount of the probable Customs.
When imported on British Bottoms, Marine Stores, the produce or manufacture of the United Kingdom, or of any British Possession.	1,23,756	at 3 p' ct.	3,712
Ditto - ditto - country ditto - - -	-	at 6 p' ct.	-
Metals, wrought or unwrought, the produce or manufacture of the United Kingdom, or any British Possession.	29,65,755	at 3 p' ct.	88,972
Ditto - excepting Tin, the produce or manufacture of any other places.	3,89,258	at 6 p' ct.	23,355
Tin, the produce of any other place than the United Kingdom, or any British Possession.	1,48,908	at 10 p' ct.	14,890
Woollens, the produce or manufacture of the United Kingdom, or any British Possession.	5,84,017	at 2 p' ct.	11,680
Ditto - the produce of any other place or country.	-	at 4 p' ct.	-
Cotton and Silk Piece Goods, Cotton Twist and Yarn, the produce of the United Kingdom, or any British Possession.	60,72,305	at 3½ p' ct.	2,12,530
Ditto - the produce of any other place - -	18,69,370	at 7 p' ct.	1,30,855
Alum - - - - -	90,678	at 10 p' ct.	9,067

ARTICLES.	Value.	Rate of Duty.	Amount of the probable Customs.	
Camphor - - - - -	90,678	at 10 p' ct.	12,671	
Cassia - - - - -	1,65,271	at 10 p' ct.	16,527	
Cloves - - - - -	84,615	at 10 p' ct.	8,461	
Coffee - - - - -	5,12,811	at 7½ p' ct.	38,460	
Nutmegs and Mace - - - - -	65,306	at 10 p' ct.	6,530	
Pepper - - - - -	49,476	at 10 p' ct.	4,947	
Rattans - - - - -	10,272	at 7½ p' ct.	770	
Tea - - - - -	2,14,143	at 10 p' ct.	21,414	
Vermilion - - - - -	2,860	at 10 p' ct.	286	
Wines and Liquors - - - - -	2,84,953	at 10 p' ct.	28,495	
Tobacco, Europe and American, per Indian seer -	-	{ 1 anna	-	
Ditto - Country, per Indian maund -	See Note (a)	2 annas	6,487	
Ditto - Snuff, per Indian seer -	-	4 annas	-	
Tobacco, imported into the island of Bombay, per Indian maund.	See Note (b)	9 rupees -	70,000	
Spirits, consolidated duty, including 3½ per cent. Customs, and special duty at eight annas per gallon.	-	9 annas per gallon.	1,04,930	
All Articles not included in the above enumeration - 1,03,03,145 at 3½ p' ct. 3,60,009	-	-	-	
Ditto - ditto } additional - - - at 1½ p' ct. 1,54,548	1,03,03,145	at 5 p' ct.	5,15,157	
1,03,03,145 at 5 p' ct. 5,15,157	-	-	-	
	2,40,27,577	-	13,30,196	13,30,196
Imports on Foreign Bottoms :				
Books - - - - -	5,044	at 6 p' ct.	302	
Marine Stores - - - - -	13,503	at 12 p' ct.	1,620	
Metals - - - - -	1,42,404	at 12 p' ct.	17,088	
Tin - - - - -	29,318	at 20 p' ct.	5,863	
Cotton and Silk Piece Goods - - - - -	74,372	at 14 p' ct.	10,412	
Alum - - - - -	4,800	at 20 p' ct.	960	
Cloves - - - - -	2,13,978	at 20 p' ct.	42,795	
Coral - - - - -	2,345	at 20 p' ct.	469	
Rattans - - - - -	1,145	at 15 p' ct.	171	
Tea - - - - -	2,279	at 20 p' ct.	455	
Wine - - - - -	1,22,404	at 20 p' ct.	24,480	
Add, from former Statement, Country Articles, omitted here, 18,940 less, already paid at subordinate ports.	9,470	-	9,470	
All Articles not included in the above enumeration - 2,04,095 at 7 p' ct. 14,286	-	-	-	
Ditto - ditto } additional - - - at 3 p' ct. 6,122	2,04,095	at 10 p' ct.	20,408	
2,04,095 at 10 p' ct. 20,408	-	-	-	
	8,25,157	-	1,34,493	
Tobacco - - - - -	See Note (c)	-	-	
Spirits - Gallons 20,959 - - - - -	See Note (d)	16 annas per gall.	9,170	1,43,663
	-	-	-	14,72,859
Deduct drawback, seven-eighths, on above goods (not country) on re-exportation.	-	-	-	1,54,790
	-	-	-	Rs. 13,19,069

Note (a)—Not being aware of the quantity of each sort of tobacco imported into Bombay in 1835-36, the Committee have made their calculation on the total quantity shown to be imported by Statement (C.), accompanying their letter to the Bombay Government of the 15th November 1836: 1,52,505 Bombay maunds, or 1,14,379 Surat maunds, or 51,894 Indian maunds, at the lowest rate leviable above, viz., two annas per Indian maund, $51,894 \times 2 \div 16$, or Rs. 51,894 $\div$ 8 Rs. 6,486.75 dec., or say 6,487 rupees.

Note (b)—The rates of duty which the Committee propose to be levied in future on tobacco as excise, are so nearly the same as those which are now in force as town duty, that it has been considered right to credit the same amount in this Statement, 70,000 rupees, as Mr. Bruce credits in his statement of actual receipts in 1835-36 under farm, and on the same principle to adopt his receipts from spirits, 1,04,930 rupees. as above.

Note (c)

Note (c)—The quantity of tobacco by foreign ships, per statement of the 15th November 1836, is 5,702 Indian maunds, which at 2 annas per maund, as in Note (a), would only yield 812 rupees; but as the Committee are doubtful of the real amount that would be realizable, and believe it must be small under any circumstances, they have not inserted any sum against tobacco by foreign ships in this instance.

Note (d)—The number of gallons of spirits imported by foreign ships is 20,959; but as the Committee believe that the duties now leviable on all spirits at Bombay, the town duty of 8 annas per gallon included, are comprised in the sum adverted to in Note (b), 1,04,930 rupees, they only credit in the present instance the difference between 9 annas and 16 annas, or the additional 7 annas per gallon, which will be leviable hereafter under the operation of the tariff appended to Act XIV. of 1836, on spirits imported into Bombay by foreign ships.

Note (e)—The duties on cotton wool have been excluded from this statement, as well as from Enclosure (F.) accompanying the Committee's letter of this date; this has been done with the view of avoiding all error or confusion in respect to drawback, which is returned at Bombay itself on all cotton entitled to it, whether the duty has been paid originally at Bombay or a subordinate port; and as the export duty recommended by the Committee, 9 annas per Indian maund, will differ but little from the duty now levied, 5 per cent., or Rs. 113.40 dec., and the drawback, when claimable, be paid as at present in full, the revenue is not likely to be so materially affected by the change, as to make the introduction of the article into his amended statement an object of importance at this time, particularly when coupled with the inconvenience in respect to the true amount of drawback to be deducted, noticed in general terms above.

Note (f)—It is believed that import duty on Bengal sugar of the value of about 12 lacs of rupees, is included in the statement of the Customs Revenue at Bombay for 1835-36, Enclosure (F.), and if so, duty on the same value, but at an increased rate (i. e. 5 per cent. instead of 3 per cent.) is necessarily included in the present Statement (H.) also. It is understood to be in the contemplation of the Government of India to recall the permission of free export from Bengal to sugar shipped to Bombay and other British Possessions in the east, and to impose an export duty of 3 per cent. thereon. The levy of this duty at Calcutta will of course diminish the Sea Customs Revenue at Bombay in time to come to the extent of the 3 per cent. in question, as certificates of duty paid in Bengal will be received in diminution of import duty in Bombay, and a difference of 36,000 rupees per annum will be thus created in future in the receipts at the latter port, supposing the value of the sugar imported to remain the same; but as this deficit at the one port will be compensated by increased revenue in the other, the general revenue will not be affected by the change. The Committee of Customs think it right to bring this circumstance to the notice of Government in prevention of future misapprehension respecting their present data, and the calculations they have founded on the same.

Customs and Post-Office Committee,
Calcutta, 24 June 1837.

(signed) T. J. Taylor,
Secretary.

APPENDIX to Enclosure (H.), Report XI.

TOBACCO.

THE duties leviable on tobacco at Bombay, were collected under the authority of Sec. XIX., Chapter V., Regulation XXI. of 1827, which runs as follows:*

"Clause 1. On tobacco imported into the Island of Bombay, shall be levied a duty of 3 Bombay rupees per Bombay maund; on foreign snuff so imported, a duty of one Bombay rupee per 3 lbs., and on ganja so imported, a duty of 87 Bombay rupees per Bombay maund."

"Clause 2. Besides the duties specified in the preceding clause, the general Customs duty of three and a half (3½ per cent.) on the value, shall also be levied on the articles therein mentioned, according to the ordinary rules, with reference to that duty."

The

* Since this period, however, two Regulations have been passed affecting tobacco, but leaving the articles snuff and ganja untouched. By the first of these Regulations, XXXIII. of 1827, sect. 1, clauses 1, 2, 3, 4, the rates of duty previously levied on tobacco, both at Bombay and in the subordinate zillahs, are rescinded. Tobacco imported into Bombay is made liable to the established Customs as before, and to the same Excise duty as that rescinded, viz. 3 rupees per Bombay maund, whether consumed on the island or again exported; but an alteration is made in respect to drawback, it being declared that tobacco shall not in the latter case be allowed drawback, except on exportation to the United Kingdom; and as regards subordinates, it is declared that the same duty of 3 rupees per Bombay maund payable once, either on export or import, whichever may first take place, shall be levied on tobacco in every port within the zillahs subordinate to Bombay, in addition to the established Customs at each port respectively. Clause 4 further enacts, that tobacco having once paid at any British port the full amount of duty and Customs leviable under clause 2 or 3, whichever may be applicable, shall be exempt from the payment of any additional duty at any other British port either on import or export.

This rate of duty having been found to press too heavily on the subordinate ports, clause 3 of section I. Regulation XXXIII. was rescinded by Regulation XV. of 1828; section II. of which reduced the duty to a half a rupee per Bombay maund, in the following terms: "A duty of half a rupee per Bombay maund payable once either on export or import, whichever may first take place, shall be levied on tobacco at every port within the zillahs subordinate to Bombay, in addition to the established Customs at such ports respectively," and so stands the law at present; but as the rates of duty levied on tobacco at Bombay under Regulation XXI. of 1827, have not been affected by either of the two subsequent Regulations, it has been thought better to show these rates in conjunction with the rates levied on snuff, ganja, &c., as first set forth, than to separate the several items in this analysis.

The Tariff valuations, on which the $3\frac{1}{2}$ per cent. General Custom duty is levied, are as under:—

Tariff No.	Rs.	a.	p.
377. Tobacco, European and American, per lb.	-	-	12
378. Tobacco, country, per Surat maund of four seers, or 30,200 lbs.	-	1	8
379. Snuff, per lb.	-	3	-

The calculations and explanations below will show the fixed duty which the Committee propose to levy on the above descriptions of tobacco in future.

CUSTOMS.

	Rs.	a.	p.
Tobacco, Europe and America; 12 annas $\times 3\frac{1}{2}$ = 42 decls. of an anna, or say, if calculated on 12 annas, with an advance in some cases half an anna per lb., as the new Indian seer is only lbs. 2.057 decls., it is proposed to make the future duty per Indian seer	1	-	-
Tobacco, country, $3\frac{1}{2}$ per % or Rs. 1. 8. or 24 annas, in pie 10.08 decls., or 84.100 parts of an anna. The Indian maund of lbs. 82.285 decls., contains Surat maunds of lbs. 39.200 decls., 2099 decls., which multiplied by 84 decls., gives annas 1.763 decls. The Sea Customs duty therefore in country tobacco, making allowance for advance as above, may be fixed per Indian maund at	-	2	-
Snuff being valued at 3 rupees per lb., quadruple the value placed on tobacco from Europe and America, the amount of Customs duty will be quadruple also, or per Indian seer	-	4	-
The town duty on tobacco is, as already shown, 3 rupees per Bombay maund of 28 lbs., which multiplied by 3, would be 9 rupees for 84 lbs. The Indian maund, lbs. 82.285 decls., is so very little less than this, that the Excise duty on tobacco in the new tariff per Indian maund may be fixed at	9	-	-
Foreign Snuff: The town duty is one rupee for 3 lbs.; the Excise may be fixed per Indian seer	2	-	-
Ganjah pays a town duty of 87 rupees per Bombay maund of 28 lbs., and it is proposed to fix the Excise on the Indian maund at three times that amount, or say	Rs. 255	-	-

SPIRITS.

The duties leviable on spirits at Bombay, and drawbacks allowed on re-export, are defined by Ch. X., Regulation XXI. of 1827, and may be briefly stated, as under:—

Sec. XLVII. The established $3\frac{1}{2}$ per cent. Customs duties to be levied on all brandies, rum, gin, arrack and all other description of liquors imported for consumption into the Island of Bombay, calculated on the invoice cost only when coming from the United Kingdom, with certain advances on invoice cost when coming from other parts. The invoice value has since been superseded by a tariff valuation, and with advances as before.

Sec. XLVIII. runs thus, "In addition to the Customs as above specified, the town duty is fixed at half a rupee per gallon on the import of spirits of all descriptions, and from all places."

Sec. XLIX. fixes the town duty at a quarter of a rupee per gallon on all spirits manufactured from articles *bonâ fide* the produce of the Islands of Salsette, Carraajah and Fort Victoria, but declares that all imports of spirits from those territories, manufactured from articles other than the produce thereof, shall be subject to the duty of half a rupee per gallon, and prescribes the nature of the certificates to be produced, to exempt the spirit intended to be imported from the payment of the higher rate of duty.

Sec. L. has reference to drawback, and is worded as follows:

"A moiety alone of the import is to be allowed as a drawback on the export of spirituous liquors, and no drawback is to be allowed under any circumstances, if the spirit be not re-exported within a period of two months from the date of its import, nor is any drawback of the $3\frac{1}{2}$ per cent. Customs allowed on the export of spirituous liquors."

Sec. LII. says, spirituous liquors imported from Europe or America on foreign bottoms shall be subject to the payment of double the duties fixed by Sec. XLVIII. (i.e. double Sea Customs duty).

The present tariff valuations at Bombay are as under:

Tariff No.	CUSTOMS.	Rs.	a.	p.
354. Arrack, foreign, per gallon	-	-	-	8
355. Arrack, Mowrah, per gallon	-	-	-	6
356. Brandy, per gallon	-	-	1	8
357. Gin, per gallon	-	-	1	8
358. Rum, Country, per gallon	-	-	-	12
359. Rum, Europe, and Rum Shrub, per gallon	-	-	1	-
360. Whiskey, per gallon	-	-	1	-

Customs on which, at $3\frac{1}{2}$ per cent., will be as follows:

Arrack, Mouzah, annas $6 \times 3\frac{1}{2}$ = 21 decls. of an anna $\times 12$ = per gallon	Rs. a. p. dec.
Arrack, foreign, annas 8 will be $\frac{1}{2}$ more per gallon	- - 2.52
Rum, country, annas $12 = 6 \times 2$, or per gallon	- - 3.36
Rum, Europe, Rum Shrub and Whiskey, rupee $1 = 8 \times 12$, or per gallon	- - 5.04
Brandy and Gin, rupee 1, annas $8 = 8 \times 3$, or per gallon	- - 6.72
	- - 10.08

The Committee cannot, of course, ascertain at present the exact quantity or description of each sort of spirit imported at Bombay, or the place from which each portion comes, but they believe that brandy and gin exceed all others in quantity, and that they are chiefly imported in ships from Great Britain. The Customs rate on these being rather more than 10 pies or five-sixths of an anna per gallon, and the present town duty 8 annas per gallon, the adoption of the Bengal rate, 9 annas, is now recommended as a consolidated duty, of which one anna will be credited to Customs, and the remaining 8 annas appropriated as heretofore to police, or other local purposes.

The Customs duties on spirits by foreign ships are at present double those levied on spirits by British ships, and the town duties the same as in British ships, making in the whole something less than 10 annas per gallon. By the adoption of the Bengal tariff, the consolidated duty will be one rupee or 16 annas per gallon, leaving one-half or 8 annas for Sea Customs, and the remaining 8 annas to be appropriated, as above, to police, or other local purposes.

COTTON.

The duty levied on this article at present is founded on the provisions of Regulation IV. of 1834; Section I. of which says,

"The existing duties now levied upon cotton at the several ports and places within the Presidency of Bombay, whether in the shape of Sea or Land Customs or transit duties, are hereby abolished, and in lieu thereof Sea Customs at an uniform rate of 5 per cent. on the tariff valuation, with the usual advance, are henceforth to be collected on export or import of cotton by sea."

The fixed valuation per existing tariff, Article No. 54, is 105 rupees per Surat candy of 784 lbs., which with advance at 8 per % Rs. 8. 40. makes Rs. 113.40 decls, and gives the duty at 5 per cent. at Rs. 5.67 decls, or

The Surat candy of 784 lbs. contains Indian maunds of lbs. 82.285 decls, 9.527 decls, which, at 9 annas per maund, the rate proposed by the Committee, will be

Or a decrease per candy of annas

Customs and Post-Office Committee,
Calcutta, 24 June 1837.

(signed) T. J. Taylor,
Secretary.

Enclosure (I.), *vide* Para. 14, Report XI.

STATEMENT showing Amount realizable from Export Duties in Guzerat, and the Two *Concans*, at 5 per Cent., and at 3 per Cent., and the Loss that will accrue to Government by the adoption of the latter Rate.

It has been shown by Enclosure (F.) of this date, that the average amount of export duties levied in Guzerat in the year 1832-33, 1833-34, and 1834-35, inclusive of the duty on cotton, was 1,24,461 rupees per annum.

The duties at the ports of Surat, Gogo, Bulsaw and Bugwara are levied at 5 per cent., and produced in the three years in question	Rs. 2,25,262
The duties at Broach, Tankavia, Nowsarie and Gundavce are from 3 to $3\frac{1}{2}$ per cent. and yielded in the same period	74,818
The duties at Dollerah and Bowliaree are levied at the rate of $2\frac{1}{2}$ per cent., and realized in the above-mentioned years	51,016
The Company's share of duties at Bhownaghur, at $1\frac{1}{2}$ per cent., was in the years in question	22,289
	3) 3,73,385
	Rs. 1,24,461

The 5 per cent. duties yielding as above	2,25,262	- - would yield the same amount if the general export duty were 5 per cent.	2,25,262
The 3 and 3½ per cent. duties, or say 3 per cent. duties, yielding -	74,818	- - would give at 5 per cent. - - - -	1,24,696
The 2½ per cent. duties producing -	51,016	- - would yield at 5 per cent. - - - -	1,02,032
	3,51,096		4,51,990
The Bhoynaghur duties at 1½ per cent., giving - - - -	22,289	will not be increased -	22,289
	3,73,385	3)	4,74,279
			1,58,093
The value of the Dekhan produce exported through the North Concan in 1834-35 is stated in Enclosure (D.) to be - - - -			
Less cotton - - - -	28,27,424		
	17,61,424		
	10,66,000		
and the duties realized - - - -	2,20,144	- - on 10,66,000 rupees at 5 per cent., the duties would amount to - -	52,300
Less Land Duties - - - -	91,141		
	1,29,003		
Less duty on cotton - - - -	78,197		
Rs.	50,806		
The value of exports, the produce of the Concan, is stated to be - - - -			
	9,60,000		
The duties thereon - - - -	4,83,536	- - on 9,60,000 rupees at 5 per cent. - - - -	48,000
Less Land Duties - - - -	1,39,163		
Rs.	3,44,370	Rs.	1,01,300

The produce of the export duties in the South Concan, per Statements extracted from the Collector of Rutnagherry's Return No. 3, of the 5th May 1837, is as follows:—

The 4½ per cent. duties yield - -	Rs. 7,269	- - at 5 per cent. the duties would be - - - -	Rs. 7,672
The 4 per cent. duties yield - -	32,468	- - at 5 per cent. the duties would be - - - -	40,585
Less duty on cotton - - - -	39,757		48,257
	18,640		18,640
Rs.	21,117	Rs.	29,617

A B S T R A C T.

At 5 per cent. the export duties by sea would amount in Guzerat to - - - -	Rs. 1,58,093
Ditto, in the North Concan to - - - -	1,01,300
Ditto, in the South Concan to - - - -	29,617
	Rs. 2,88,010
If 5 per cent. produce 2,89,010 rupees, 3 per cent. will produce - - - -	1,73,406
Difference between 5 per cent. and 3 per cent. export duties at subordinate ports - - - -	1,15,604

Customs and Post-Office, Calcutta,
24 June 1837.

(signed) T. J. Taylor,
Secretary.

Enclosure (K.), vide Para. 13, Report XI.

STATEMENT showing the Amount brought to account as SALT REVENUE, extracted from the Return of actual Receipts and Disbursements of the Bombay Government, for Four Years from 1832-33 to 1835-36 inclusive, furnished by Accountant-General, Bombay, to Accountant-General, Bengal.

	1832-33.	1833-34.	1834-35.	1835-36.
SALT:				
BOMBAY:				
of Salt - - - -	4,097 2 09	-	-	6,737 3 -
in lieu of Salt - - - -	-	-	-	2,000 - -
of Salt - - - -	-	-	-	7,102 10 10
dues derived from Salt - - - -	10,603 3 09	14,305 2 45	19,049 6 5	15,839 13 10
RUTNAGHERY:				
dues derived from Salt - - - -	25,846 2 78	35,378 3 87	43,263 4 3	61,006 15 2
TANNAH:				
dues derived from Salt - - - -	60,132 - 97	35,738 1 20	55,473 12 1	56,832 14 2
Deduct Charges - - - -	-	-	-	2,111 - 10
SURAT:				
dues derived from Salt - - - -	20,782 - 15	22,646 3 63	23,280 9 4	38,120 1 1
Deduct Charges - - - -	-	-	-	13,349 14 9
AMERINDAD:				
Manufactory - - - -	81,285 - 41	52,125 - 2	91,130 4 10	1,10,351 3 9
Deduct Charges - - - -	-	-	-	3,273 5 11
				1,07,077 13 10
				2,57,516 10 6

1832-33	-	-	-	1,98,649
1833-34	-	-	-	1,60,194
1834-35	-	-	-	2,32,197
1835-36	-	-	-	2,57,516

4/ 8,48,556
Rs. 2,12,114 per annum.

(signed) T. J. Taylor, Secretary.

Enclosure (L.), *vide* Para. 14, Report XI.

ABSTRACT of the probable Financial Result of the new SEA CUSTOMS SCHEME for *Bombay*, as detailed in the Letter from the Customs and Post-Office Revision Committee to the Government of India, No. , dated June 1837.

Less shown by Revenue Commissioner	- - - - -	14,91,392	9	4
Southern Mahratta Country	- - - - -	2,20,507	13	8
		17,11,900	7	-
Less Guzerat Town Duties and Mookhauts	- - - - -	3,78,499	-	-
		13,33,401	7	-
		13,50,000	-	-
	Say - - -			
Amount of all Import Duties levied at the different ports in Guze-				
rat, on an average of Three years	- - - - -	76,668		
Ditto - - - Southern Concan	- - - - -	32,784		
Ditto - - - Northern Concan	- - - - -	1,00,332		
		2,09,784		
EXPORT DUTIES :				
Guzerat - - - - -	1,24,461			
Southern Concan - - - - -	46,210			
Northern Concan - - - - -	50,806			
Concan Produce - - - - -	3,44,370			
	3,95,176			
		5,65,847		
		7,75,631		
Deduct, as a separate and special loss, not appertaining to the				
introduction of the new system, but necessary as a measure of				
relief to the Northern Concan, to avert ruin from that district -		2,88,982		
		4,86,649	-	-
Sea Customs at Bombay, present amount	- - - - -	10,00,000	-	-
Salt duties relinquished	- - - - -	5,00,000		
Less credited as transit duties (and included in the above sum of				
Rs. 13,50,000), 1,42,000 + 1,00,000	- - - - -	2,42,000		
		2,58,000	-	-
		Rs.		
		30,94,649	-	-
	Or say - - -	Rs.		
		30,95,000	-	-
To be replaced by new salt duties to the extent of	- - - Rs.	15,14,000		
Less charges	- - -	2,00,000		
Allowed for shipment to Madras and Bengal	- - -	2,25,000		
		4,25,000		
		10,89,000		
Amount to be realized under the new Sea Customs system at				
Bombay	- - - - -	13,19,000		
Import and export duties still to be realized in the Concans and				
Guzerat	- - - - -	1,73,000		
		25,81,000	-	-
		5,14,000	-	-
Add (<i>see</i> Para. 14 of Report, for hugs and drawbacks)	- - - - -	1,10,000	-	-
		6,24,000	-	-
	Leaves a Loss of - - -	Rs.		

Exclusive of special relief to the Northern Concan - - - - - Rs. 2,88,982

The loss of Rs. 6,24,000 may be reduced to Rs. 5,50,000 or Rs. 5,60,000, or by about Rs. 60,000 or Rs. 70,000, by reducing the drawback at Bombay from seven-eighths to one-half of duty originally paid.

Customs and Post-Office Committee, Calcutta,
24 June 1837.

(signed) T. J. Taylor,
Secretary.

(True copies.)

East India House, 5 August 1851.

T. L. Peacock,
Examiner of India Correspondence.

TARIFFS, &c. (BRITISH INDIA.)

PAPERS relative to TARIFFS, &c. (British India),
in continuation of Parliamentary Paper, No. 116,
of Session 1846; also, COPIES of REPORTS of
Commissioners on the INDIAN CUSTOMS and
POST-OFFICE DUTIES.

(*Mr. Anstey.*)

Ordered, by The House of Commons, to be Printed,
7 August 1851.

[*Price 1s. 2d.*]

666.

Under 16 oz.

TRIGONOMETRICAL SURVEY (INDIA).

401

RETURN to an Order of the Honourable The House of Commons,
dated 12 February 1850;—*for,*

RETURNS “of Full and Detailed REPORTS of the Extent and Nature of the
Operations and of the EXPENDITURE connected with the GRAND TRIGONO-
METRICAL SURVEY of *India*, and of the Grand Triangulation thereof, for
the Measurements of the Arcs of the Meridian, from the Year the first
Base was measured to the latest Date:”

“Also, REPORTS of the SURVEYS, whether General, Revenue, or Military, which
have hitherto been Carried on, Completed, or are in Progress, specifying the
Divisions or Portions of India; also, the Number and what Sheets of the
GRAND ATLAS have been Completed and Engraved, with the Cost thereof
to the Government, and the Selling Price per Sheet to the Public, and what
Progress the remaining Portions of the ATLAS are in:”

“Of the Nature of the Information collected in connection with the GRAND
SURVEY, and with the Detailed Surveys of India, and a List of all the
Memoirs, and their Contents, sent in:”

“And, STATEMENTS to illustrate the nature of the different Great Divisions,
and the Smaller Districts or Departments thereof, into which India within
the line of the Indus is divided, for Political, Civil, Revenue, Judicial, and
Military purposes, exhibiting the Areas, Population, and nature of Produc-
tions thereof; and showing the relation and the authority under which
they stand in to the East India Company, whether immediately subordinate
to and under the direct Rule, or are Tributary, Protected, Subsidiary, or
Independent.”

East India House, }
14 April 1851. }

JAMES C. MELVILL.

(*Mr. Hume.*)

Ordered, by The House of Commons, to be Printed,
15 April 1851.

REPORT on the Progress and Expense of the GREAT TRIGONOMETRICAL SURVEY of India, and a SKETCH MAP of India,* showing the Extent of the Great Trigonometrical Survey up to the Year 1849-50.

Great
Trigonometrical
Survey
of India.

Col. Lambton's
Superintendence.

THIS magnificent geodetic undertaking, which at the present time extends from Cape Comorin to Thibet, and from the meridian of Calcutta to that of Cashmere, was commenced at the beginning of the present century by the celebrated Colonel Lambton.

2. That officer, who had previously served as a surveyor in America, joined Her Majesty's 33d regiment, at Calcutta, in the year 1797. The regiment was then under the command of the Hon. Colonel Wellesley, now the great Duke of Wellington, whose good opinion Colonel Lambton possessed. The regiment being ordered to join the army proceeding to Mysore, Colonel Lambton, then Brigade-major of his Majesty's troops, accompanied the head quarters of the 33d in the "Fitzwilliam" East Indiaman, which was nearly wrecked on Saugor Sand during a storm. When the army under Lord Harris, destined for the siege of Tippoo Sultan's capital, was organized, Brigade-major Lambton was attached to the 1st brigade, 2d division, under Sir David Baird. During the siege he lost no opportunity of making himself useful, and particularly during the storm, when he rallied the left column. The particulars of this service are to be found in Major Beatson's account of the Mysore campaign, and justify the opinion that, if circumstances had permitted Colonel Lambton to turn his attention exclusively to military subjects, he would have become no less distinguished as a warrior than he afterwards became as a man of science.

3. Immediately after the fall of Seringapatam, Brigade-major Lambton drew up his project for a trigonometrical survey across the Peninsula. This plan was submitted to Government with the recommendation of the Duke of Wellington, to whose cordial support the trigonometrical survey of India owes its origin. Lord Clive was at that time Governor of Madras, and warmly approved of the undertaking, which was accordingly sanctioned by Government.

4. The instruments used in Colonel Lambton's operations were a 36-inch theodolite, by Cary; an 18-inch repeating theodolite, by the same maker; a five feet zenith sector, by Ramsden; two steel chains, by the same maker; a standard brass scale, by Cary; and several small theodolites by different makers, for minor purposes. These instruments were the finest that the state of art at the commencement of this century could produce; but the great theodolite received an injury in the year 1808, while it was being hoisted to the summit of a lofty pagoda in Tanjore. This injury was repaired by Colonel Lambton himself, who, to the duties of astronomer and surveyor, had, throughout his operations, to combine those of a mathematical instrument maker. In Europe great facilities exist for repairing and preserving instruments, but in judging of geodetical operations in India, more particularly in Colonel Lambton's time, allowances must be made for want of aid in every part of the work.

5. In his early operations Colonel Lambton was assisted by Lieutenant Warren, of his Majesty's 33d, and Captain Kater, of his Majesty's 12th Foot. The first named officer belonged to the ancient noblesse of France, to which country he returned after the peace. His stay with Colonel Lambton was of short duration, as he was, at a very early period of the work, appointed to the charge of the Madras Observatory. Captain Kater's health having failed, obliged him to quit the department. This officer afterwards acquired an European reputation as a scientific man, having become a member of almost every academy in Europe, been employed on every business of national research, appointed a member of the Board of Longitude, and finally elected vice-president of the Royal Society. Thus it appears that, during the greater portion of his career, Colonel Lambton worked nearly single-handed in the extensive and arduous operations which he carried on, amidst the formidable trials and obstacles that the baneful nature of the climate and the want of resources in the country everywhere presented.

6. It

* This map is deposited in the library of the House of Commons, and can be there inspected.

Col. Lambton's
Superintendence.

6. It must also be borne in mind, that for a long period these operations were frequently interrupted by the disturbed political condition of the country, which was often the scene of warlike operations; for it was not until the Marquis of Hastings destroyed the Pindara confederacies in 1818, that the Peninsula and Dekhan settled down into repose. The mysterious character of the instruments and operations, as well as the planting of flags and signals, have always more or less awakened the apprehensions or excited the jealousy of the native princes; it requires, therefore, no ordinary tact, firmness, patience, and good nature on the part of the head of the department to conciliate good will.

7. Shortly after the commencement of his labours, Colonel Lambton was called on to demonstrate the utility of his work. It was asserted that surveys on an astronomical basis would be equally accurate, and more economical than geodetical operations. The futility of these views was ably exposed by the Colonel, and being supported by the Astronomer Royal of the day, the Rev. N. Maskelyne, all open opposition was withdrawn, and Major Rennell, who was the chief advocate of the astronomical basis, afterwards concurred in the trigonometrical system.* As this view of the subject has been confirmed by the practical testimony of every nation in Europe, and the importance of trigonometrical operations is now universally admitted by all practical scientific men as the only trustworthy basis for extensive national surveys, it is unnecessary to discuss the first principles any further in this place, and they are only adverted to in illustration of the formidable prejudices the trigonometrical survey in India has all along had to contend with. The honourable the Court of Directors, however, when once convinced of the important practical utility of the work, have ever since continued its firm and powerful supporters, and in the words of the Edinburgh Review, "their liberal and enlarged views cannot be too highly commended."

8. With reference to the length of time occupied by Colonel Lambton's operations, it may be proper to remark that, in addition to the interruptions caused by the disturbed state of India, that officer's establishment was on the most circumscribed scale, and his arrangements were often thwarted by the Finance Committee at Madras. It required, indeed, all the powerful support of the Honourable Court of Directors and of influential men in office in India to keep the operations on foot, even on this limited scale. Amongst those most instrumental in furthering the great objects he had in view were the Duke of Wellington, at that time Colonel Wellesley; Lord Clive, Mr. Josiah Webb, Chief Secretary; Lord William Bentinck, Mr. W. Petrie, Member of Council; Mr. Andrew Scott, First Judge of Appeal; Colonel Munro, Quartermaster-general; Sir Thomas Munro, Lords Minto and Hastings, and Mr. H. Russel, Resident of Hyderabad; from all of whom he received cordial support and sympathy in his arduous and useful undertaking.

9. Colonel Lambton remained at his post till his death, which occurred on the 20th January 1823, at the age of 70, at Hingham Ghat, about 50 miles from the city of Nagpore, in the Dekhan.

10. The professional account of Colonel Lambton's labours is given in the first five volumes of the General Report, which are deposited at the India House in manuscript. Condensed accounts of the more scientific part of his operations have been from time to time published as follows:

1st. An account of the method for extending a geographical survey across the peninsula of India. *Vide Transactions Asiatic Society*, vol. 7, pp. 312-337.

2nd. An account of the measurement of an arc on the meridian on the coast of Coromandel, and the length of a degree deduced therefrom in latitude 12° 32'. *Vide Transactions Asiatic Society*, vol. 8, pp. 137-193.

3d. An

* Colonel Lambton's operations detected an error of no less a quantity than 40 miles in the breadth of the Peninsula, as previously laid down astronomically in the way Major Rennell proposed. All the principal places on the old maps, which had been fixed astronomically, were found considerably out of position. For example, Arcot was out 10 miles, and Hyderabad no less than 11' in latitude and 32' in longitude. — *Vide* Colonel Lambton's Official Correspondence. In fact, for the survey of an enormous empire, the trigonometrical system is not only the most rigorous, but the cheapest in the end, as will be shown in the sequel of this Report.

Col. Lambton's
Superintendence.

3d. An account of the trigonometrical operations in crossing the Peninsula of India, and connecting Fort St. George with Mangalore. *Vide Transactions Asiatic Society*, vol. 10, pp. 291-384.

4th. An account of the measurement of an arc on the meridian, comprehended between the latitudes $8^{\circ} 9' 38.39''$ and $10^{\circ} 59' 48.93''$ north, being a continuation of the grand meridional arc commenced in 1804, and extending to $14^{\circ} 6' 19''$ north. *Vide Transactions Asiatic Society*, vol. 12, pp. 1-101.

5th. An account of the measurement of an arc on the meridian, extending from latitude $10^{\circ} 59' 49''$ to latitude $15^{\circ} 6' 0.65''$ north. *Vide Transactions Asiatic Society*, vol. 12, pp. 286-356.

6th. An account of the measurement of an arc of the meridian, extending from latitude $15^{\circ} 6' 0.2''$ to latitude $18^{\circ} 3' 45''$, being a further continuation of the former arc commencing in latitude $8^{\circ} 9' 38''$. *Vide Transactions Asiatic Society*, vol. 13, pp. 1-127.

7th. An abstract, containing the result of Colonel Lambton's measurements from Punnæ to Damargida. *Vide Philosophical Transactions Royal Society* for 1818.

11. The early portions of his works were very ably reviewed by the late Professor Playfair, in the year 1813, in the 21st vol. of the Edinburgh Review, and they have been pronounced by competent judges to be equal to the best geodetic operations of those days.

12. It would be impracticable to discuss the professional merits of those operations in a more succinct form than Colonel Lambton himself has done in his published statements, to which reference can be made by those desirous of possessing complete information regarding the character of his work. It only remains to notice the financial part of the question, viz., the extent of area triangulated, and its cost, which come more especially within the scope of this report.

13. Colonel Lambton, between the years 1802 and 1815, covered the whole country as high as 18° latitude with a net work of triangles, whereby the Peninsula was completed from Goa on the west to Masulipatam on the east, with all the interior country from Cape Comorin to the southern boundaries of the Nizam's and Mahratta territories. Subsequent to this achievement, the Great Arc triangulation was extended nearly to Takal Khera, in latitude $21^{\circ} 6'$. The greater part of the Nizam's eastern territories were triangulated by meridional series between the Kistnah and Godavery, and considerable progress was made in the longitudinal series from the Beder base towards Bombay. All these operations are described in minute detail in the volumes of the General Report, at the India House.

14. The area comprised by the whole of the operations prosecuted during the time Colonel Lambton was superintendent, aggregates 165,342 square miles, as shown in the accompanying statement, marked (C). The expense incurred amounted to 8,35,377 Company's rupees. Consequently, the rate at which the triangulations have been executed averages Company's rupees 5. 0. 10. or less than 10 s. per square mile; which cannot but be considered remarkably cheap, more especially as this calculation includes the expense of Dr. Voysey's geological researches.

15. From the circumstance of Colonel Lambton's operations having commenced in Southern India arises the great superiority of the maps of the Madras Presidency; the atlas sheets whereof, published by order of the Honourable East India Company, are nearly complete. This part of India was surveyed in detail upon the basis of Colonel Lambton's operations, and on a scale of one mile per inch, by the officers and sub-assistants trained at the military surveying schools. No complete record exists in this office of the cost of most of these surveys, but judging from analogous operations of the Hyderabad survey, the expense appears to have averaged about Company's rupees 6, or less than 12 s. per square mile.

16. In October 1817, the most noble the Marquis of Hastings, impressed with a well-founded conviction of the important utility of the trigonometrical survey, resolved to transfer the control over its operations to the Supreme Government of India; and further, in consideration of Colonel Lambton's increasing age,

Col. Lambton's
Superintendence.

and infirmities, which were little fitted to encounter the laborious exertions, corporeal and mental, which such a task demands, selected Captain (now Colonel) Everest, as eminently fitted by mathematical attainments and practical skill to assist the superintendent, and eventually become his successor. This resolution of the Governor-general having exercised so important an influence on the subsequent prosperity of the survey, it appears desirable that it should be appended to this report. It will accordingly be found marked (A.) in Appendix; and it is only just to add, that the Marquis, so deservedly celebrated for his happy selections of able men for public business, never made a more fortunate choice; for to Colonel Everest's mathematical acquirements, practical genius, and undaunted resolution in contending with difficulties, is to be ascribed the high state of efficiency afterwards attained, and now existing undiminished in this hard-working establishment.

Capt. Everest's
Superintendence.

17. Captain Everest joined the Colonel as chief assistant in the latter end of 1818, and was employed, in the first instance, in the triangulation of the eastern parts of the Nizam's dominions; where, in consequence of the extremely unhealthy character of the country, together with great exposure induced by indefatigable labour in the duties of the survey, he twice fell a victim to jungle fever, and eventually was ordered to the Cape of Good Hope for the recovery of his health. While at the Cape, Captain Everest employed his leisure in investigating the circumstances appertaining to the Abbé de la Caillé's arc, which formed the subject of a valuable paper, published in the first volume of the Astronomical Society's Transactions.

18. On his return to duty Captain Everest was deputed on a longitudinal series of the great triangles emanating from the Beder base line, and intended to connect Bombay. He was engaged on this important work at the time of Colonel Lambton's death, by which event he succeeded to the office of superintendent, and immediately proceeded to concentrate the resources at his disposal for the extension of the Great Arc series. It would unduly lengthen this report to recount all the formidable difficulties that were encountered, but notwithstanding the state of his health, which suffered severely from the insalubrity of the climate, and the unremitting labour of his professional duties, the measurement was at length carried to the latitude of 24° , when it was terminated by the Sironj base line.

Great Arc of India.

19. An account of these operations is given in detail in the fifth and sixth volumes of the General Report, deposited at the India House. All the scientific portion relating to the fifth section of the great Indian arc was further published by order of the Honourable East India Company, in the year 1830.

20. After the termination of the Sironj base line Captain Everest proceeded to England for the recovery of his health; and as there was no person in India competent to succeed him, the Supreme Government resolved to retain the situation of superintendent open until his return.

21. About this time the Honourable Court of Directors having called for a report on the progress and probable duration of the trigonometrical survey, a very masterly discussion of the subject was prepared by the late Colonel Valentine Blacker, at that time Surveyor-general of British India, who, with the exception of Colonel Everest, was the ablest and most scientific man that ever presided over this extensive department. His report so fully represents the state of affairs in those days, that it appears desirable to submit an abstract thereof, which will accordingly be found in Appendix, marked (B.)

22. During Captain Everest's absence the establishment was usefully employed under the principal sub-assistant, Mr. Joseph Olliver, in extending a longitudinal series from the Sironj base line to connect Calcutta, for which work written instructions were given by Captain Everest. This series traverses, throughout the greater part of its extent, a wild, desolate, and unhealthy tract of hill country, which presented formidable difficulties. Notwithstanding the frequent ravages of jungle fever, which has all along been the most baneful enemy of the trigonometrical survey, as well as one of the chief retarding causes, this party, composed entirely of East Indians, successfully overcame all obstacles, and the work was eventually brought to a close in the year 1832, at the Calcutta base line, having occupied a period of six years in accomplishing

Operations conducted by Mr. Joseph Olliver.

Calcutta longitudinal series.

Operations con-
ducted by Mr.
Joseph Olliver.

a direct distance of 671 miles. The progress, therefore, was at the rate of 112 miles per annum, including branching series of secondary triangles. Too much credit cannot be bestowed on Mr. Olliver for his indefatigable exertions under difficult circumstances, but, on account of the defective state of the instrumental equipments, the professional value of the work is only of a secondary or tertiary order. The area comprised in these operations is 33,442 square miles, and the charges amount to Company's rupees 1,30,740, giving an average rate of expenditure amounting to Rs. 3. 14. 6. per square mile, including cost of measuring the Calcutta base line with Colonel Colby's apparatus. This amounts to little more than 6 s. per square mile, a result which cannot but be considered wonderfully cheap.

Superintendence
resumed by Capt.
now
Col. Everest.

23. Colonel Everest returned to India in 1830, liberally provided by the munificence of the Honourable Court of Directors with geodetical instruments and apparatus of every description, in the construction of which the most skilful artists of the day, Messrs. Troughton & Simms, exhausted every resource of modern invention. The equipments consisted of a complete base line apparatus, the invention of Colonel Colby, precisely similar to that employed on the Ordnance survey; a great theodolite, 36 inches in diameter, designed by Troughton, which even at the present day is supposed to stand unrivalled by any other instrument of the kind in the whole world, and which most probably will never be surpassed; two 18-inch theodolites, and a variety of smaller instruments, from 12 inches diameter downwards, all by the same celebrated maker. The signals, all of the most efficient kind, and recently invented, consisted of heliotropes, reverberatory lamps, and Drummond's lights, of which the two former have been exclusively used; and here it may be remarked, that the substitution of luminous signals for opaque ones has contributed vastly to the improvement of the observations. These modern inventions, together with the extreme precision of Troughton's graduation, as well as the high optical power employed, and the rigorous system of changing zero, introduced by Colonel Everest, has brought the terrestrial operations to a refinement of accuracy which may almost be pronounced unsurpassable.

24. During his absence from India, Colonel Everest had made himself acquainted with the English Ordnance survey system, and with every modern improvement in geodetical matters that had taken place in Europe. The apparatus supplied by order of his honourable masters was superior to any in the world. A London artist, Mr. Henry Barrow, was sent out to maintain the apparatus in order. Thus splendidly equipped, Colonel Everest returned to India in the prime of life, the full vigour of his faculties, and with an undaunted determination of character that never quailed before any difficulties, nor yielded to any opposition. The task before him required indeed the full display of all the vigour he possessed. In addition to the duties of superintendent of the trigonometrical survey, he had now to perform those of Surveyor-general of India, to which office he had recently been appointed by the Honourable Court of Directors. This union of offices, though it served to facilitate arrangements, nevertheless vastly increased his labours at the outset; for the apparatus being new to India, and the establishment untrained, the whole task of teaching devolved on him unaided. In 1833, moreover, the offices of Deputy Surveyor-general at Madras and Bombay were abolished, which further increased the duties of the Surveyor-general of India, so that Colonel Everest had, in fact, to perform the work which had hitherto occupied the undivided attention of four officers. In the sequel these reductions have been found to operate conveniently enough, and so far have justified the expectations of the Honourable Court by whom they were ordered, but the additional labour thrown on the Surveyor-general is still immense; and occurring as these events did, at the time that the trigonometrical survey was about to recommence on a new organization, the task Colonel Everest had to achieve was of the most arduous kind.

Calcutta base line.

Great Arc.

25. He was detained by all these arrangements, by official delays, and by the measurement of the Calcutta base line, until the end of 1832, from which time the great arc may be considered to have actually recommenced, after a cessation of seven years. The work was carried on unremittingly till December 1841, when it closed with the measurement of the Beder base line; and the whole Indian arc from Cape Comorin to the Himalaya Mountains, forming the main axis of Indian geography, was thus completed.

26. These

26. These operations are fully detailed in Colonel Everest's book, published in 1847, by order of his firm and constant patrons the Honourable the Court of Directors. The work has been most favourably noticed in the 87th volume of the Edinburgh Review, April 1848, to which reference can be made. The area comprised by the Great Arc operations, principal and secondary, aggregates 56,997 square miles, including the revision of the section Beder to Kalianpur, and the measurement of three base lines, each from 7½ to 8 miles in length. The average progress, therefore, was about 5,700 square miles per annum, and the total cost being 8,98,326 Company's rupees, the rate per square mile averages Rs. 15. 12. 2., or say 29s.

Col. Everest's
Superintendence.
Great Arc.

27. This rate considered *per se* is very moderate, but contrasted with Colonel Lambton's it exhibits a ratio of three to one. This is easily accounted for by the great superiority of the work, which is perhaps unsurpassed by any similar undertaking in the world. The instruments were much heavier, and more numerous, requiring a larger establishment of porters. The signals being all luminous, necessitated an increased number of attendants; the base line apparatus infinitely more complicated and ponderous than Colonel Lambton's steel chains, demanded an additional number of observers, as well as greater cost of transport. A considerable part of the triangulation likewise passes through the plains of the Ganges, which is the garden of India. In this part of the country compensation had to be paid wherever private property was interfered with, and costly masonry towers were erected for stations. These are the reasons which enhanced the charges; but if the work be considered in relation to its superior merits, as well as to the peculiarity of the circumstances, the rate of 29s. per square mile must be reckoned moderate.

28. It has been already explained that an account of the Great Arc was published in 1847, and favourably reported on in the Edinburgh Review of 1848. In addition to the publications above cited, Colonel Everest made periodical reports of progress to the Government of India, in which are contained many interesting particulars. These reports bear the dates noted below.* In the year 1839 Colonel Everest also published a pamphlet† on the subject, being a series of letters addressed to his Royal Highness the late Duke of Sussex, at that time President of the Royal Society.

29. In the year 1829 a trigonometrical survey in the Bombay Presidency was commenced by Lieut. Shortrede, on an independent base and point of departure. These desultory principles were objected to by General Hodgson, at that time surveyor-general of India, who recommended that the work should emanate from the Great Arc, and proceed to Bombay precisely according to Colonel Lambton's original design. This injunction, however, remained unheeded; and notwithstanding the respect due to Colonel Lambton's judgment, and General Hodgson's authority, the survey proceeded in an unsystematic manner until it was brought under Colonel Everest's control in 1831. Finding that no use could be made of this confused net of triangulation, the Colonel directed that the longitudinal series should be taken up where he left off in 1823, at the time of Colonel Lambton's death. Lieut. Shortrede resigned in 1836, and was succeeded by Lieut. Jacob, of the Bombay engineers, by whom the Bombay longitudinal series was brought to a conclusion in the year 1841, and the whole work now rests on his observations alone. This officer united to considerable mathematical attainments, great practical skill as an observer and mechanic; and although the instrument employed, a 15-inch theodolite, by Dollond, was small for such extended operations, no man could have turned it to better account, and the work accordingly bears a superior character for accuracy. Its history and details are given by Colonel Everest in the eighth volume of the General Report, Part 2, which has been transmitted to the India House. The series extends 315 miles in length, and having occupied 12 years, progressed at an apparent rate of only 26 miles per season; but in fact the only efficient part of the work, viz. that executed by Lieut. Jacob, was performed

Bombay longitu-
dinal series.

* First, 30th August 1836. Second, 3d August 1839. Third, 13th August 1842.

† Published by W. Pickering.

Col. Everest's
Superintendence.
Bombay longitu-
dinal series.

performed in three seasons. There is no official record of the expenses incurred prior to the party being placed under the control of the Surveyor-general of India. Since that date the charges amount to 1,37,427 Company's rupees, and the area comprised being 15,198 square miles, the average rate of cost is Rs. 8. 5. 3. per square mile, or 16s. nearly.

Parasnath series.

30. Immediately after the measurement of the Calcutta base, Colonel Everest fitted out a party under Lieut. James Western, of engineers, for the purpose of carrying a triangulation along the meridian of Parasnath, dependent on one of the sides of the Calcutta longitudinal series. This work commenced in February 1832, Lieut. Western continuing in charge till September 1834, when he was relieved by Lieut. Bridgman, of artillery, who shortly afterwards was compelled to relinquish the duty from ill health, induced by exposure and fatigue, which obliged him to proceed to Europe on medical certificate, and soon after this promising young officer died on the voyage. No final work that could be made use of was executed up to this period, and the cost incurred, 35,224 rupees, was in fact fruitless. Lieut. (now Lieut.-colonel) A. H. E. Boileau assumed charge in 1835-36, and commenced the work *de novo*. Excepting an absence of six months on medical certificate, he continued to conduct the triangulation till December 1838, when he resigned his appointment in the great trigonometrical survey for one of superior emolument and less exposure. The small portion remaining to connect the series with Lieut. Buxton's triangulation in Cuttack, was executed by Mr. Sub-assistant Kallonas, since which no further operations have been undertaken on the Parasnath meridian; but a party will proceed in the season 1850-51, to extend it northerly to the Himalaya Mountains. The area comprised in Colonel A. H. E. Boileau's triangulation, principal and secondary, amounts to 4,914 square miles, and the charges to 54,760 Company's rupees, showing an average rate of Rs. 11. 2. 4. per square mile, or say 21s. On account of defective instrumental power, this work is only of a second-rate order. The detailed account was brought up by me in 1845, and forms Volume 13, Part 1, of the General Report of the Great Trigonometrical Survey transmitted to the India House.

Budhon series.

31. Colonel Everest at the end of 1832 fitted out another party, under Lieutenant Roderick Macdonald, of the Bengal Native Infantry, to carry on the Budhon meridional series, dependent on a side of the Calcutta longitudinal series. Lieutenant Macdonald broke ground on the 2d February 1833, and was obliged to relinquish the work in September 1835, on account of ill-health, produced by exposure. In a short time afterwards the melancholy intelligence was received of this amiable and accomplished officer's death. Consequent on the departure of Lieutenant Macdonald, Lieutenant Ommanney, of engineers, was placed in charge, and he remained in that post till April 1837, when he resigned his appointment, and was succeeded by Mr. Olliver. In the early part of 1838 operations were suspended on account of Mr. Olliver's services being required with Lieutenant Waugh on the Great Arc. Up to this time the progress of the Budhon series had been satisfactory as far as the hilly country extended, and ceased to be so as soon as the operations entered the flat lands in the valley of the Ganges. Until November 1839, no officer or sub-assistant of experience being available, the work remained suspended, but on the conclusion of the Amua series, the party under command of Lieutenant Renny (now Captain Renny Tailyour) was transferred to this series, and placed under Mr. Sub-assistant Murphy. After the termination of the Great Arc, on which Captain Renny Tailyour had been employed, he proceeded to take personal charge of the Budhon series, and the work was at length brought to a successful conclusion by that able and energetic officer in one season, having occupied in all no less than eleven years from the commencement. The reasons for this slow progress may be inferred from this narrative. A full and complete account of this work has been given by Colonel Everest, in Volume 9, Part 1, of the General Report of the Great Trigonometrical Survey. The area covered amounts to 12,468 square miles, and the charges to 1,72,510 Company's rupees, giving a mean cost of Rs. 13. 13. 5. per square mile, or say 25 shillings.

Topographical and
geological survey
by Lieuts. Waugh
and Renny.

32. On the 2d July 1832, I was nominated to the department, on the recommendation of the Colonel; and on the 23d of the same month, Lieutenant Renny, of Engineers (now Captain Renny Tailyour), was also appointed, on the selection of

Col. Everest's
Superintendence.

of the superintendent. We were immediately employed in exploring the wild and jungly country between Chunar and the sources of the Son and Narbada Rivers, and up to the city of Jubbulpore. This extensive survey was completed in the season 1832 and 1833, and formed the subject of a topographical and geological report submitted in 1834. After closing the work at Jubbulpore in March 1833, we proceeded to join the approximate operations of the Great Arc series in the Gwalior country, with which we remained till August of the same year, when we were ordered to organize two parties, one for the Ranghir meridional series under myself, the other for the Amua meridional series under Lieutenant Renny, both series being dependent on sides of the Calcutta longitudinal series.

Ranghir series.

33. I broke ground on the Ranghir series in January 1834, and finished 120 miles along the meridian by August of the same year, the operations closing merely on account of the termination of the hilly country. With a new organization adapted for the plains, work was resumed early in October, and considerable advance made during that month, whereby the establishment was fully instructed in the nature of the work, the continuance of which devolved on the head Sub-assistant Mr. Armstrong during my absence on duty at the Dehra Doon Base, in which operation I was ordered to take a part. After the completion of the Base, I returned to the Ranghir series, the approximate operations of which had been carried rapidly forward by Mr. Armstrong during my absence. I resumed work in October, and resigned charge to Mr. Armstrong in December, when I proceeded to join the Great Arc as astronomical assistant, in which capacity I remained till the Honourable the Court of Directors did me the honour to select me to succeed Colonel Everest on his retirement from the service in December 1843.

34. The Ranghir series was ably completed by Mr. Armstrong as far as the mountains, into which it was carried by Mr. Lane, and the work closed in 1841, having occupied nine years. The meridional distance comprised is about 400 miles, showing an average progress of 44 miles per annum. The area covered amounts to 16,088 square miles, the charges to 1,18,378 rupees, showing an average cost of Rs. 7. 5. 9. per square mile, or say 14 shillings, which cannot but be considered remarkably cheap, considering the very large proportion of flat country traversed, as well as the difficulties of the mountain work. Great credit is therefore due to Mr. Armstrong for his share in the operations, which it may be remarked proceeded uninterruptedly from its commencement to its conclusion. An account of this series is given in detail by Colonel Everest in Volume 9, Part 2, of the General Report.

Amua series.

35. Captain Renny Tailyour commenced the Amua series in January 1834, and carried forward the work to the plains by June of the same year. In October he resumed operations in the plains, and in November proceeded to take a part in the measurement of the Dehra Doon Base, leaving Mr. Tulloh in charge. The series was brought to a conclusion in June 1839, having been entirely completed by Captain Tailyour personally, except during a short interval in 1837-38, when he was detached on duty at the Sironj Base measurement, and afterwards at the end of 1838, when the Captain was transferred to the Great Arc. During these intervals the work was conducted by Sub-assistant Murphy, under the Captain's orders. A full and complete account of this series has been given by Colonel Everest in Volume 9, Part 3, General Report. The instrument used was a good 18-inch theodolite, by Troughton & Simms, the powers of which were done ample justice to by Captain Renny Tailyour, who is a first-rate observer. The work therefore possesses superior merit, and is creditable to that officer and his assistants. The area comprised is 5,565 square miles, and the charges amount to 1,04,958 Company's rupees, giving an average cost of Rs. 18. 13. 9. per square mile, or say 35 shillings. This rate has been enhanced by the great extent of flat country traversed, by forests in the Terai near the terminus of the series, through which rays had to be cut, and by the several periods of Captain Tailyour's absence on duty with the Great Arc, during which his salary continued to be borne on the accounts of this series.

36. Lieutenant W. Jones, of Engineers, was appointed to the trigonometrical survey in the year 1835, and remained till 1838 attached to the Great Arc. After the measurement of the base near Sironj, in which operation he took a

Karara series.

Col. Everest's
Superintendence.
Karara series.

part, Lieutenant Jones was deputed to conduct a series on the meridian of Karara, dependent on a side of the Calcutta longitudinal series. The work was commenced with the ability and zeal which might have been expected from a gentleman of Lieutenant Jones' talents and skill as an observer, but towards the close of 1838 the whole party was attacked by jungle fever, from the effects of which one sub-assistant, Mr. Scully, died, and Lieutenant Jones himself was obliged to seek for restoration to health in the hills. In consequence of this disaster, a fatal stop was put to the progress of the work. The Lieutenant made another attempt to take the field in 1839, which produced a recurrence of his illness. Shortly afterwards he considered it his duty to resign his appointment in the survey, and is now usefully employed in the superintendence of the Rohilcund canals. The establishment was broken up, and the work remained in abeyance till 1841, when Captain R. Shortrede, of the Bombay army, was appointed to conduct it. Little progress, however, being made, Captain Shortrede was placed at the disposal of his own Government in March 1845. Anxious to expedite the completion of a work which had languished for so many years, I selected Mr. Armstrong to take charge of it, on account of his having distinguished himself by the energy of his operations on the Ranghir series. By his exertions, aided by another party working from the north, the series was brought to a close that season. I have given a full and complete account of the work in volume 10, part 1st, General Report of the Trigonometrical Survey of India. The instruments employed were of an inferior order, and this series cannot, therefore, be considered a first-class performance. It embraces an area of 5,819 square miles, and cost no less than 134,908 Company's rupees, giving an average rate of rupees 23. 2. 11. per square mile, or say 43s. The charges were enhanced by the several disasters which occurred, and but for the arrangements I made for closing it rapidly the cost would have been greater.

Himalaya longitudinal series.

37. Brevet Captain Du Vernet, of the Madras army, was appointed to the trigonometrical survey in the year 1840, and in the year 1841 proceeded to prosecute the triangulation of the Himalaya longitudinal series, extending from the Great Arc along the southern face of the sub-Himalayan range, so as to connect the northern limits of all the meridional series. This officer had previously acquired a favourable reputation as a surveyor by his able management of the Hyderabad Topographical Survey, in which his artistical powers as a draughtsman had ample scope. He had no experience, however, of geodetical operations on a great scale, and the field of employment being difficult for a first trial, little progress was made during the first season, but the next year he closed on the Ranghir series. This work, together with the Pilibit series, conducted by myself, forms a portion only of the "North Longitudinal Series," under which head it will be discussed.

North longitudinal or connecting series.

38. Previous to Colonel Everest's departure, Captain Du Vernet was ordered to continue the north longitudinal series, between the meridians of Amua and Karara, which he successfully accomplished in one season. During the year 1844-45 he was employed in prosecuting the triangulation from the north along the meridian of Karara to form a junction with Captain Shortrede, who was working from the south, as already explained under the head of Karara series.

Col. Waugh's
Superintendence.
Gurwani series.

39. On the termination of this duty, Captain Du Vernet was directed to take up the Gurwani meridional series, depending on a side of the Calcutta longitudinal series. This work commenced in 1845-46, and was accomplished in a very able manner in two years, showing the great effect of the experience he had acquired. The area embraced is 6,298 square miles, and the charges amount to 53,020 rupees, giving an average rate per square mile of Rs. 8. 6. 8., or say 16s., which is very creditable considering the large extent of flat country traversed. In this series was employed for the first time a 24-inch theodolite made up by myself from various materials belonging to Government, and lying useless in store, the fundamental part being a 24-inch circle hand, divided by Mr. Simms, formerly appertaining to the astronomical circles. It was fitted up with five micrometers, and the results have been most excellent, showing that it is capable in good hands of measuring angles to half a second of the truth. I have rendered a full and ample account of this work, in the volume of the General Report of the Trigonometrical Survey, now on the eve of transmission to the India House.

Col. Waugh's
Superintendence.
North-west Himalaya series.

40. On the completion of the Gurwani meridional series, Captain Du Vernet with his establishment was transferred to the North-west Himalaya series, proceeding from the Great Arc to Peshawar. This work was intended to form the foundation of the triangulation of the newly conquered provinces of the Punjab, agreeably to a design sanctioned by the Right honourable Lord Hardinge, to whom I am greatly indebted for prompt and powerful support.

41. On the termination of the Great Arc, the two parties which had been engaged on that work were reduced, and placed respectively under the charge of Mr. George Logan, a civil engineer of experience and ability, and of Mr. James, principal sub-assistant. These parties were deputed by Colonel Everest before his departure to take up the Chendwar meridional series, and the Gora meridional series, dependent on sides of the longitudinal series.

Chendwar series.

42. Mr. Logan, as might have been expected, finished the Chendwar series in first-rate style in two seasons, since which period he has been employed on the north longitudinal series, of which mention will be made hereafter. An account of the Chendwar series has been prepared for the General Report, and will in a short time be transmitted to the India House. It comprises an area of 3,565 square miles, and cost 64,504 rupees, giving a rate of Rs. 18. 1. 6. per square mile, or say 33s., the cost being enhanced by the nature of the country traversed, the greater portion being the rich alluvial lands of Behar and Tirhoot, in which the work was impeded by trees, for which heavy compensation was paid.

Gora series.

43. Mr. James at the same time commenced the Gora meridional series, in which he had made little progress up to the time of his death, which occurred in June 1844. On my appointment to the situation of surveyor-general, Lieutenant Peter Garforth was nominated to the vacancy, and in consequence of my being ordered to Calcutta by Government, I directed that officer to join Mr. Logan's party, in order to gain an insight into the work. On Mr. James's death, the Lieutenant was directed to assume charge of the Gora series, but in consequence of the unhealthy character of the country, as well as inexperience, he did little work the first year; thus two years were fruitlessly expended. During the next two seasons, Lieutenant Garforth completed the work from beginning to end in a very able manner, after which he resigned his situation. An account of this work is now ready for incorporation with the General Report of the Trigonometrical Survey of India, and will shortly be transmitted to the India House. It embraces an area of 4,417 square miles, and cost 76,948 rupees, giving an average rate of Rs. 17. 6. 8. per square mile, or say 32s.; but the expense was nearly doubled, as already explained, by the abortive proceedings of the first two seasons.

Maluncha series.

44. On the conclusion of the Budhon series, Captain Renny Tailyour was ordered by my predecessor to take up the Maluncha meridional series, dependent on a side of the longitudinal series. Shortly after, the Captain was directed in general orders to join the army proceeding against Gwalior, and being appointed Brigade-major of Engineers, was present in that capacity at the battle of Maharajpore, his services in which action were acknowledged in the despatches. During Captain Tailyour's absence, the work was commenced by the senior sub-assistant, Mr. Clarkson, but the Captain rejoined the party in the spring, and carried the operations to the Ganges, after which he proceeded to England on furlough. On his departure, Lieutenant Reginald Walker, of Engineers, was nominated to the vacancy, and placed with Mr. Logan for instruction. In the meantime Mr. Clarkson continued to prosecute the Maluncha series during the next season, in which the party suffered much from the unhealthiness of the country. Lieutenant Walker assumed charge in 1845, and being an officer of very superior talents and energy, carried the work to completion in the ensuing season. The detailed account of this work is now under preparation for the General Report, and will be transmitted in due course to the India House. It comprises an area of 4,765 square miles, and cost 52,878 rupees, showing an average rate of Rs. 11. 1. 6. per square mile, or say 20s., which, considering the large proportion of flat country and extreme unhealthiness of climate, may be deemed moderate.

Col. Waugh's
Superintendence.
Calcutta series.

45. The Calcutta meridional series was commenced at the base line in 1844- by Mr. Sub-assistant Lane, but his proceedings being slow, I directed Mr. I. Peyton to assume charge, by whom the final work was entirely executed, and brought to a conclusion in 1848. The series in its whole extent traverses the alluvial plains of the Ganges, in which great difficulties had to be surmounted. The instrument employed was an 18-inch theodolite, by Troughton & Simms, to which ample justice was done by Mr. Peyton. On closing at Sonakoda base the linear error amounted to 0.64 feet in seven miles, from which is inferred an average error of 0.09 foot per mile; which, considering the size of this engine-divided instrument, and the extent of triangulation, 260 miles, entirely in a flat marshy country, may be considered creditable to Mr. Peyton. This party suffered greatly from the unhealthy climate. An account of the work in detail is now preparing for the General Report, and will be transmitted in due course to the India House. The area comprised amounts to 4,136 square miles, and the cost to 1,10,302 rupees, giving an average rate of Rs. 26. 10. 9. per square mile, or say 49 s., the price being enhanced by the flatness of the country, and its unhealthiness.

Coast series.

46. In the year 1845 Captain Thorold Hill, of the Madras army, who had formerly been employed in the Madras Topographical Survey, was nominated by Government to succeed Captain Shortrede. He was deputed to the charge of the Coast series, intended to extend from the Calcutta base line to the Madras Observatory, according to Colonel Lambton's original design. Considering the importance of this series, and its extent, it was desirable that it should be executed in superior style, with a first-rate instrument. I therefore determined to await the arrival of four new 24-inch theodolites, which my honourable masters had been graciously pleased, at my earnest solicitation, to order to be constructed by the best London artists. In the meantime, that Captain Hill might gain experience, he took up the South Maluncha series, on which he was employed during two seasons, from 1845 to 1847. On the arrival of the new theodolites, Captain Hill was supplied with one of those constructed by Mr. Simms, a beautiful instrument, graduated by his new self-acting apparatus. With this theodolite, the Coast series commenced at the Calcutta base, and being still in progress, no complete report can be rendered. Colonel Lambton, in his project for this series, contemplated that great difficulty would be experienced in carrying it over the flat lands between Balasore and Calcutta. The obstacles have proved as great as that celebrated geodist anticipated, but they are not insuperable, and I expect the part which lies in the low country will be completed this year; after which, with the aid of a hilly country, the progress will be rapid, and the cost diminished. The low lands are covered with water, and very unhealthy till December. During the cold season fogs are prevalent, and at the vernal equinox, as well as during the hot season, tornados, or circular hurricanes, are of frequent occurrence, producing the most devastating effects. During the past season the whole tent equipage of the party was utterly destroyed. The country is not only flat and covered with groves, but intersected with creeks and marshes, which render triangulation both slow and expensive. On the other hand, the unhealthiness of the climate is such that every season the party has been driven away by sickness, and Captain Hill's health suffered so much that he has been compelled to proceed to sea for two years. From all these causes combined, progress has been very slow. The area comprised by the operations on this series from 1845 to 1849 amounts only to 2,427 square miles, and the cost has been 91,534 rupees, giving an average rate of Rs. 37. 12. 4., or say 70s. per square mile. The difficulties, however, may be expected to be entirely surmounted in 1851; after which, the country being easy, the cost will most probably fall to about five or six rupees per square mile.

Col. Everest's
and
Col. Waugh's
Superintendence.
North longitudinal
or connecting se-
ries.

47. The north longitudinal series extends from the Dehra Doon base to the Sonakoda base, a distance of 690 miles along the frontier. This work has been executed by various parties at different times. The first part, from the Great Arc series to the Ranghir series, was executed by Captain Du Vernet, as already stated. The next portion, between the Ranghir and Amua series, was completed by myself, prior to my succeeding to Colonel Everest. The part between Amua and Karara was executed by Captain Du Vernet, but on account of some defect in the instrument was not considered satisfactory, and has been revised by Mr. Logan, who completed the whole extent as far as the Chendwar series, under great

great difficulties as regards climate and forest, from which his party suffered greatly. The whole of this portion is excellent, having been executed with Barrow's great theodolite, by Mr. Logan himself, who is second to none as an observer. From Chendwar to Maluncha series the work rests on Mr. Peyton's and Mr. Nicolson's observations, with a 24-inch theodolite by Barrow. The remaining portion from Maluncha series to Sonakoda base depends on Lieut. Walker and Mr. Lane's observations, with Troughton's great theodolite.

Col. Everest's
and
Col. Waugh's
Superintendence.

North longitudinal
or connecting
series.

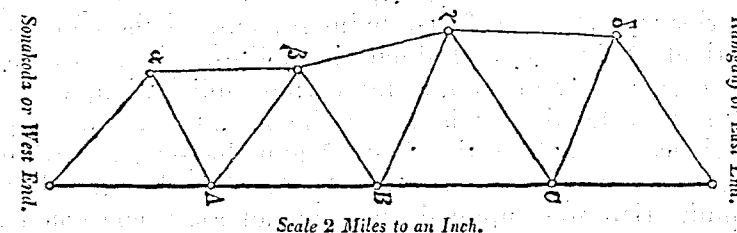
48. In the year 1846-47 I joined Lieut. Walker, for the purpose of inspecting his work and assisting in the selection of the base line. While I was so engaged this talented young officer died of jungle fever, by which event the department lost one of its most able members. After his death I remained with the party, and during the summer carried on the operations for fixing the positions and elevations of the great snowy peaks and other mountains in Sikim, an account of which will be given in a forthcoming volume of the General Report.

Col. Waugh's
Superintendence.

Snowy Peak trian-
gulation.

49. In the year 1847-48 I measured the Sonakoda base line, for the verifica- tion of the north longitudinal and the Calcutta meridional series, as well as to furnish a new basis for the extension of operations into Assam, and up to the extreme frontier of British India on the east. This base line was very satisfac- torily measured with Colby's compensation apparatus, and being proved by minor triangulation, in four sections, exhibits the following results:—

Sonakoda base.



Each Section of the Base compared with the whole Base.

	West End to A.	A to B.	B to C.	C to East End.
Measured length - - - inches	109625.15	110381.17	116428.94	103794.45
Computed from the whole base - ,	109625.00	110381.17	116429.03	103794.51
Error, Inches - -	+ 0.15	0.00	- 0.09	- 0.06

Each Section compared with the other Sections.

Measured length - - - inches	109625.15	110381.17	116428.94	103794.45
Computed from 1st section - ,	- - -	110381.32	116429.20	103794.65
„ 2d „ - ,	- - -	- - -	116429.03	103794.51
„ 3d „ - ,	- - -	- - -	- - -	103794.43

50. The area comprehended by the north longitudinal series amounts to 15,826 square miles, exclusive of the mountain operations in Sikim and along the frontier, which cover a further area of 73,920 square miles, giving a total of 89,746 square miles. The cost, including the expense of the Sonakoda base, amounts to 214,257 Company's rupees, which, divided by the former, gives an average of Rs. 13. 8. 7., or say 25s. per square mile for the plain work, or, including the snowy peaks, an average of only Rs. 2. 6. 2., or say 4 s. a mile.

North longitudinal
or connecting
series.

51. Captain Renny Tailyour, while in England, made himself acquainted with the progress of the Ordnance survey, and returning to India in 1847, gave his valuable assistance at the base line, after which he was deputed to proceed to Sironj,

Great longitudinal
series.

Col. Waugh's
Superintendence.

Sironj, with Troughton's great theodolite, for the purpose of extending the great longitudinal series from Sironj base to Karachi in Scind. This work having commenced in 1848-49, and being still in progress, is not included in this report.

Col. Everest's
and
Col. Waugh's
Superintendence.

Bombay trigono-
metrical survey:
South Konkan
series.

Col. Waugh's
Superintendence.

Bombay Trigono-
metrical Survey:
North Konkan
series, and Khan-
pisura series.

52. After the conclusion of the Bombay longitudinal series, Captain Jacob proceeded to England on sick certificate, and being an officer of great experience and talent, his loss to the department was severely felt. He was succeeded by Lieut. Harry Rivers, of the Bombay engineers, by whom the trigonometrical operations in that presidency have been conducted to the present time. These consist of the South Konkan series, dependent on a side of the Bombay longitudinal series. This work was completed by Lieut. Rivers between the years 1842 and 1844, and I have rendered a full account thereof in Volume 14, Part 1, General Report. It is a scanty and second-rate performance. After the conclusion of this work Lieut. R. took up the North Konkan series, in the prosecution of which the health of his party suffered so much that it became necessary to withdraw from it when it had attained the parallel of $21^{\circ} 45'$. He next took up the Khanpisura series on the meridian of 75° , which he has continued in a masterly manner up to Ajmere. The area comprised in these several operations conducted by Lieut. Rivers amounts to 45,854 square miles, and the cost to Company's rupees 1,26,734, giving an average rate of only Rs. 2. 12. 2. per square mile, or say, nearly 5s. The expense has been much reduced by the facility of the country, and Lieut. Rivers' rapid style of work. That officer is now about to undertake a new series on the meridian of Abou, dependent on a side of the great longitudinal series, and it is intended that the triangulation shall be extended over Guzerat.

53. Of all these latter operations detailed reports of progress have been submitted by me from time to time to the Government of India, under dates as follows:—22d August 1845.—19th August 1846.—15th January 1849.—20th August 1850.

54. The accuracy attained by the modern operations may be thus briefly stated. In the large triangulation, where of course the greatest refinement and most scrupulous care is observed, an error of one inch per mile, or $\frac{1}{53350}$ part, amounts to 500 inches or 42 feet, or nearly half a second in arc of latitude or longitude in 500 miles, which distance is even exceeded between some of the bases. The work is reckoned liable to half this error when executed with the great theodolite, on the principle of double series. The results attained by the new 24-inch theodolites are but little inferior to this degree of accuracy; when the series are single, the liability to error is reckoned to approach nearer to one inch per mile; when performed with good 18-inch theodolites, the error will exceed one inch per mile, according to the character of the graduation. With inferior instruments, or a less careful system, the accumulation of error would approach a foot per mile, which is equal to a ratio of $\frac{1}{53350}$ in linear dimension, or $\frac{1}{2670}$ in area, or $\frac{1}{20}$ per cent, or six seconds of arc in the above distance.

Recapitulation.

55. In reviewing the whole progress of the trigonometrical survey of India from its commencement by Colonel Lambton to the year 1848, it will be seen that the grand total of area triangulated amounts to 477,044 square miles, and the grand total of cost to Company's rupees 34,12,787, or say 312,389*l.*, showing an average cost of Rs. 7. 2. 5. per square mile, or about 13*s.* 1*d.*, which cannot but be considered remarkably moderate, especially when the nature of the country and climate, as well as the absence of all the usual resources to be found in Europe, are taken into account. The hardships and exposure of surveyors working in the field for the greater part of the year, in such a climate as India, and living under canvas, whilst all other servants of Government seek the protection of cool houses, are either little known or little appreciated. We have on several occasions kept the field throughout the year. The duties of the trigonometrical survey likewise are often unremitting day and night, because the best observations are obtained during the nocturnal hours, when the dust raised by hot winds subsides, and the atmosphere becomes clear and calm. The fatigue and exposure are trying to the most hardy constitutions, and this history will show how few officers have been able to withstand their effects. The loss of trained officers entails a considerable increase of expense, for their

places.

places cannot be efficiently taken by newly-appointed officers, until they have been thoroughly trained, while the cost of training is always an unproductive item in the account.

56. My calculation of expenses will be found to differ in some respects from those given by the Military Auditor-general, in whose statement is included a charge of 96,372. 7. 3. Company's rupees, for the cost of feeding government cattle. Now it may be remarked that the cattle lent to this department in times of peace, and always withdrawn during war, have added no extra charge to the public service, and the survey cannot fairly be debited therewith; if it be included, however, the rate per square mile would only be enhanced by three annas and two pice, or less than five pence. Two other items charged by the Military Auditor-general are, Rs. 53,300. 9. 2. for miscellaneous charges, and Rs. 69,929. 8. 4. for articles furnished by magazines and arsenals. These charges not being stated in detail, cannot be checked in this office; I surmise, however, that they include cost of instruments and equipments which are all still in existence, and most of them likely to outlive the duration of the survey; the department should therefore receive credit for their present value per contra.

Accounts of the
Military Auditor-
General.

57. The Auditor-general further charges to the survey the military pay of officers, and the Surveyor-general's pay and allowances. With reference to the first, it may be remarked, that these charges are not controllable by this department, and that no extra officers are maintained specially on its account; on the contrary, officers doing duty with the survey have always been withdrawn for war service when required; therefore the employment of these officers involves no additional cost whatever to the State, beyond their staff allowances, with which I have debited the department. The Surveyor-general's office does not pertain to the trigonometrical survey alone, but to all the surveys of India. I have, therefore, in drawing up the accounts, adhered strictly to the system laid down by my predecessor; the difference, however, upon the rate per square mile made by these doubtful charges, is not by any means considerable, amounting in fact only to a few pence.

58. With regard to the duration of the survey, it has been already remarked by the late Colonel Blacker, that the question depends on the strength of the establishment employed, which statement is true within certain limits defined by the power of supervision and training. The chief point is the rate per square mile, which I have shown to be on an average 15*s.* 4*d.* The survey has been about 48 years in operation, chiefly on a small scale. Now as the area of India exceeds Great Britain and Ireland some 12 times, we have, comparatively speaking, been only four years at work. Since the commencement the object in view has perpetually extended. Successive wars have added continual accessions of territory to be surveyed. The late wars alone have given new kingdoms with no less additional surface than 169,827 square miles, as will be apparent from the following statement:

Duration of the
trigonometrical
survey considered.

Scinde	-	-	-	-	-	60,240 square miles.
Jalander, Doab, and Kohistan	-	-	-	-	-	16,400 „
Protected Sikh and Hill States	-	-	-	-	-	15,187 „
The Punjab Proper	-	-	-	-	-	78,000 „
TOTAL						169,827 square miles.

59. The limits of our empire, however, appear to have been at length reached. The total area of British India as it now stands, including Scinde, Punjab, Jalander, Doab, and Tenasserim, has been carefully estimated at 800,758 square miles, and the native states at 508,442 square miles, making a grand total of 1,309,200 square miles as the area of survey under my charge. A complete delineation of this vast superficial extent, amounting to $1\frac{1}{2}$ million of square miles, confined within an external boundary of 11,260 miles in length, including every variety of configuration and climate, is an undertaking of unprecedented magnitude, demanding considerable time to accomplish with any pretensions to mathematical accuracy. The exertions hitherto made have been unremitting, and it is but justice to say that the progress has been, generally speaking, as honourable to the officers employed as the results have been useful to the country.

The extent surveyed, and remaining for survey.

Present state of establishment.

60. The accompanying chart * shows at a glance the extent of country which has been triangulated †, as well as surveyed in detail, up to the present time. The blank spaces have all been more or less explored, but require to be filled up successively as survey parties become disposable.

61. The present state of the Trigonometrical Survey consists of seven parties, employed as follows:

Two parties in the Punjab - - - - -	2
One party in extending the Great Longitudinal Series from Calcutta to Karachi, in Scinde - - - - -	1
The operations have reached Mount Aboo, and there only remains to complete the hiatus through the desert.	
One party on the Coast Series from Calcutta to Madras; the results of which will be most important to maritime geography - - - - -	1
One party employed on the Hurelaong Series in Behar. If possible, to be extended into Nipal - - - - -	1
One party employed in Bengal on the Parasnath Series - - - - -	1
One party employed in the Bombay Presidency - - - - -	1
TOTAL number of Parties - - - - -	7

Project for geometrical operations in progress.

62. The programme of future operations which have been sanctioned is as follows:—According to Colonel Everest's design, an ellipsoidal space is included between the great arc on the west, the Calcutta meridional series on the east, the great longitudinal series on the south, and the north longitudinal series along the frontier; which are verified by four base lines at their origin and termination; all measured with Colby's apparatus. This immense ellipsoidal area is filled up by subordinate meridional series nearly one degree of longitude apart, which series depend on the great longitudinal series for origin, and on the north longitudinal for verification. This has been denominated the gridiron system, and obviously possesses superior facilities for rapidity and accuracy. This design of Colonel Everest's has been nearly completed, for there remains only a small portion of the Hurlong meridian, and the northern part of the Parasnath meridian, which will be finished in two years. The country to the west of the Great Arc is intended to be triangulated on precisely the same principles. 1st. The north-west Himalaya series will extend from the Dehra Doon base line to Peshawar, where it will be verified by a measured base. This series has reached the meridian of Cashmere, and may be expected to be completed in two or three years. 2dly. The great longitudinal series will be extended from the Sironj base to Karachi, where it will be verified by a measured base. It has been carried as far as the borders of the desert, across which its further progress is uncertain, because no analogous operations have ever been attempted. 3dly. Between the Peshawar and Karachi bases will extend a great meridional series, between which and those before described will be included an immense ellipsoidal area, averaging 9° of latitude by 10° of longitude. As all the bounding series will be executed with superior instruments, and duly verified by base lines, whereby limits will be placed to the intrusion of error, those series will be fit to verify the subordinate meridional series by means of which the intermediate space is intended to be rapidly filled up at every degree of longitude apart, according to Colonel Everest's system.

63. To the east of the Calcutta meridian it is proposed to extend the north longitudinal series, from Sonakoda base into Assam. From this series will depend other meridional triangulations at one degree apart, upon which the accurate geographical delineation of eastern Bengal will be based.

64. The

64. The Bombay party will complete the remaining triangulation of that presidency in a few years. There only remains, therefore, to be considered the vacant space to the south of the Calcutta longitudinal series, in which is embraced the hill country of Gondwana and tributary mahals, between the sources of the Son and Narbada, the Godaveri river, and the sea. This region, inhabited by aboriginal tribes, is unhealthy in the extreme, and of no value; but from its rugged configuration, any survey not based on triangulation would accumulate vast errors. It is proposed to triangulate this region by meridional series at every two degrees apart, filling up the interstices with secondary triangulation. In this way that space can be most rapidly surveyed. The accomplishment of these several plans will complete the trigonometrical survey of all British India; and in six or seven years such progress will have been made as will bring the termination in view; before which time no satisfactory opinion can be given.

Conclusion of the survey may be calculated in six or seven years.

65. The instrumental equipments are admirably adapted for the work in hand, and consist of the following apparatus, most liberally supplied by the munificence of the honourable Court for whose undeviating support I feel deeply grateful.

Present equipment adapted to vigorous operations.

1 Colby's compensation apparatus for measuring base lines.

2 Great theodolites, 36 inches diameter, by Troughton & Simms, and Barrow, respectively.

4 24-inch theodolites, by Simms & Barrow.

2 18-inch theodolites, by Troughton & Simms.

6 14-inch Vernier theodolites, by Simms.

6 12-inch theodolites, by Troughton & Simms.

20 7-inch theodolites, by Troughton & Simms.

2 Astronomical circles of 3-feet diameter, by Troughton & Simms.

5 Astronomical clocks.

14 Chronometers.

The signals consist of Argand lamps and heliotropes.

66. With regard to the probable rate of progress, much depends on the efficiency of the officers, and on the accidents of climate to which the parties are so much exposed. In a hilly country, the average advance made per season by each party is now about 120 miles in length by 30 in breadth, or say 3,600 square miles. In a flat country the average is 80 miles in length by 12 in breadth, or about 1,000 square miles. The average for both kinds of ground may be taken at the mean, or 2,300 square miles, which, multiplied by seven, gives 16,100 square miles per annum of probable progress. The cost is not likely to exceed the general average hitherto attained, of 10 s. or 12 s. per square mile of hilly country, and from 20 s. to 30 s. in flat land, or a general average of 15 s. to 16 s. over all. This rate might be expected to diminish, if the department were made more efficient in officers. It has been shown in the foregoing narrative that few succeed in these arduous undertakings. A rigorous training is indispensable at the outset, without which success cannot be certain, nor any adherence expected to system. Widely dispersed as the surveys are, and remote from constant supervision, little by little innovations would creep in, and the character of the work become compromised. To prevent evils so calculated to retard the completion of the survey of India, due provision should be made for contingent vacancies, instead of waiting till they occur. A newly appointed officer is not effective for two years, and when more than one vacancy occurs at a time, the task of training is inconvenient. The department is now so under-officered that a few casualties occurring together would leave it unofficered; an anticipation which would give me more anxiety than it does, were it not for the great ability of a few of the subordinates, who are themselves competent practically to conduct series. It is evident that at the present stage of the business, when so large an area remains for survey, effective establishments are most important. In fact, an augmentation of two or three officers now would be more useful than filling up vacancies towards the close of the work. Such an augmentation would most likely provide for every contingency, without any further addition hereafter, as vacancies occur.

Probable rate of progress estimated.

No adequate provision made for filling vacancies. Risk of leaving the department un-officered.

* This chart is deposited in the library of the House of Commons, and can be there inspected.

† The principal triangulation is chiefly shown, on account of the smallness of the scale, which precludes the representation of secondary operations.

Testimony to the high character of the sub-assistants.

67. Before concluding these remarks, it is but just towards an industrious and useful class of subordinates, chiefly born and bred in India, to bear testimony to their meritorious services in this department. A more loyal, zealous, and energetic body of men than the sub-assistants forming the civil establishment of the survey department is no where to be found, and their attainments are highly creditable to the state of education in India. Among these may be mentioned, as most conspicuous for ability, Babu Radanath Sikhdar, a native of India, of Brahminical extraction, whose mathematical acquirements are of a high order; and Messrs. Peyton, Armstrong, Clarkson, and Mulheran, who have all distinguished themselves practically in the field, and also as computers. The merits of Messrs. De Penning, Olliver, and Rossenrode have been handsomely acknowledged by Colonel Everest, in his published works, in connexion with the older operations.

Interior filling in surveys.
Madras system.

68. Having discussed the trigonometrical part of the subject, it remains to report on the land surveys by which the interior is filled up. These are enumerated in a tabular statement, marked (D.) in the Appendix. The greater part of the Madras peninsula has been taken up on the basis of the great triangulation, by means of minor triangles, and military plane table surveys, executed on a scale of one inch per mile. This style of work is remarkably cheap, the cost per square mile not exceeding six rupees or less than 12 s.; and in favourable localities, free from jungle fever, which is the dire enemy of all survey operations in India, the expense becomes much lower. This kind of survey being based on triangulation cannot accumulate error, and gives an admirable representation of the land, but it requires good draughtsmen, who are difficult to be obtained in India. The system is peculiarly adapted to mountainous countries, where the value of the land being small, an expensive system is inapplicable. It has already been extensively carried out in the native states, and it is proposed to extend the same principles to the remainder. Of the native states, the following are most conspicuous, and the total area included therein amounts to 508,442 square miles, of which 200,000 square miles have been already surveyed, leaving about 308,442 square miles, almost all wild hilly jungle, and of little value to be taken up:—

Square Miles.	Square Miles.	Square Miles.
Oude (Lucknow) - 23,738	Bikanere - 17,676	Oudeypore - 11,614
Mysore - 30,886	Jeysulmere - 12,252	Satara - 9,061
Hyderabad (Nizam's) 95,337	Baroda and Kattyawar - 24,249	Kolapore - 3,445
Jodhpore - 35,072	Jhansi - 15,570	Cutch - 6,764
Gwalior - 33,119	Bhopal - 6,764	Kotah - 4,339
Bhawulpore - 20,003	Rewah - 9,827	Indore - 4,467
Golab Sing's Territory - 25,123	Protected Sikh and Hill States - 15,188	Travancore - 4,722
Berar (Nagpore) - 76,432		Alwar - 3,573
Jeypore, &c. - 12,521		Bhurtpore - 1,978

The revenue survey system of Bengal.

69. The revenue survey of Bengal commenced in the year 1822, and consists of the measurement of the boundaries of estates, which are executed by theodolite and chain, upon the traverse system. Up to the year 1830, the rate of progress at which the operations proceeded was extremely limited, only 3,020 square miles or little more than half a square degree had then been performed in seven years, with ten officers employed in the department, the annual rate of progress of each surveyor ranging from 50 square miles to 338 as a maximum; and at this rate it was estimated that the area of Bengal, and of the north western provinces, being about 310,000 square miles, or 77 square degrees, would require 481 years to accomplish. The officers employed in those days, however, had little or no assistance, and the duties performed then by the revenue surveyor himself are now entrusted to competent assistants and sub-assistants, with large native establishments under them, whilst the surveyor acts as a superintendent over the whole; the result of which has been, that during the last 20 years, or since 1830, the whole of the north-western province districts, all Behar and Orissa, and a considerable portion of Bengal proper, have been completed as detailed below. No less than 46 districts of unsettled estates, amounting to 101,519 square miles, and 13 districts of Bengal and Bahar perpetually settled estates, yielding an area of 53,295 square miles, have thus been surveyed in detail and mapped, leaving 20 districts of Bengal, comprising 57,990 square miles, to be taken up, five of which are now in hand.

Unsettled Districts Surveyed:

1. Paneeput.	13. Budaon.	25. Banda.	36. Sohagpore.
2. Hurrianah.	14. Bareilly.	26. Allahabad.	37. Ramgurh.
3. Dehli.	15. Phillibet.	27. Goruckpore.	38. Ajmere.
4. Rhotuck.	16. Shajehanpore.	28. Azimgurh.	39. Mairwhara.
5. Goorgaon.	17. Muttra.	29. Jounpore.	40. Pooree.
6. Saharunpore.	18. Agra.	30. Mirzapore.	41. Cuttack.
7. Muzaffurnuggur.	19. Furruckabad.	31. Benares.	42. Balasore.
8. Meerut.	20. Mynpoorie.	32. Gazeepore.	43. Cachar.
9. Boolundshuhur.	21. Etawah.	33. Jaloun.	44. Jynteah.
10. Allygurh.	22. Cawnpore.	34. Dehra Doon.	45. Chittagong.
11. Bijnour.	23. Futtehpoore.	35. Bhuttianah.	46. Assam.
12. Moradabad.	24. Humeerpore.		

Settled Districts surveyed:

1. Midnapore.	9. Purneah.
2. Hidgellee.	10. Tirhoot.
3. Hoogley.	11. Malda.
4. Shahabad.	12. Bhaugulpore.
5. Sarun.	13. 24 Pergunnahs.
6. Patna.	13
7. Monghyr.	46 Unsettled Districts.
8. Behar.	

TOTAL - - - 59 Districts surveyed.

Districts under Survey:

1. Rajshye.
2. Beerbhoom.
3. Baraset.
4. Mymensing.
5. Goalpara.

5 TOTAL.

Districts for Survey:

1. Nuddea.	9. Pubna.
2. Jessore.	10. Dacca.
3. Burdwan.	11. Dacca Jelalpore.
4. Bancoorah.	12. Bakergunje.
5. Dinajepore.	13. Sylhet.
6. Moorshedabad.	14. Tipperah.
7. Bogra.	15. Bulloah.
8. Rungpore.	

15 TOTAL.

70. In addition to this, the newly acquired territory of the Punjab, and Cis and Trans Sutlej States, have come under the revenue operations, and afford a large field of employment for the department.

71. As respects the accuracy attainable by the measurement of the revenue survey, it may be stated generally that the maximum error allowed in linear dimension, according to the test it is submitted to by traverse proof, is 10 links in 100 chains, equal to 5.28 feet per mile; but in the actual prosecution of the extensive surveys of the season 1847-48, covering an area of about 16,000 square miles, the average ratio of correction employed for the closing of the traverses is found to be only two feet per mile, or rather more than one-third of the allowed correction: $\frac{1}{50}$ per cent. therefore, for the pergunnah or main circuit measurement is fully within practicability; $\frac{1}{10}$ per cent. also may be allowed for the area of the district; $\frac{1}{2}$ per cent. for the village survey area, and one per cent. for the interior detail measurement of cultivation and waste. But the most severe test to which a revenue survey can be subjected is the comparison of its results with those of the trigonometrical survey; and that this comparison may be performed as readily as possible, a due and proper connexion between the two surveys is essential, and now scrupulously maintained.

Accuracy attainable by revenue survey.

Test by trigonometrical survey.

72. The following comparative tabular statement of the numerical values of surveys, conducted both in the North Western Provinces, as well as in Bengal, and performed at an interval of 17 years, will best illustrate the preceding remarks.

REVENUE Survey of 1832 compared with the Trigonometrical Survey.

DISTANCES.	From Revenue Survey.	From Trigonometrical Survey.	Error.	Error upon 1 Mile.
	<i>Fect.</i>	<i>Fect.</i>	<i>Fect.</i>	<i>Fect.</i>
Saini to Saroli - - - - -	96,989	97,017	28	1.63
Saini to Sirdana - - - - -	67,571	67,639	68	5.16
Saini to Dholri - - - - -	107,906	108,018	112	5.58
Saroli to Dholri - - - - -	89,681	90,249	568	33.50
Saroli to Sirdana - - - - -	31,170	31,194	24	4.07
Godhna to Saini - - - - -	214,296	214,886	590	14.54
Bahin to Chapra - - - - -	116,637	116,046	591	26.66

REVENUE Survey of 1849 compared with the Trigonometrical Survey.

DISTANCES.	From Revenue Survey.	From Trigonometrical Survey.	Error.	Error upon 1 Mile.
	<i>Fect.</i>	<i>Fect.</i>	<i>Fect.</i>	<i>Fect.</i>
Calcutta Base (north end) to Barrackpore Flagstaff -	19,850	19,869	19	4.89
Calcutta Base (north end) to Armenian Church, Chinsura -	66,636	66,721	85	6.72
Calcutta Base (north end) to Fort William Flagstaff -	55,987	56,051	64	6.03
Samalia to Sarisa - - - - -	70,196	70,326	130	9.77
Sarisa to Diamond Harbour Semaphore - - - - -	22,097	22,147	50	12.02

73. From an inspection of this table, it will be seen that the errors committed on the two revenue surveys range from .162 to 33.50 per mile on the former, and from 4.8 to 12 feet per mile on the latter; and they all lie in the same direction, the revenue measurement being in defect of the trigonometrical survey. Taking the smaller of these discrepancies as the error of the revenue survey unit, it will be seen that the greatest error actually committed in the more recent operations is only seven feet per mile.

74. The azimuth of any side of the large triangles likewise proves a check on the deduced azimuth of the revenue survey, as conveyed from one main circuit to another, and this comparison is carefully carried out when opportunity is afforded for so doing.

Progress and cost of revenue surveys.

75. As a sample of the progress now made by the combined efforts of the officers employed on this side of India, and the cost at which the work is performed, the following analysis of the general average rates per square mile, with the total area completed, is given for the North Western Provinces from the year 1833, and for Bengal from the year 1838, the first commencement of operations down to the present time. The average for the North Western Provinces in the twelve seasons' work amounts to Rs. 16. 8. 8. per square mile, and for Bengal it is in a similar period, Rs. 20 14. 10. per square mile, whilst the general average on the whole area executed is only Rs. 18 6. 8. per square mile. In the two seasons of 1847-48, and 1848-49, upwards of 16,000 square miles of country appear to have been surveyed by the united exertions of eight different parties in the two provinces.

NORTH WESTERN PROVINCES.			BENGAL PROVINCES.		
Season of Survey.	Area Completed.	General Average Rate per Square Mile.	Season of Survey.	Area Completed.	General Average Rate per Square Mile.
	Square Miles.	Rs. a. p.		Square Miles.	Rs. a. p.
1833-34	3,747	29 4 1	1838-39	1,901	60 - 1
1834-35	5,282	24 7 5	1839-40	2,450	49 9 4
1835-36	5,391	27 5 11	1840-41	5,145	23 3 4
1836-37	7,455	23 15 -	1841-42	9,132	22 5 7
1837-38	12,400	13 7 -	1842-43	6,035	22 13 -
1838-39	10,974	13 15 8	1843-44	7,079	18 4 4
1839-40	12,698	11 12 5	1844-45	7,043	16 10 2
1840-41	12,698	11 12 5	1845-46	8,967	12 10 8
1846-47	3,583	20 1 7	1846-47	7,429	14 9 5
1847-48	8,997	14 4 5	1847-48	7,097	18 2 5
1848-49	9,858	12 5 -	1848-49	6,243	21 - 4
1849-50	5,552	22 12 -	1849-50	5,162	24 14 10
Total - - - 12	98,636	16 8 8	Total - - - 12	73,684	20 14 10

Area in Square Miles. Cost in Rupees. Rate.
Total of the Two Provinces - - - 172,321 - - - 31,74,101 - - - 18r. 6a. 8p.

76. It appears that as the surveys advance, it tends to diminish the cost per mile in each succeeding year, caused by the facility acquired by well-trained establishments, and the very efficient mode of working exercised by the superintending officers. The expense of a revenue survey, however, is much influenced by local peculiarities, and even allowing for the difference amongst surveyors, some being more skilful, active, and capable than others under precisely the same circumstances of doing more work, it often happens that the utmost endeavours of the most energetic officers will not produce so low a mileage cost as others who have more favoured ground to go over. In the circuit system work of the revenue surveys, the size of the villages is the grand secret; if the average size is large, above a square mile, as in the North Western Provinces, a good out-turn may be expected, and consequently a reduced cost; but in Bengal, where the villages do not average above half a square mile, it is impossible to compete with the extraordinary cheapness which some of the old surveyors attained. Neither, indeed, is such a thing desirable, with reference to the accuracy demanded in the present day. If 3,000 square miles and upwards are given in by a single surveyor, the results must partake of that haste with which the country is got over, and eventually prove of an inferior order.

77. A survey establishment is always proportionally more expensive the less complete it is, the chief expense being the salary of the surveyor and the European assistants. It should therefore be kept up in as effective a state as possible with a view of turning it to the best account, and by a proper division of labour as economical a survey may be obtained as local circumstances will permit. At the average rate of progress already made in the Bengal provinces, it may fairly be anticipated that what remains to be done will not occupy a longer period than 10 years more, when, in addition to a good topographical survey, we shall have a complete and detail record of every estate paying revenue to Government; and at the present average rates the cost may be calculated at about 11½ lacs of rupees, which, added to 15½ lacs already expended, will make 27 lacs as the entire expense for Bengal, Behar, and Orissa.

78. It would tend greatly to expedite these useful surveys, and diminish their cost, if the professional qualifications of the officers selected for these duties were tested, previous to their appointment, by an examination conducted by the Surveyor-general or his deputy. There is no lack of well-educated gentlemen in the service, but without previous examination by competent persons the highest talent cannot be secured, nor without previous training can failure be guarded against.

Cost of all surveys tend to diminish, if a proper system be adhered to, an innovation guarded against.

Advantages to be expected from a more careful selection of officers.

General principles. 79. It will be apparent, from the foregoing statements, that the revenue surveys supply the interior filling up of the triangles in the British revenue districts, which are chiefly flat lands, to which that system is most applicable. In native states and wild hilly countries, the topographical surveys before described are admirably adapted to the object in view, which is a complete and inexpensive first survey of all India. Considered in this point of view, the work may challenge comparison with any in the world. The triangulation supplies a permanent and accurate basis for the present, as well as for future internal surveys; for it must be borne in mind that, as the resources of this country become developed under the fostering protection of British rule, the topographical aspect of many districts must, in a moderate number of years, be completely changed. Tracts now covered with jungle will be reclaimed, canals will be dug, marshes drained, and roads established. New towns and villages will arise, and fresh groves be planted, and rivers will change their course. That these views are not chimerical may be attested by my own experience, during 22 years of wandering throughout the length and breadth of the land; for places where, in my early days, I hunted the tiger, the bear, and the boar, are now covered with smiling fields, yielding a plentiful harvest to the cultivator. The greatest difference is also perceptible in the extension of towns and villages, showing the increase of productive wealth which is taking place on all sides. On the other hand, in many native states the jungle is advancing on cultivation, and the people thus become the alternate prey of man and wild beast. These alterations cannot but produce, in the course of time, considerable changes in the topographical features of the country, for which reason revised surveys will be required, and these, like the present ones, will be based on the operations of the Great Trigonometrical survey of India, which are intended to form a lasting monument for future generations, and an imperishable record of the landmarks of the present time.

Desultory surveys frequently carried on without the cognizance of the Surveyor-general of India. 80. In addition to the surveys I have described, others have, I believe, been set going from time to time by local authority, without reference to this office, or any adequate control. Of these operations, having no official cognizance, it is beyond my province to speak, but it is supposed that in general they are conducted with defective instruments on desultory principles, with no known unit of measure, nor any settled point of departure.

List of distinguished officers in connexion with the accurate survey of India. 81. Before concluding these memoirs, it may be considered a just tribute to those officers who have been most conspicuous for meritorious service in connexion with the accurate geography of India, to place their names on record. Colonel Lambton and Colonel Everest stand pre-eminently above all others for scientific services, and their names are held in affectionate remembrance in this department. To these may be added, Captain Renny Tailleur, of engineers, astronomical assistant, Captain Jacob, of the Bombay engineers, late 1st assistant, and Mr. G. Logan, 1st assistant, all of the Trigonometrical Survey, whose services have been as valuable as of long duration; and Colonel Wilcox, afterwards astronomer to the king of Lucknow; the late General Hodgson, Colonel T. Oliver, Major Herbert, and Major W. Brown, of the old revenue survey; together with Captain Thuillier, the present Deputy Surveyor-general, whose abilities are of a high order, and Captain R. Smyth, of the Bengal artillery, both of whom are ardent admirers of accuracy. In the Madras Presidency, Captain Du Vernet, the late Captain Garling, Major Ward, and Captain Snell.

Printed catalogue of maps appertaining to India. 82. A printed catalogue in three volumes, containing a list of all maps and plans appertaining to the surveys of the three Presidencies, corrected and revised to the present time, accompanies this Report.*

Surveyor-general's Office,
Dehra Dun,
20 October 1850.

A. S. Waugh, Lieut.-colonel Engineers,
Surveyor-general of India, and
Superintendent of the Great Trigonometrical
Survey.

* N.B. The three volumes here referred to are deposited in the Library of the House of Commons and can be there inspected.

A P P E N D I X.

(A.)

Appendix (A).

EXTRACT of LETTER, No. 111, dated 25 October 1817, from Lieut.-Colonel J. Young, Secretary to the Governor-General, Military Department, to Major John Craigie, Officiating Secretary to Government in the Military Department.

It is well known to Government that since the year 1801-2, Lieut.-colonel Lambton, of His Majesty's 33d Regiment, has been employed under the presidency of Fort St. George, in a series of trigonometrical operations, instituted originally for the purposes of establishing with perfect accuracy certain important points in the geography of the Peninsula, and of ascertaining the length of a degree of the meridian in those latitudes. The success with which that learned person's labours have been conducted, naturally led his employers to extend their views, and to desire that the lieut.-colonel's operations should gradually be expanded, so as to embrace nearly the whole south of India, and then be pushed progressively towards the north.

Those employers, it is needless to mention, are the Hon. Court of Directors. This magnificent work was projected and is carried on under their particular auspices and munificent patronage, in a manner befitting that dignified body: their perseverance in this grand enterprise is worthy of the splendid original design, and this single public act has raised the name of the English East India Company in the eyes of the scientific world to a level with those of the great sovereigns of Europe, who have been their only rivals in similar undertakings.

Independently of the benefits reaped by mathematical science from labours like Lieut.-colonel Lambton's, in regard to the more accurate knowledge of the figure of the earth, as deduced from his measurements of an arc of the meridian; the most important practical advantages must obviously accrue from the prosecution of this trigonometrical survey on its present plan. There is no other solid basis on which accurate geography can so well be founded. The primary triangles thus spread over this vast country establish almost beyond error a multitude of points, and the spaces comprehended within these, when filled up by the details of subordinate surveyors, will afford the lieutenant-colonel's employers, and through their liberal communication, to the world, a map without a parallel, whether in relation to its accuracy, to its extensiveness, or to the unity of the effort by which it will have been achieved. The importance attached to such works by the economists and statesmen, as well as by the learned of Europe, is proved by the perseverance for so many years of England and France in similar undertakings. The Governor-general ventures to speak to this point with no ordinary confidence, because it came under his personal knowledge when he had the honour of presiding over the Royal Ordnance department. Under the superintendence of that Board, and the patronage of His present Majesty, the great trigonometrical survey of Britain commenced above 30 years ago, under General Roy, of the Royal engineers, and it is continued unremittingly at the present day by Colonel Mudge, of the Royal artillery. His Royal Highness the Commander-in-chief, actuated by consideration for the magnitude and interesting nature of Lieut.-colonel Lambton's parallel operations in India, has acceded to the wishes of the Hon. Company, by granting the lieutenant-colonel unlimited leave of absence, although his regiment has long since returned to England.

Such is the scale and character of this splendid undertaking. The great extent to which the trigonometrical survey has now reached, appears to the Governor-general to indicate the time as having arrived when expediency requires that it be taken under the direct and immediate control of the Supreme Government. His Lordship is persuaded that its operations will henceforward be greatly facilitated by this measure, for they have already passed the British boundary into the territories of his highness the Nizam, and the Governor-general trusts will now progressively advance into Hindoostan and the east, until the net of triangles shall be woven over the whole continent of India. In the meantime, all those public British authorities with whom, for obvious purposes, Lieut.-colonel Lambton must now hold correspondence and intercourse, are under the sole orders of the Governor-general in Council, and they will be enabled to give immediate attention to his wants and wishes in cases where otherwise a reference to the Governor in Council of Fort St. George (his immediate superior) must be followed by a further reference to Bengal. But besides these considerations of convenience and facilitation, the Governor-general is of opinion that others of a higher nature lead to the same inference. His Lordship has no scruple in avowing his sentiments, that an undertaking of such national importance and general interest is only in its appropriate place when drawn under the direct orders and countenance of the supreme authority in British India.

The Governor-general is not unaware that with minds of a certain order such a step as his Lordship purposes may be open to the idle imputation of vainly seeking to partake the gale of public favour and applause which the labours of Lieutenant-colonel Lambton have recently attracted. To some it may possibly seem to savour of ostentation, that the direct countenance of the Supreme Government has been withheld until the moment when the learned societies of England and France, the first in the world, have borne illustrious testimony to the character of this survey, and the merits of its conductor, by enrolling his name in the distinguished lists of their members. But the discerning candour of the superior

Appendix (A).

authorities who sit in judgment on the acts of the Governments in India, will lead them to a juster interpretation of the conduct of their servants. The analogy of the Governor-general's procedure to their own resolution in the parallel case of the General Survey Department will not escape the notice of the honourable Court; they will mark the striking practical facilitation afforded to Colonel Lambton's operations by their transfer, at this period of progress, to the only authority politically connected with those countries within which the survey has arrived; and if it should appear that from more immediate contact with the Supreme Government even the smallest portion of additional encouragement, or of respectability in the eyes of the world, can be conferred on Lieutenant-colonel Lambton, or his labours, the Governor-general is well assured that the transfer will be approved and applauded even on that single ground.

I am now therefore formally to communicate to the Honourable the Vice-President in Council the resolution of the Governor-general (in his absence from the seat of his government), for effecting the transfer of the trigonometrical survey of India from under the presidency at Fort St. George, to the immediate direction and control of the Governor-general in Council of Fort William: the transfer to take effect from the 1st January 1818. The Governor-general in furtherance of the determination has been pleased to direct, 1st. That from that date Lieutenant-colonel Lambton, and all persons connected with the establishment of the survey, shall be considered as under the sole control of the Supreme Government, and as belonging to the Bengal Establishment. 2d. That the survey be denominated the Great Trigonometrical Survey of India, and Lieutenant-colonel Lambton the superintendent thereof. 3d. That all the salaries, allowances, gratuities, reversionary claims to recompense or pensionary support, and generally, all right or reasonable privileges which any of the persons now attached to the survey possess from the Government of Fort St. George, shall be admitted in the fullest manner as binding on the Government of Bengal. 4th. That a duly qualified officer be appointed chief assistant to the superintendent, on a salary (besides the pay, full batta, gratuity and tent allowance of his regimental rank) of 600 sicca rupees, which is not to be subjected to deduction for any broken periods that the survey may not actually be employed in the field. 5th. That a person skilled in natural science, and capable of affording medical and surgical aid to the survey establishment, be permanently attached to it as geologist and surgeon, on a salary of 600 sicca rupees. 6th. That the trigonometrical survey be considered wholly distinct from, and independent of, the Surveyor-general of India; but as this measure is adopted out of respect to the rank, talents and eminent services of the present superintendent, in the event of that officer ceasing to hold the direction of the trigonometrical survey, the Governor-general will consider this regulation as open to revision. 7th. That the whole expense of this survey be considered a civil charge. 8th. That the trigonometrical survey be placed immediately under the public department, and that all reports, instructions or other correspondence regarding it be conducted through the secretary to Government in that department. 9th. That all records, documents, plans, &c. connected with the surveys which may now be deposited at Fort St. George be removed to Bengal as soon as possible, when arrangements will be made for their reception and custody in the public department.

On these several provisions the Governor-general does not conceive that it is necessary for him to make any particular remarks, except as to the 4th and 5th articles. His Lordship desires to observe on the 4th, that the intense mental and bodily labour of conducting the trigonometrical survey has been performed heretofore by Colonel Lambton alone, and that the rank and the advancing age of that zealous and distinguished person now demand some relief from such severe fatigue. But independently of the consideration so eminently due to the individual, the Governor-general is decidedly of opinion that the strongest reasons of public expediency exist for associating an assistant in this great employment. The mathematical qualifications for conducting such labours are of a very high order, and possessed by few in India; they require to have been kept up by habitual exercise, and moreover the extreme accuracy indispensable in trigonometrical calculations on the scale of Colonel Lambton's undertaking demands a dexterity in the use of the instruments, and a scrupulous degree of attention in what may be termed the practical part of the labour, which can scarcely be conceived by persons unaccustomed to it, and which is to be learnt only by a rigorous apprenticeship. The regretted time must one day arrive when Lieutenant-colonel Lambton's task is to devolve on a successor. It would not be wise to trust to chance for producing one fully equal to the duty at the moment when he is wanted; neither is it right that this important survey should thus hang on the life of a single individual. Lieutenant-colonel Lambton himself has urged this point to the Governor-general, and has pressed on his Lordship the propriety of giving him an associate. The Governor-general therefore has selected for this office, Captain Everest, of the artillery, of whose eminent degree of science as a mathematician he is assured, and whose talents are known to the Vice-president in Council, both by his surveys in Java, under the quartermaster-general's department, and by his successful exertions as an engineer, in recently clearing the navigation of the Matabanga and other rivers. His Lordship purposes to grant Captain Everest a salary nearly similar to that of an ordinary land surveyor, or 600/ rupees, besides regimental allowances, to be considered, like all the other expenses of the survey, a civil charge.

(True extract.)

A. S. Waugh, Lieutenant-Colonel, Engineers.
Surveyor-General of India, and
Superintendent Great Trigonometrical Survey.

Appendix (B).

(B.)

ABSTRACT of a LETTER from the late Colonel V. Blucher, Surveyor-General of India, to the Secretary to Government of India, Military Department, Fort William; dated 11 August 1824.

I SHALL assume for granted that a great trigonometrical triangulation, corrected for spherical excess and the spheroidal figure of the earth, is the only accurate basis for the geography of any country; because this point is acknowledged by all the first mathematicians in Europe, and because as well in England as on the Continent the same has been made, with more or less zeal and effect, the object of expensive operations by almost every government in Christendom. In some States they have been completed, and in others partially accomplished, or only attempted, according to the exigencies of war or peace, or the characters of individuals in the several governments. But their importance has been questioned by none, and it therefore remains for decision with the ruling authorities of India, whether they will prosecute to accomplishment a princely undertaking hitherto conducted with success, restrict its course to a less complete result, or discontinue it immediately.

Considerable time elapsed at its origin in procuring the instruments, and some effect was lost in the gradual training of sub-assistants and followers attached, to comprehend and perform all those parts of the work which did not belong to the immediate province of the superintendent himself. The commencement, therefore, including cost of instruments, was the most expensive part of the proceeding in proportion to the effect produced; and as that loss and inconvenience has been incurred, it appears impolitic to sacrifice a subsequent advantage derived from it, by an immediate or premature termination of the survey.

It is extremely difficult to recommend any restriction of the great triangulation, short of that imposed by the features of the country and the limits of British control, so long as its operations are conducted with zeal and intelligence; but if such a suggestion were exacted, I should propose for limit the termination of the Doddagoontah meridional series of triangles in the Thibet Mountains, the continuation of the western series along the coast from Goa to Cambay, and the prolongation of that on the eastern coast from Masulipatam to the nearest practical point to Fort William. From four to five years with the present establishment would be the probable time necessary for the completion of the meridional arc, which may justly be denominated the great axis of Indian geography, and would connect the minor surveys of the Duckhin with those of Hindoostan, which are at present but vaguely related; for the accomplishment of the other two, which would nearly complete a correct outline of India to the sea, and show the extent in longitude of the British possessions, about four years each would be required.

I cannot

Note.—I take leave to subjoin the translate of a letter from Mr. De Lambre, perpetual secretary of the French Institute, to Lieutenant-colonel Lambton, as a proof of the importance attached by that scientific body to his labours:—

Paris, 30 May 1818.

I first of all received your letter, and shortly after the extract of your new memoir, which was sent me from London. I have seen with admiration the zeal and constancy with which you pursue your great undertaking. If the author of all the Siddantas could re-appear on the earth, and see their country covered with triangles which fix the position of so many places, so many distances, the shape of their coasts, longitudes and latitudes, by modes and with a precision of which they could not have the smallest idea, what would they think of their astronomy when compared with ours, and of the praises which their extravagant admirers have thought fit to heap on them? I have translated your last letter, and I flatter myself that you will not blame my haste in spreading it through Europe by means of the "Connaissance des Temps," which however will not be done until after its publication in the Philosophical Transactions. Your new measurements and new calculations will be seen with great interest. I had already in the "Connaissance des Temps" given your former results, and your comparison of the different degrees. I had noticed what I had discovered by our formulas, with the assistance of your data; the former being a little simplified to bring them nearer to your suppositions, where you pass over the superior powers of the compression.

Everywhere I have had the satisfaction to find our agreement with you. Our metre calculated from your operations differed only 0.015, which you make so much smaller. You now reduce this difference to one-third. I now permit myself to conclude that it is determined with all the exactness that can be desired; but as we have never reckoned on attaining a chimerical precision, and as we know what difficulties accompany the measurement of the earth on a grand scale, we have united the metre to the pendulum, the observations of which, more easy and more proportioned to the pecuniary means of astronomers, are repeating at this moment in London with an astonishing agreement, and will be multiplied in the different countries in the globe by the aid of Monsieur Gautchin, officer of the Marine, who is well skilled in observing, and communicates his observations with rare fidelity. We may now flatter ourselves that we know the general figure of the earth. All the great operations of India, of England, of Sweden, of France and of Germany, lead to the same results. When they are considered "en masse" it is not necessary to pay attention to the trifling irregularities of parallels and contiguous arcs. There is no absolute demonstration that the meridians are perfectly regular ellipses and all equal one to the other; that the strata of the earth are exactly symmetrical, or that the best instruments have not some errors. Let us not, however, too much regret that which is still wanting; but let us rather congratulate ourselves on the astonishing precision to which we have arrived. Let us redouble our efforts to diminish the slight anomalies by new researches, and let us multiply as much as possible our observations, and those scientific enterprises which like yours will confirm the glory of the philosophers of the 19th century.

I cannot, however, too forcibly, as Surveyor-general of India, deprecate the adoption of a restriction so inconsistent with the liberal views under which this survey has been hitherto conducted; so unworthy of the fame* which the rulers of India have already acquired among scientific societies for their promotion of geodesy, and so completely destructive of all hopes of an accurate knowledge of the geography of the greater part of Central India and all its extremities, excepting the Presidency of Madras and part of the Duckhin and Konkan. Rather, on the contrary, let there be employed more hands and more instruments to give fresh vigour to the undertaking, and to reduce the period of its accomplishment within a calculable time, by the protection and facilities afforded to it.

I feel a difficulty in adding more in reply to the demand for precise information in regard to the objects embraced in the survey, and the particular purposes to which it is to be applied, as it may respect the geography of the country. Without this basis, which is itself independent, all detailed surveys must not only be wrong, but extremely tedious in producing even erroneous results; no single point can be accurately placed, nor can the extent of India, particularly in longitude, be known without it. Such is the proneness of maps to exceed in that direction, that an error of 500 leagues was discovered by Gassendi in the length of the Mediterranean Sea, and De Lisle shortened Asia from east to west more than 24 degrees. The King of France complained that Cassini's great triangulation had deprived him of a large portion of his dominions, and the late Lieutenant-colonel Lambton found the breadth of the Peninsula in the parallel of Madras some miles over-rated by all the maps existing previously to his survey, notwithstanding the able and zealous labours of Messrs. Topping and Goldingham to establish the longitudes of several points on both coasts by astronomical observations.

One of the great questions of general service, whose determination depends on the highest geodetic operations, is the ascertainment of the magnitude and figure† of the earth, through various measurements on different meridians, and under different parallels. The scientific world agree nearly among themselves now, although from different grounds, on the comparative lengths of the earth's axis and equatorial diameter; notwithstanding that no two meridians may be similar; and the latest observations in various latitudes on the lengths of the seconds pendulum (an expedient which has been adopted as a substitute for geodetic operations, where the latter from sundry reasons are impracticable), have generally corroborated the conclusion deduced without its assistance. Lieutenant-colonel Lambton's operations have had their full share in the ascertainment of the earth's figure, and the prolongation of the Doddagoonta meridian to the Thibet Mountains, at about the latitude of $31^{\circ} 30'$ will be of equal importance in clearing away remaining doubts, or throwing light on new phenomena; but in fact there is no branch of physical science specially affected by the three co-ordinates of latitude, longitude, and elevation, to which the great trigonometrical operations are not of primary importance; whilst the determination of the changes of gravity in different latitudes, the laws of terrestrial and celestial refraction, the attraction of mountains, the phenomena of magnetism and temperature, with several important branches of geology, should properly accompany or follow them.

I have now placed the question of the continuation of the Great Trigonometrical Survey in the most conspicuous light which the limits I have assumed will permit. In pointing out the expedient for a complete accomplishment of this great desideratum, I have rejected the method hitherto followed of an uninterrupted triangulation, for that of several meridional series, which appears to me, if less satisfactory, to be a saving in time of 20 years; and should the resumption of the former system be ever desired hereafter, its execution will be advanced by the previous work exactly in proportion to the ground covered. The next alternative comprises the completion of the Doddagoonta meridian, and continuation of the series on each coast; and if that be considered too extensive, the meridian may stand alone, whilst the survey of the coasts shall be abandoned.

From para. 50 to 54 relates to the memorandum received from Major Rennell, regarding "the best mode of obtaining a complete map of India within a reasonable time." The character of that distinguished geographer for talent, industry, and literature is so well established, that his opinions on the subject to which so much of his attention has been successfully directed claim immediate respect. But there is a distinction between geography and geodesy; and the latter is the object of the present inquiry. Notwithstanding, Major Rennell's celebrity chiefly rests on the ingenious use and sagacious reasoning with which he has turned to account a variety of uncertain authorities, and that his Bengal atlas, although said to be founded on actual survey, depends neither on measured base or triangulation,

* I beg leave to quote here an extract from the Edinburgh Review or Critical Journal:—

Note.—They have sent out parties in all directions for the purpose of ascertaining the bearings and distances of the places which compose or limit their extensive dominions. A late volume of the Asiatic Researches contains an account of the march of an officer at the head of a detachment into one of the most remote and unknown districts of India, for no other purpose but to decide a question interesting only to philosophers, viz. Whether the Ganges rises within or without, that is, on the south or the north side of the great chain of Himalah, the Snowy Mountains, or the Immaus of the ancients? There are but few of the most enlightened cabinets in Europe which can boast of an expedition equally disinterested and meritorious.—Ed. Rev. Vol. XXI. Page 313.

† It may not be amiss here to notice that the figure of the earth is so far from being an object of mere curiosity, that it affects a large portion of the tables used by navigators, especially all those of which the moon's parallax is an element. No power has more reason therefore to be interested in this investigation, than the East India Company.

triangulation, as far as I have been able to ascertain, he is evidently aware that transcendent geodetic methods are now employed in Europe, however he may have overlooked their latter progress in this country.

The mode at present suggested of insulated astronomical observations, and estimation of distance by time, was applicable to the limited influence of the British power half a century ago, and has since been occasionally practised by solitary and adventurous European travellers in the wilds of America. Not only have the grounds of accurate knowledge been extended over Southern India, but accurate surveys in detail have been erected on them. How irreconcilable, then, will be the inconsistencies of the proposed loose method with the results of science already accomplished, and how unworthy of the character, power, interests, and opportunities enjoyed by the honourable Company, to return to such a rude expedient, after having originated and promoted, during more than 20 years, an operation approved by science, and received for their conduct the applause of the scientific of Europe? Were this all, perhaps these arguments, powerful as they deserve to be considered, might fail of carrying conviction to every mind; but in fact the proposed experiment would be entirely nugatory. Incorrect throughout itself, it could form no correct ground for minor surveys; so that it must be either useless or baneful. Its erroneousness would be inconsistent with the scale of four miles to an inch, which always supposes, in a general map, accurate data; and if ever it were engraven in the proposed form, it could have no other fate than that of being thrown aside in vexation for the expense incurred and the misconceptions it produced, to make way for a new and accurate survey.

These observations apply to the proposal for substituting astronomical observations for high geodetic operations and estimation of distance by time for actual measurement. If, on the other hand, the celestial observer be confined to those tracts whose nature forbid the approach of the Great Trigonometrical Survey, much advantage may be derived from his labours. This benefit, however, must depend on a different principle of calculation from that to be inferred from Major Rennell's memorandum. No astronomical result is of value unless it be more accurate than that which it proposes to correct; and the propriety of its adoption or rejection depends therefore on the local surveys supposed to follow or accompany it. An itinerary corrected for the true azimuth will not in general, if conducted with moderate skill and attention, be in error more than two miles in 100, which is near the average distance proposed to separate any two points astronomically determined. The memorandum estimates at $2\frac{1}{2}$ to 3 years the period requisite for the astronomer to merely travel over his ground; but no estimate is made of the time necessary for making observations and calculations. This omission is the more to be regretted, as on the number of observations, as well as on the skill of the observer and excellence of his instruments, depends the value of the results. In a subsequent paragraph it is added, that with five surveyors three or four years would suffice to fill up all the localities; and that period therefore is probably considered at least sufficient, both for travelling and the determination of the 85 primary points, as they are intended to precede the operation in detail.

It would require more attention than possibly I may be entitled to expect, to follow the reasoning necessary to show the fruitlessness of the proposed hurried observations. The distances in latitude of the local survey may be checked at considerable intervals by a good sextant in the hand, and many seasons of the year are favourable to observations of the sun or stars. But I should apprehend that no professed astronomer would be satisfied to hang his character on such a procedure, which is properly restricted to the purposes of navigation. No instrument but such as is too large for the hand, and must be adjusted by the plummet or spirit level, is capable of giving the latitude with sufficient accuracy to render the result worthy of a professional astronomer and assistant, or adequate to the expense of his establishment; and this instrument, whether a zenith sector, or an altitude circle, requires time and patience for its adjustment, previous to any observation. This delay, added to the occasional want of proper stars sufficiently high during all hours of the night, will render evident the necessity of continuing much longer at one station for latitude alone, than could have possibly been anticipated by the memorandum, which avoids any explanation on this subject.* Mr. Biot did not think 1,400 observations for latitude unnecessarily numerous, when ascertaining the length of the seconds pendulum at Unst, a few years ago; which I hope will be sufficient to show the opinion of the scientific, respecting the difficulty of ascertaining that element with the precision suitable to professional observations on shore.†

But

* Colonel Lambton declares, in one of his papers, that in the climate of India he has never been able to observe a star during the day.

† Within the last half century almost all the observatories in Europe, with all their facilities, have corrected their latitudes, and in some instances considerably. That of the Cracow Observatory has been altered $15''$ or a quarter of a geographic mile; that of Gottingen, $19''$; the Berlin Observatory 1 geographic mile, and that of Mannheim has been augmented even $1' 23''$! But without depending on instances in the west, reference may be made to the practice of Colonel Lambton, who invariably devoted several weeks to observations, for the latitudes of his principal stations.

	No. of Days.	No. of Observations.
At Doddagoonta - - -	59 - - -	98
At Puthapolliam - - -	26 - - -	173
At Punuac - - -	28 - - -	236
At Namthabad - - -	23 - - -	120
At Daumergidda - - -	34 - - -	205

Appendix (B).

But if the determination of the latitude requires so much time and care, what shall be said regarding the still more important element of longitude, which involves the errors of tables, the rarity of phenomena, the inaccuracies of the timekeeper, the uncertainty of the method, the delay and mistakes in operose calculations? The rate of the timekeeper requires the most attentive vigilance; so much so, that the French astronomer, on the occasion above-mentioned, thought it necessary in two months to observe 1,200 absolute altitudes of the sun and stars, to regulate his clock. If the eclipses of Jupiter's satellites be used as the most simple expedient for determining the longitude, there are parts of the year in which they are either below the horizon, or so little elevated as to be invisible or indistinct. The tables of these eclipses are not to be depended on where great accuracy is proposed, being more an approximation to direct the observer when to look out, than a final result for comparison with the observation; add to which, that the gradual disappearance and re-appearance of the satellites, the unequal powers of the telescopes used, the various state of the atmosphere, and visual power of the observer, give rise to no inconsiderable differences in the times observed. The eclipses of the moon furnish another method of equal simplicity: but they are of rare occurrence, and so inexact, from the uncertainty of the edge of the shadow, that the use of them for determining the longitude has been generally abandoned. The remaining means, such as lunar distances, eclipses of the sun, and occultations of the stars and planets by the moon, the passages of the inferior planets over the sun's disk, the right ascensions of the moon with its horary angles, and the differences of declination, are all attended with operose calculations, on account of the element of parallax, which affects them all. These methods have different degrees of certainty, but the occurrence of the phenomena on which they depend are too rare to admit of any choice in a very limited time, and hence arises the great uncertainty of conclusions for longitude. Even the arc of the meridian measured in Peru by two French and two Spanish astronomers, is found to have been placed too much to the east, 50' in arc; and the longitude of the Madras Observatory, which has existed 30 years, was not long since discovered to be in excess 1' 8". Nothing less than an average residence of two lunar months at one place, exclusive of the rainy season, can be considered sufficient for a result in longitude worthy of any consideration.

The errors of astronomical tables have been already adverted to as a source of error when unlimited reliance is placed on them; but those deductions of longitude which depend on instantaneous phenomena, such as eclipses, transits and occultations, may be rendered more or less independent of those inaccuracies by corresponding observations at a place whose longitude has been already satisfactorily determined. Many of the phenomena observable in India are invisible under the meridian of Greenwich; and some even of those which may be visible in parts of India influenced by the south-west monsoon, are not observable at the Madras observatory on the coast of Coromandel. A considerable portion of the observations which may be made in various parts of India will therefore be without correspondents; and it was a consideration of this circumstance which in part induced me to suggest in my letter under date the 4th February last, the establishment of a limited observatory at the Surveyor-general's office, for the purpose of supplying the above-mentioned deficiency.

To avoid trespassing any longer on the attention of superior authority, I shall hasten to a conclusion of this most important subject, by remarking that no future survey should deserve to be considered final, unless it shall have been conducted on the most approved principles, with appropriate instruments, and by skilful hands; that the accomplishment of such a work, which is alone worthy of the expense it costs, demands time and encouragement. Since the discovery of high scientific principles, all the advantage derived from the application of them to practical purposes, has depended on the accuracy of minute corrections in the execution, which never can be hurried without loss of effect; nor should the principles themselves be any more abandoned, as on them depends the calculus, which "should ever" (to use the words of the late Professor Playfair) "be so instituted as to preserve to the conclusions all the accuracy possessed by the data themselves." These, from the great perfection of modern art, may be rendered by skilful hands extremely correct; and the great desideratum therefore is reduced to the employment of good surveyors, with suitable instruments. Let these arguments, which challenge contradiction, stand in favour of the continuance of the great trigonometrical survey on an enlarged establishment, commensurate with the extent of country still open to its operations; or if arguments without example be insufficient, let the want be supplied by a reference to the extension of the great Ordnance Survey of Great Britain, after mature experience, to the shores of the sister kingdom.

(True abstract.)

A. S. Waugh, Lieutenant-Colonel,
Surveyor-General of India,
and Superintendent Great Trigonometrical Survey.

(C.)

STATEMENT of EXPENSES incurred on Account of the GREAT TRIGONOMETRICAL SURVEY of India.

Number.	Nature and Description of Survey.	Duration.	Area in Square Miles.	Total Cost.	Cost per Square Mile.	REMARKS.
				Co. Rs. a. p.	Co. Rs. a. p.	
1	Colonel Lambton's triangulation of the southern peninsula of India, between the parallels of 8° and 19° of N. latitude, Great Arc series included	1800 to 1822	146,014.42	8,35,377 7 3	5 - 10	
2	Colonel Lambton's Great Arc series, between the parallels of 19° and 21° 15' of N. latitude, and along the meridian of 77° 41' of E. longitude		4,055.04			
3	Captain Everest's triangulation to the eastward of Nirmal and Karnool, in the Nizam's dominions, between 17° and 19° of N. latitude, and between 79° and 80° 33' of E. longitude	1819 to 1822	13,108.78			
4	Captain Everest's western or Bombay longitudinal series, between 18° and 18° 30' of N. latitude, and between 76° and 77° 30' of E. longitude		2,163.95			
			165,342.19			
5	Colonel Everest's Great Arc series, from Beder to the Himalaya Mountains, between 15° and 31° of N. latitude, and along the meridian of 77° 41' of E. longitude, including revision of Arc 18° 3' to 24° 7' of N. latitude	1822 to 1825 and 1832 to 1842	19,775.28	1,23,618 15 1	- - -	-- Arc Beder to Kalianpur.
			37,222.20	7,74,707 2 4	- - -	-- Arc Beder to Himalaya Mountains.
			56,997.48	8,98,326 1 5	15 12 2	
6	Calcutta longitudinal series, commencing from the base line near Sironj, and terminating at the base line near Calcutta, between 77° 41' and 88° 23' of E. longitude, and between the parallels of 22° 30' and 24° 7' of N. latitude	1826 to 1832	33,442.19	1,30,740 9 11	3 14 6	-- Measurement of Calcutta base included.
7	Bombay longitudinal series, being a revision and continuation of Captain Everest's western longitudinal series, commencing from the Great Arc series, near Beder, and terminating at Bombay, between 72° 52' and 77° 25' of E. longitude, and between 18° and 19° of N. latitude	1831 to 1842	15,198.10	1,37,427 2 9	8 5 3	
8	North Parasnath meridional series	1832 to 1835	- - -	35,224 7 5	- - -	-- This work was rejected, as explained in paragraph 30 of Report.
9	South Parasnath meridional series, commencing from the Calcutta longitudinal series, and extending south to Balasore, between 21° 20' and 23° 30' of N. latitude, and between 85° 53' and 86° 48' of E. longitude	1835 to 1840	4,914.00	54,759 10 3	11 2 4	
10	Budhon meridional series, emanating from the Calcutta longitudinal series, extending north, and connecting with the north longitudinal series, between 24° and 30° of N. latitude, and along the meridian of 78° 33' of E. longitude	1833 to 1843	12,468.48	1,72,509 13 -	13 13 5	
11	Ranghir meridional series, emanating from the Calcutta longitudinal series, and connecting with the north longitudinal series, between 24° and 29° of N. latitude, and along the meridian of 79° 28' of E. longitude	1834 to 1842	16,087.74	1,18,377 14 10	7 5 9	
12	Amua meridional series, emanating from the Calcutta longitudinal series, extending north, and connecting with north longitudinal series, between 24° and 25° 15' of N. latitude, and along the meridian of 80° 32' of E. longitude	1834 to 1839	5,565.36	1,04,958 5 -	18 13 9	
13	Karara meridional series, commencing from the Calcutta longitudinal series and extending north, and joining with the north longitudinal series between 24° and 27° 42' of N. lat., and along the meridian of 81° 18' of E. longitude	1838 to 1845	5,818.99	1,34,908 2 2	23 2 11	

REPORTS OF THE OPERATIONS AND EXPENDITURE

Number.	Nature and Description of Survey.	Duration.	Area in Square Miles.	Total Cost.	Cost per Square Mile.	REMARKS.
14	Gurwani meridional series, commencing from the Calcutta longitudinal series, extending north, and connecting with the north longitudinal series, between 24° and 27° 25' of N. lat., and along the meridian of 82° 20' of E. longitude	1845 to 1847	6,298-00	Co. Rs. a. p. 53,019 15 3	Co. Rs. a. p. 8 6 8	
15	Chendwar meridional series, commencing from the Calcutta longitudinal series, extending north, and connecting with the north longitudinal series, between 24° and 26° 30' of N. lat., and along the meridian of 85° 28' of E. longitude	1844 to 1846	3,565-37	64,504 2 1	18 1 6	
16	Gora meridional series, commencing from the Calcutta longitudinal series, extending north, and connecting with the north longitudinal series, between 24° and 27° 12' of N. lat., and along the meridian of 83° 17' of E. longitude	1843 to 1847	4,416-64	76,948 4 -	17 6 8	
17	Maluncha meridional series, commencing from the Calcutta longitudinal series, extending north, and connecting with the north longitudinal series, between 23° 50' and 26° 5' of N. lat., and between the meridians of 86° 30' and 87° 30' of E. longitude	1844 to 1846	4,765-43	52,878 - 3	11 1 6	
18	Calcutta meridional series, commencing from the Calcutta longitudinal series, from the base line measured near Calcutta, extending north, and connecting with the north longitudinal series, between 22° 30' and 26° 16' of N. lat., and along the meridian of 88° 25' of E. longitude; including survey of the Hoogly River, from Calcutta to the Sand Heads	1844 to 1848	4,135-86	1,10,302 3 -	26 10 9	
19	South Maluncha series, commencing from the Calcutta longitudinal series, and extending south to Midnapore	1845 to 1847	1,624-33			
20	Coast series, commencing from the Calcutta longitudinal series near Calcutta, and extending along the coast, being still in progress	1847 to 1849	803-14			
21	North longitudinal series, commencing from the Great Arc series termination in the Dehra Doon, and extending east, along the southern skirt of the Himalaya Mountains to the Sonakoda base of verification in the Purnea district, between 78° 3' and 88° 30' of E. longitude, and between 30° 28' and 26° 10' of N. lat.; consisting of the following portions, viz.: Between Great Arc and Rhangir series - 1841 to 1844 " Ranghir and Amua series - 1842 to 1843 " Amua and Karara series - 1843 to 1844 " Karara and Chendwar series - 1846 to 1847 " Chendwar and Maluncha series - 1848 to 1849 " Maluncha and Calcutta series - 1847 to 1848		2,427-47	91,533 14 11	37 12 4	
			8,031-28 608-55 716-57 3,422-09 1,213-80 1,803-48	29,473 12 - 26,207 2 7 19,697 - 9 53,927 15 1 23,591 14 6 59,358 15 8	3 10 9 43 1 - 27 7 10 15 12 1 20 9 3 32 14 7	
			15,825-77	2,14,256 12 7	13 8 7	Includes one season in measuring Sonakoda base, by which the rate is enhanced one third.
22	Operations for fixing the Snowy Mountains, carried on simultaneously with the north longitudinal connecting series, between the parallels of 27° 40' and 29° 26' of N. lat., and along 10° of longitude	1841 to 1849	73,920-64			Includes one season employed at Sonakoda, by which the rate is enhanced one half.
23	South Konkan series, commencing from the Bombay longitudinal series, and extending south, along the coast to Goa	1842 to 1844	89,746-41		2 6 2	
24	North Konkan series, commencing from the Bombay longitudinal series, and extending north, along the coast, to 21° 45' of N. lat.	1844 to 1846	11,071-54			
25	Khanpisura meridional series, commencing from the Bombay longitudinal series, and extending north, up to Indore, between 18° 45' and 22° 45' of N. lat., and along the meridian of 75° of E. longitude; being still in progress	1846 to 1848	18,160-00			
			16,622-66			
			45,554-20	1,26,733 15 1	2 12 2	
GRAND TOTAL			477,043-91	31,12,786 13 2	7 2 5	

Surveyor-General's Field Office, Dehra Doon,
20 October 1850.

A. S. Haugh, Lieutenant-Colonel,
Surveyor-General,
and Superintendent Great Trigonometrical Survey of India.

connected with the TRIGONOMETRICAL SURVEY OF INDIA.

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(D.)
TABULAR GEOGRAPHICAL STATEMENT OF SURVEYS IN INDIA.

PROVINCE OR DISTRICT.	TITLE OF SURVEY.	AUTHOR'S NAME.	DATE.	REMARKS BY THE SURVEYOR-GENERAL.
Sirmoor, Gurhwal	Map of the mountain provinces comprehended between the Rivers Sutluj and Ganges, bounded on the north by Chinese Tartary. Continuation of the Gurhwal survey, extending from Subhattoo northward to the Sutluj river. Triangulation of the Sirmoor and Gurhwal survey.	-- Captain J. A. Hodgson and Lieut. J. D. Herbert, surveyors. -- Captain Thomas Oliver, assistant, Gurhwal Survey. -- Captain J. A. Hodgson and Lieut. J. D. Herbert.	1817-18-19-20-21 1822 1819-21	-- This survey of the mountain provinces between the Sutlej and Ganges river, depends on a measured base and triangulation, the point of departure being astronomically determined, and the fundamental level above the sea by barometrical observations. An interesting account of these operations is given in the Asiatic Researches, Vol. 14. -- The basis of the survey is highly creditable to the scientific ability of the officers employed, and having subsequently been connected by the great trigonometrical survey, the results have proved satisfactory. But the interior filling up is scanty and incomplete, and the drawing of the ground inaccurate and inartistic. It is to be regretted that a work so well commenced was so hastily concluded. Considering the time and means employed, no greater completeness could be expected, but it can only be termed a first survey, requiring to be taken up again on rigorous principles. None but first-rate draughtsmen can be expected to succeed in a mountainous country so difficult of delineation.
Kumaon	Map of the province of Kumaon	-- Captain W. S. Webb, surveyor.	1821	-- The remarks on the survey of Sirmoor and Gurhwal are equally applicable to this work. For particulars of the basis of this survey, vide an interesting paper by Captain Webb, in the Asiatic Researches, Vol. 13, p. 297.
Trans-Sutluj	Jalindhur Doab revenue survey (unfinished).	Lieut. T. C. Blagrove	1846-47-48	-- This is a revenue survey of the newly-acquired territory of the Jalindhur Doab. It is yet unfinished: the north-eastern portion, forming the hilly parts of the Doab, is now under survey. It is conducted on the same principles as the revenue survey of the British territory in the north-west provinces, and rigorously connected throughout with the North Himalaya longitudinal series, great trigonometrical survey, now in progress. The details of this survey are complete in every respect. The Kohistan, or hilly portion of the Doab, is on a trigonometrical basis, the triangles of which bear excellent comparison with the secondary triangles of the great trigonometrical survey, and the maps which have as yet been furnished by this surveyor are of a very high order.

(continued)

TABULAR GEOGRAPHICAL STATEMENT OF SURVEYS IN INDIA—continued.

PROVINCE OR DISTRICT.	TITLE OF SURVEY.	AUTHOR'S NAME.	DATE.	REMARKS BY THE SURVEYOR-GENERAL.
Rohilkund	Revenue survey map of the district of—			
	Bijnour	Captain Binnie Brown	1833-34-35-36-37-39-40-41.	- - From an inspection of the Bijnour district map, the north-western parts, particularly in the Purgannah of Mundwar, along the Ganges River, appear to be unfinished or unsurveyed. The general principles of the survey of these districts are the same as above noticed. The first two seasons' work of the southern division of the Moradabad district (now subdivided into and denominated the Budaoon district) differed in one respect, however: in the protrusion of the map and the calculation of the area, Gale's universal theorem was not used. This method of plotting was originally employed in the revenue survey of the Dillce district, by Captain Thos. Oliver, and having been highly approved of by the then Surveyor-general, Major Hodgson, its introduction into all the revenue surveys, subsequently to the year 1823, was immediately ordered by circular.
	Moradabad	Ditto	1834-35-36-37-38-39-40-41.	- - Rough sketches of two seasons' work have been received in this office, but no complete maps or computations have as yet been received from this surveyor. The remarks respecting the old surveys west of the Jumna are equally applicable to this.
	Budaoon	- - Captains J. Bedford and R. Wroughton.	1822-23-28 and 34.	- - The revenue surveys west of Jumna, in the Delhi district, commenced in 1822. From that period to about 1834, when the surveyors' conference was held at Allahabad, by order of Lord W. Bentinck, then Governor-general, the topographical details were well executed, but a system of economy and rapidity was then introduced, which sacrificed the quality of the work for the sake of quantity. The maps thenceforward to be furnished by surveyors were required to delineate accurately only the boundary line of each village and its site, with sketches of roads, rivers, &c. On account of this retrograde resolution a remarkable difference is perceptible in the drawing of the maps here enumerated, the earlier surveys presenting good specimens of topographical surveying, and the latter only a skeleton sketch, exhibiting little else than the boundary line and site of the village, with some roads marked thereon.
	Bareilly	- - Lieutenants G. J. Fraser and J. Abbott.	1833-34-35-36 and 37.	In consequence of the revenue preceding the great trigonometrical survey, a proper connexion unfortunately was not in the first instance established between the two operations as at present, but some of the points of the latter have been identified by means of the angle books and secondary triangulation, and inserted on the lately-published district maps, with a view to the incorporation of the materials into the Indian Atlas.
	Pilibheet	Captain B. Browne	1838-39-40.	
Cis-Sutlej	Shahjulanpoor	- - Captain J. Abbott and Lieut. G. J. Fraser.	1838-39.	
	- - Revenue survey of the protected Sikh states.	Captain H. V. Stephen	1846-47 1847-48 1848-49.	
Blutteeana	Revenue survey of the Bluttee country	Captain W. Brown	1840-42.	
Hurriana	Hurriana district	- - Captains Wm. Brown and J. H. Simmonds.	1837-38.	
West of Jumna	Dillce - ditto	- - Captains T. Oliver, Wm. Brown, and J. H. Simmonds.	1824-25-26-30-31-1-2 and 1840.	
	Panceput ditto	Ditto	1822-23-24-25-26-27-28-32-33.	
	Robtuk - ditto	Captains Oliver and Simmonds	1823-24-26-27-1831-32.	
	Goorgaon ditto	- - Captains T. Oliver, Wm. Brown, and J. H. Simmonds.	1828-29-30-31-32-38 and 40.	
	Muthra - ditto	Captain R. Wroughton	1835.	
	Agra - ditto	- - Captains R. Wroughton and J. Fordyce.	1837-38-39.	

Doab of the Ganges and Jumna Rivers.	Revenue Survey of the Districts of—			
	Delhra Doon	Capt. William Brown	1838-39	- - The preceding remarks apply to these maps in an equal degree as respects the dates of the survey.
	Saharanpoor	- - Capt. William Brown and Lieut. G. J. Fraser.	1827 to 1836	
	Moozuffurnuggar	Ditto - - ditto	1827 to 1836	
	Meerut	Ditto - - ditto	1827 to 1836	
	Boohindshulhr	Ditto - - ditto	1828 to 1840	
British Bundelkund	Allygurh	Capt. R. Wroughton	1837.	- - These surveys are of the same character as the preceding. The geographical information comprised in these three district maps will require the Hon. East India Company's engraver to re-engrave the better half of sheet No. 69 of the Indian Atlas, although the materials therein used, viz. Captain Franklin's survey of Bundelkund in 1820-21, were the best then extant. But the revenue survey having been executed 28 years later, as a matter of course supply better and more accurate geographical data than a map made up of cross routes, however carefully executed. The revenue survey requires the site of every village to be laid down on the plan; not so a military or route survey. A slight comparison of these three revenue survey district maps with Captain Franklin's map of Bundelkund (the upper part) will show what changes have taken place in 26 years. Several villages noted in the one will not be found in the other. The sinuosities of the courses of rivers, and muddes, are decidedly better depicted in the revenue survey maps than in that of Captain Franklin.
	Furruckabad	- - Capt. H. M. Lawrence and R. Wroughton.	1833 to 1839	
	Mynpoorie	Capt. R. Wroughton	1837 to 1839	
	Etawah	Ditto - - ditto	1838-39	
	Cawnpoor	Lieut. S. A. Abbott	1840	
	Fatehpoor	Lieut. H. V. Stephen	1839	
Mirzapoor	Allahabad	- - Capt. H. M. Lawrence and Lieut. Stephen.	1838.	- - These surveys having been conducted on the same principles as the preceding, much of the former remarks apply to these also. They furnish good materials for atlas sheets, Nos. 87, 88, 89, 102, 103, and 104. All the old geographical or route surveys through these districts, viz. the surveys of the late Captain P. W. Grant, Captain Brown, Lieutenant Blake, Ensign Stephen, and Captain Lindsey, will be necessarily superseded by these later materials, which contain information in every respect more in detail.
	Revenue Survey of the Districts of—			
	Jaloun	Lieut. S. A. Abbott	1841-42	
	Humeerpoor	Lieut. H. V. Stephen	1839-40	
	Banda	- - Lieut. S. A. Abbott and H. V. Stephen.	1840-41.	
	Benares	- - Lieuts. S. A. Abbott and H. V. Stephen.	1839-40	
Goruckpoor	Mirzapoor	Capt. Robert Wroughton	1840-41	(continued)
	Jounpoor	Lieut. S. A. Abbott	1839-40	
	Gazeepoor	Lieut. W. Maxwell	1839-40-41	
	Azingurh	- - Capt. J. H. Simmonds and J. Fordyce, and Lieut. J. Brind, and Mr. R. Terranean.	1835-36	
	Goruckpoor	- - Capt. J. Fordyce and H. M. Lawrence, Lieuts. J. N. Rind, James Brind, and S. A. Abbott.	1835-36-37-38.	

TABLEAR GEOGRAPHICAL STATEMENT OF SURVEYS IN INDIA—continued.

PROVINCE OR DISTRICT.	TITLE OF SURVEY.	AUTHOR'S NAME.	DATE.	REMARKS BY THE SURVEYOR-GENERAL.
Saugor and Nurbudda Territory.	Revenue Survey Map of the Districts of, Solagpur and Rangurh, in the Saugor and Nurbudda Territory.	Capt. R. Wroughton	1842	- - The Solagpur and Rangurh district map will furnish geographical data superior to the Hurkaru route surveys between Omurkuntuk and Jubulpoor, made under the direction of the late Captain William Lloyd. Atlas sheets 90 and part of 71 will embrace these two districts.
Behar and Benigal	Revenue Survey of the Districts of— Saran Shahabad Behar Patna Tirhoot Monghyr Bhagulpoor (nearly completed) Pooree Hoogly Midnapoor Hidjlee Balasore Malda Revenue Survey Map of the Districts of, Central Cuttack Pooree or Southern Cuttack	- - Lieut. W. Maxwell and Mr. Alexander Wynt. Lieut. W. S. Sherwill. - - Capt. H. V. Stephen and Lieut. W. S. Sherwill. Lieut. William Maxwell Mr. Alexander Wyatt - - Capt. Egerton, Ellis and Sherwill. - - Capt. W. S. Sherwill and S. R. Tickell. - - Messrs. J. Fitzpatrick and J. J. Pemberton. Mr. W. A. Wilson. - - Capt. R. Mathison, Messrs. W. A. Wilson & J. Fitzpatrick. Lieut. R. Mathison Mr. J. Fitzpatrick Mr. J. J. Pemberton Lieut. R. Smyth, Artillery Lieut. H. L. Thuillier, Artillery	1843 to 1848 1841-42-43-44 1841-42-43 1848-49 1837-38-39 and 1845-46-47 1848-49 1840 to 1847 1844-45-46 1838 to 1843 1838-39-40 1838-39-40-41 1848-49 1839-40-41-42 1839-40-41.	- - These surveys, of the same character as those immediately preceding, cover a space equal in area to somewhat more than (1) one-third of Rennell's Atlas of Bengal and Behar. It is a fortunate circumstance that the sheets of the Indian Atlas, Nos. 102, 103, 104, 111, 112, 113, 114, 115, which will comprehend in part these 12 districts, have not been as yet published; for the Honourable East India Company's engraver would have to expunge the old geographical information derived from other sources, including the surveys of Major Rennell, "the father of Indian geography," which, though sufficiently accurate for those earlier periods of our occupancy of Hindoostan, and considering that the maps drawn therefrom consisted of military route surveys (in some instances 10 to 20 miles asunder) must now give way to the more detailed geographical data these revenue surveys supply. All these surveys are duly connected with the great trigonometrical survey operations lately carried on, and their combination in the atlas will be certain. - - These surveys, executed on the same principles as those now in progress in Bengal, and furnishing geographical information superior to, and much more in detail than the old maps can supply, will supersede the labours of Captains Blunt and Sackville, in 1805 and 1812 respectively, and those of Lieutenant Buxton in 1818 to 1821 in Orissa. Atlas sheets Nos. 115 and 116 will embrace the tract of country delineated on these maps.
Orissa				

Chittagong	Revenue survey of the district of Chittagong.	- - Lieutenant H. Siddons, Engineers, and Mr. E. R. Boileau.	1835-36-37-38-80-40-41.	- - This survey, from its commencement to the end of the year 1838, was conducted without any efficient check or supervision. On Major Bedford's appointment to the office of superintendent of revenue surveys in Bengal, about the latter part of 1838, this, in common with the other district surveys then in progress, was placed under his control, and made to work upon the same uniform system that obtained in the north-western provinces. Hence this survey is of two values; the portion surveyed subsequently to 1838 is superior to that which was executed antecedently to that period. The following extract from Capt. Wroughton's report, dated 31st October 1844, No. 6, to the address of the secretary to the Sudder Board of Revenue, would therefore appear to refer in an especial manner to a scale of two miles to the inch. This record will, under any circumstance, be a very meagre one, because the original map has been loosely put together, and has not been compiled from accurate numerical data, being a mere projection of bearings, and measured or guessed distances. It comprehends 13 Thannah or Purgunnah divisions, but for the most part they do not show the village boundaries, and have been compiled in a rough and very unsatisfactory manner. Atlas sheets Nos. 127 and 128 will comprise this district.
Silhet, Jynteah, Cachar	Revenue survey of the Jynteah district Revenue survey of the Cachar district	Lieutenant H. L. Thuillier Ditto	1837-8-9 1841-42.	- - The remarks respecting the character of the Cuttack and Pooree districts, apply in an equal degree to this survey also. Portions of the late Lieutenant Thomas Fisher's and the late Captain Pemberton's surveys in this part of the British territories will be superseded by the more accurate geographical details these maps furnish. Atlas sheets Nos. 125 and 131 will require to be revised.
Rajpootana	Revenue survey of the districts of Ajmere and Mairwarra.	Lieutenant D. C. Vanrenen	1847-48	- - This survey, in character and principle, is precisely similar to those now in progress. It will furnish good materials for a portion of sheet No. 34 of the Indian Atlas, superior to the surveys of the officers in the Quartermaster-general's department in this part of the country. Captain Hall's map of the Ajmere district will therefore have to be set aside.
Assam, Upper and Lower	Revenue survey of Kamroop, Durrung, Botoan, Doars, and Nongong districts, in Lower Assam; and of Luckimpoor, Muttock, Seebpoor, and Suddiyna, in Upper Assam.	- - Messrs. C. K. Hudson, Mor-ton, J. Thornton, J. Bedford, J. Swiney, and J. Kelso.	1827-28-29-30-31-32 1837-39-40 to 48.	- - Of this tract of country the revenue survey is of two kinds, and differs materially from those already noticed in the north-western and Bengal provinces. The earlier surveys undertaken for revenue purposes, appear to have been executed by magnetic bearings and chain measurements, without any numerical data being forthcoming, or the co-ordinates being worked by traverse. What amount of error may have occurred in the protraction of the circuits of each purgunnah or tangonee it is impossible to estimate. Several of these purgunnah surveys, executed entirely by native hand measurers under the collector of revenue, their accuracy is questionable. The improved mode of the north-western province revenue surveys was not introduced into Assam before the year 1842, and no regular survey establishments of an effective character have been employed in Assam prior to a late period. The peculiarly wild nature of the country in some parts of Assam may have offered obstacles to the main round circuit surveys being performed with that facility that it admits of in the plains. The details these maps furnish are, however, superior to what the earlier maps of route surveys in Assam contain, viz. by Captains Bedford, Wilcox, and Jones, Lieutenants Bedingfield and Burlton, of the artillery, and Mr. P. Matlews; and we must be content for some time longer to use them as the best materials for the construction of a map of Assam. Atlas sheets Nos. 124, 129, 130, 138, will require to be revised for the introduction of the data these geographical records will supply.

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TABULAR GEOGRAPHICAL STATEMENT OF SURVEYS IN INDIA—continued.

PROVINCE OR DISTRICT.	TITLE OF SURVEY.	AUTHOR'S NAME.	DATE.	REMARKS BY THE SURVEYOR-GENERAL.
Munneepoor	- - Map of the territory of Munneepoor, with part of the Kubo Valley, and Burmese Frontier. - - Map of the territory of Munneepoor and surrounding country, including also the Kubo Valley.	Captain R. B. Pemberton Lieutenant R. B. Pemberton	December 1834 1835-30	- - Captain Pemberton's is the most detailed survey that we possess in this part of the country. The operations were carried on while this lamented officer was employed on diplomatic duty, under the orders of Government, in the political department. The former lastly and imperfect survey of Captain Pemberton's that has been introduced into the Atlas sheet No. 131 should be entirely expunged therefrom, and the information contained in the first mentioned of these two maps, dated 1834, should be substituted in its stead. This map was lithographed in the year 1836, under the personal superintendence of its author. A printed report and a lithographed Atlas of his routes from the British territories into Ava, and various other places on the eastern frontier, were published at the same time, and one copy of each forwarded to this office through the political department. Some copies doubtless must have been transmitted to the India House at that period. A year later, that is in 1837, Captain Pemberton deposited the original in the Surveyor-general's office, and but for the above cause it would have been forwarded to England. - - Major James Rennell, Engineers, Surveyor-general. 1764-1780 changes effected by time in the courses of rivers, the villages that were in existence in Rennell's time, but which have since been washed away, have rendered (geographically speaking) a re-survey of these provinces a desideratum. Hence the revenue survey now progressing in this fertile tract of British India will furnish the most detailed geographical information that can be desired. By the time this report reaches the India House, the revenue survey will have embraced fully one-half ($\frac{1}{2}$) of the area of Rennell's Atlas; and probably 10 or 12 years will suffice to complete the revenue survey of the remaining portion of Bengal; that of Orissa and Behar having been already noticed as completed.
Bengal and Behar	- - Survey of the Provinces of Bengal, Behar, and Orissa.	Lieutenant W. S. Webb, surveyor Lieutenant P. W. Grant	1809-12 1818-20	- - There exists no map in the Surveyor-general's office, containing a detailed survey of the Oudh territory. Two or three attempts were made to get up a compilation from the route surveys that were forthcoming; but the latitudes and longitudes of some of the principal places being uncertain, the former from two to three miles, and the latter between six and seven, these attempts were abandoned. The meridional series of Karara and Gurwani of the great trigonometrical survey have furnished some data. On these, as a basis, a map has been constructed on the small scale of eight British miles to an inch, from existing materials. For several years to come, perhaps, it is not likely we shall be in possession of better information; it has therefore been deemed advisable to prepare a fair copy of this document for the use of the Honourable the Court of Directors.
Oudh	- - Survey of routes in Oudh and north-west and south-east boundaries. - - Survey of the northern frontier of Oudh. A survey of the eastern boundary of Oudh. Detached route surveys in Oudh, projected on small sheets of paper.	Lieutenant H. C. Smith, Engineers Lieutenant-colonel Colebrooke, Surveyor-general.	1802-03 1808	

Rohilkund	- - Survey of the boundary of the Rohilla Jager (Rampoor) ceded to Ahmed Ally Khan, by the treaty of 1794.	Lieutenant J. Mouat, Engineers	1796	- - This is merely an outline map, delineating the boundary of the Rampoor Jager, situated in Rohilkund, between the towns of Mooradabad and Pilibheet. It contains no detail except two or three routes in the interior, and the villages on each side of the boundary line; and is therefore of very little value now. The revenue surveys of the surrounding districts of Moradabad, Bareilly, and Pilibheet, will furnish more accurate data for the demarcation of the boundary line (as it exists at present) than this survey, executed 54 years ago.
Bundelkund and Boghelkund.	- - Map of the whole province of Bundelkund and part of Boghelkund, including all the British possessions, and all the native states, with their respective boundaries.	Captain James Franklin, 4th Native Cavalry, Assistant Quartermaster-general Bengal army.	1815-20-21	- - This survey has been already alluded to at page 38; vide remarks opposite the districts of Jaloun, Humeerpoor, and Banda, forming British Bundelkund. Where the revenue surveys end, this map will supply the best detailed geographical information of the contiguous country. Although at the period in which it was executed it was wholly unconnected with the great trigonometrical survey operations, which then had scarcely reached the 20° parallel of latitude, its errors were in some measure checked, and the necessary corrections were duly applied as deduced from astronomical observations. Therefore, next to the great trigonometrical and the revenue surveys, this is certainly one of the best and most detailed geographical documents we possess. Atlas sheets Nos. 69 and 70, published in 1827, embrace the greater portion of this survey.
(Central India), Malwa	- - Maps of the Principality of Bhopal, and of the adjoining Purgunnah of Bair-sena to the north.	Captain J. Johnson, surveyor in Malwa.	1822	- - These maps consist of routes, and cross routes, and are anything but well detailed, and may be classified with the commonest order of compass and perambulator surveys. Yet superior geographical information exists not in this office at present, relative to this part of the country. Atlas sheets Nos. 63 and 71, and part of 70, will embrace this survey. The Great Arc series of the great trigonometrical survey, traversing the centre of the map, will serve to supply corrections to several points that are identical. A fair copy was supplied to the India House in December 1822. The original map of Bhopal is not forthcoming in this office; a copy exists, rather rudely executed.
Benar, Nagpoor	- - Map of a survey of 24,000 square miles of the Nagpoor territory.	Messrs. Norris and Weston, late Lieutenants Nagpoor service.	1831	- - The character and value of this survey, and the general principles on which it was conducted throughout from its first commencement, are recorded in the report drawn up in 1832 by Captain R. Wilcox and Lieutenant A. S. Waugh, at the desire of Captain G. Everest, then Surveyor-general of India. This report was forwarded to the Military Department of that year, for transmission to the India House. Sheet No. 73 of the Indian Atlas embraces a portion equivalent to two-thirds of this survey. Whatever be its merits or demerits, it certainly contains geographical information full of detail, more so than any other document forthcoming in this office, relative to this part of the country. The remaining one-third portion of this map to the south, will serve to furnish materials for nearly one-half of Atlas sheet No. 73.

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TABULAR GEOGRAPHICAL STATEMENT OF SURVEYS IN INDIA—continued.

PROVINCE OR DISTRICT.	TITLE OF SURVEY.	AUTHOR'S NAME.	DATE.	REMARKS BY THE SURVEYOR-GENERAL.
Kandeish	-- 1. Map of the Province of Kandeish according to a survey completed in 1821 and 1822, under the direction and superintendence of Captain John Briggs, political agent. 2. With a trigonometrical skeleton plan of ditto. 3. A map of the northern frontiers of their Highnesses the Nizam and Peishwa's dominions. 4. A map of the province of Kandeish.	-- Surveyed by Messrs. A. White and James Evers, under the direction of Captain John Briggs, political agent. -- Captain Thomas De Haviland, engineer and surveyor, Nizam's subsidiary force. -- Compiled in the Surveyor-general's office, Calcutta, from Captain De Haviland's map and Lieutenant Shortrede's triangulation.	1821-22	-- The original maps of this survey were transmitted to the India House in September 1838, together with an office compilation of the Province of Kandeish, with corrections applied to five corresponding southerly points from Lieutenant Shortrede's triangulation of the Konkan. On the face of the original map of Kandeish the following remarks appear:—"The map was constructed on a series of positions fixed by cross bearings taken with a circumferentor on stand, made by Adams, London, with a telescope and hair-sights, from a base line of two miles in length at Dhoolia measured by a ten-foot wooden rod, on levels taken for the purpose. The intermediate parts of the map, where places could not be seen by the person carrying on the trigonometrical survey, were filled up by measured routes and bearings made with a perambulator, a brass 100-foot chain, and small circumferentors. The object has been to include every village inhabited or uninhabited, but some of the latter were not to be found." From these remarks the character and geographical value of this survey may be estimated; on a comparison being instituted with the distances of places common to the original of this plan as well as to other maps, a discrepancy (in excess by this survey) from 15 to 20 per cent. has been found. Whatever may be its faults, no better detailed survey of this part of India is forthcoming amongst the records of this office. It would supply materials for Atlas sheets Nos. 37 and 38.
Nizam's dominions, Hyderabad.	-- Surveys of the Circars in the territory of his Highness the Nizam of Hyderabad, from its commencement in 1816 to the present time.	-- Captains J. Garling, R. Young, and J. S. Du Vernet, Captains H. Morland and Crisp, and Assistant-surveyors Ficker, Long, Hill, Britain, and Charnarett, and Major J. R. Brown.	1816 to 1848	-- This survey (from the commencement), having for its basis the trigonometrical operations of the late Colonel Lambton, has progressed systematically and steadily, and is as full of detail (having been conducted on the same principles) as the Madras Military Institution survey. The tract now completed, and of which the geographical features have been well ascertained, in superficial area amounts to nearly four-fifths (4/5) of the entire territory subject to the Nizam. This work has been accomplished in 32 years; supposing its progress to be uniform, it will require eight years more to bring it to a conclusion. Sheets Nos. 56, 58, 75, 76, and 94 have been already published, and the materials remaining for the other sheets will be supplied as soon as the necessary documents are received from the surveyors, and from the chief engineer at Bombay, at whose office several valuable geographical records have been detained for the last nine years, being a portion of what were taken round to Bombay by Major J. B. Jervis in October 1840.
Madras Presidency:				
Carnatic	-- Surveys of the Military Institution in the Carnatic, including Pondicherry. Ditto of the Nellore district in the Carnatic.	-- Officers of the Military Institution survey. -- Captain Snell and Lieutenant Macpherson. -- Captains Ward, Hill, and Campbell. Captain Campbell -- By assistant-surveyors Hamilton, Dunnigan, Summers, and Howell. -- Captain C. Mackenzie, superintendent, and Assistant-surveyors John Mather and Michael Dunnigan. Lieut. J. Garling, superintendent Ditto -- Captain C. Mackenzie, superintendent. Lieutenant P. E. Conner, surveyor	1805 to 1814 inclusive. 1833 to 1836, & 1839 to 1840 1832 to 1834, & 1835 to 1838 1828 1809 to 1815 1800 to 1809 1811 to 1813 1813 to 1815 1806 1815 to 1817 1825 to 1829 1816 to 1819	-- The surveys of the Peninsula of the Madras Presidency having had the advantage of being based on, and having proceeded simultaneously with the great trigonometrical survey of India since its institution in 1800, may be said to have been brought to a close some years back. The re-survey of several tracts of country in the districts of Nellore, Salem, Burranah, North and South Arcot, that were but indifferently or partially surveyed, were executed within the last seven or eight years, and the originals transmitted to the India House. These have served to furnish materials to fill the blanks in the sheets of the Indian Atlas formerly published, and the Honorable Company's geographer has been enabled to send out second editions of such Atlas sheets duly corrected. Between Rajahmundry on the Godavery River to the south-west, Ganjam to the north-east (both in the Northern Circars), and the south-west frontier of the Bengal Presidency (lying northerly from Vizagapatam), there yet remains a portion of mountainous country to be surveyed, which, when concluded, will complete the admeasurements of the Madras Presidency in detail.
Trichinopoly	-- Ditto of the Tanjore district			
Salem, Tanjore	-- Survey of the districts ceded to the East India Company in 1799 and 1800.			
Ceded districts	-- Surveys of the districts in the Province of Mysore.			
Mysore	Map of the Portuguese territory of Goa			
Goa	Map of the districts of Soonda and Bilgy.			
Soonda and Bilgy	Map of the Province of Canara			
Canara	-- Map of the Principality of Koorg or Codugu.			
Koorg	Map of the Province of Malabar			
Malabar	-- Survey of the province of Cochin and Travancore.			
Cochin, Travancore	Surveys in the districts of Coimbatore, Dindigul, Madurai, Rannad Survey of the Tinnevely province	Captain Ward and Assistant-surveyors Robinson, Keyes, MacMahon, Turnbull, &c. -- Messrs. Robinson, Hill, Fletcher, and Bird, assistant surveyors.	1813 to 1823 1808 to 1813	
Coimbatore	Map of the Guntoor Circar			
Dindigul	-- Map of the Condapilly and Masulipatam Circars.			
Madurai	Map of the Rajahmundry Circar			
Rannad				
Tinnevely	Map of the Vizagapatam Circar			
Northern Circars:				
Guntoor	Map of the Ganjam Circar			
Condapilly				
Rajahmundry				
Vizagapatam				
Ganjam				

(continued)

TABULAR GEOGRAPHICAL STATEMENT OF SURVEYS IN INDIA—continued.

PROVINCE OR DISTRICT.	TITLE OF SURVEY.	AUTHOR'S NAME.	DATE.	REMARKS BY THE SURVEYOR-GENERAL.
Northern Circars—continued.				
Goomsur, &c.	- - Map of the Goomsur, Soradab, and Coraba Zemindaries.	- - Captain Snell, Lieuts. Hill, Macpherson, and Campbell; and Assistant-surveyors Barnett and Summers.	1831 to 1837	
	Map of surveys in the Goomsur country, and W. and N. W. of Ganjam.	Lieutenant Hill and Mr. Summers	1838 to 1841	
	Continuation of the Ganjam survey in the Klonid and Jeypoor countries (north of Vizagapatam and west of Ganjam).	- - Messrs. Howard, Snell, and King, under the superintendence of Captain Halpin.	1845 to 1848.	
Bombay Presidency:				
Goozerat and Cutch -	- - Map of the province of Goozerat, including Cutch.	Colonel Monier Williams -	1813	- - This map was received from Bombay after the abolition of the Deputy Surveyor-general's office at that Presidency. It is perfectly worthless, being all rotten and in pieces.
	- - Map of Cutch and the adjacent parts of Goozerat and Scind.	Colonel Monier Williams -	1820	- - These are compass and perambulator surveys, with detail not based on triangulation of the Western Presidency. When connected with the Great Trigonometrical Survey of India, they may be turned to good account.
	A new map of Cutch, with the eastern mouth of the Indus, the Pachelum Island, and Khureer.	- - Lieut. Alexander Burnes, Deputy Assistant Quartermaster-general.	1825-26, and 1827	
	Compilation map of Cutch	Bombay Office Compilation	-	
	Degree maps of Cutch and part of Goozerat.	Bombay Office Compilation	1827-28-30-32 and 1833	
	Map of the southern and western portions of the province of Katiawar.	Captains Slight, Benbow, and Boyd; compiled by T. B. Jervis, major of engineers.	1841.	
	- - A delineation of the country (north of Cambay) in seven sheets.	Bombay Surveyor-general's department.	1809-1810	- - These being chiefly office compilations, no field-book, memoir, or journal are forthcoming. Similar to the preceding is the character of these surveys.
Southern Rajpootana and Dikhun.	Map of the northern frontiers of the Nizam's and Paishwa's dominions.	- - Captain Thomas De Haviland, engineers, and surveyor Nizam's Subsidiary Force.	1806	
	Map of the Dikhun, comprising the country between 16° and 19° N. lat., and 74° and 76½° E. long. (No. 361, or B-2-29).	Bombay Office Compilation	1831	
	Degree maps of parts of the Dikhun and of South Konkan, between the parallels of 14° and 19° N. lat. and the meridians of 73° and 77° E. long.	Bombay Office Compilation, compiled from the surveys of the officers of the survey department.	1828-29-30-32.	

Revenue Survey (Ahmedabad, Baroch, and Soorat).	- - Revenue Survey of the tract of country to the north and east of the Gulf of Cambay.	- - Officers of the Bombay Presidency Survey Department.	Prior to 1832, August.	- - The tract of country on the map to the north and east of the Gulf of Cambay is denominated a Revenue Survey in a "Sketch Map," received from Bombay, dated September 1832, "exhibiting the countries surveyed in detail in that Presidency." But the maps of the aforesaid Revenue Survey have never been seen in my Calcutta office; nor do any documents exist to show that they were transmitted to the India House; hence the utter impossibility of pronouncing an opinion upon the value of this work as compared with that of the Bengal Presidency. The records are wanting that would indicate what maps constituted the annual despatches of the Bombay Deputy Surveyor-general. Whence it is not improbable that at the India House copies in duplicate or triplicate of the same geographical records will be found, for the reasons assigned above, as respects that Presidency.
Konkun, Sattara -	Surveys in the Northern Konkun	- Messrs. Aikin, Bartie, Springer, Decosta, and Fraser.	1833	- - These surveys, comprising in detail all geographical information, are based on good triangulation work.
Kolapoor, Dharwar -	Surveys in the Southern Konkun	Captain T. B. Jervis	1824 to 1829	- - The survey of the South Konkan, and that of the large tract of country denominated the "Dikhun," "Dukhin," or "Deccan," in the Bombay Presidency, has been executed in detail, but grounded on imperfect triangulation.
	Map of the Dharwar Collectorate, compiled in deputy surveyor-general's office, Bombay.	- - From the surveys of Captains Grafton Steel, Perry, and Le Messurier, Lieutenants Campbell, Cunningham, and Boyd, and Mr. Aikin.	1825.	
	Map of the territories of his Highness the Rajah of Sattara, and Jageerdars.	- - Compiled by Capt. H. Adams, revenue surveyor.	1824.	
	Compilation map of surveys in the Dikhun (west of Poonah).	Office compilation, Bombay	1831.	
	Map of the territory of his Highness the Rajah of Kolapoor.	Ditto	1827.	
Marwar or Jodhpoor	Map of the territory of Marwar or Jodhpoor.	- - Ditto ditto, Calcutta (scale 8 miles=1 inch.)	1845, April 25	- - These maps have been constructed from a variety of materials that were procurable in the various Government offices. The geographical information embodied therein consists of two or three sorts; part from good, part from indifferent survey, and part from information. The Government calls from time to time having been urgent to furnish maps of countries or districts of native states considerably beyond the limits of the British frontier, these maps have been constructed from geographical records possessing every degree and variety of character; they cannot, therefore, be classified with the compass and perambulator surveys in detail. The documents used in these compilations it would be unnecessary to detail, as all the routes, cross routes received from officers of the Quartermaster-general's department from time to time, and from other quarters, have been employed. The amateur survey of Lieut.-Colonel Fielding, of part of the Gwalior territory, has also been incorporated. The originals of all these will be found at the India House. The whole tract of country to the westward of the meridian of Ulwar is unconnected with the great trigonometrical survey of India. The longitudes of the principal places, such as Jesulmeer, Balmer, Jodhpoor, Ajmere, Jypoor, and Tonk, are consequently uncertain to four or five miles in longitude. These surveys are indicated by a coat of blue interspersed with black dots.
Rajpootana, Meywar, Gwalior.	Compilation map of Rajpootana (unfinished), comprising Jodhpoor, Ajmeer, Jypoor, Ulwar, Bhurtpoor, with part of Meywar or Oodeepoor.	Ditto ditto (scale 8 miles=1 inch)	1849-50.	
	Map of the Gwalior territory, and adjoining native states in Central India.	- - Office compilation, Calcutta (scale 8 miles=1 inch).		

(continued)

TABULAR GEOGRAPHICAL STATEMENT OF SURVEYS IN INDIA—continued.

PROVINCE OR DISTRICT.	TITLE OF SURVEY.	AUTHOR'S NAME.	DATE.	REMARKS BY THE SURVEYOR-GENERAL.
Sindh.	-- Map of Sindh, compiled in the office of the Surveyor-general of India, from various materials, March 1841.	- Office compilation (scale 8 miles = 1 inch).	1841	-- This is a compilation from various routes, cross routes, sketches, &c., received from the Quartermaster-general's department and engineer officers attached to the Afghanistan campaign. The late Lieutenant Alexander Burnes's survey of the Indus has also been incorporated, with many corrections thereto, derived from other sources. But nothing in detail appears on the face of the map; hence this tract of country is left uncoloured on the accompanying sketch. A revenue survey thereof ordered by Government some two or three years back is in progress, combined with triangulation: this is intended to be connected with the great longitudinal series (now under charge of Captain Strange, second assistant great trigonometrical survey), which diverges from the Great Arc series, and will proceed westerly to reach the capital of Sindh. The correct latitudes and longitudes of Hyderabad, Omerkot, Tatta, Kurachee, Shikarpoor, Sukkur, Sehwan, and other remarkable places will then be ascertained with greater certainty than is now the case. A portion only of the above-mentioned revenue survey in Sindh is reported to have been completed; but the records detailing these operations have not been transmitted to the Presidency Office of this department.
Punjab				-- Of the Punjab no surveys in detail are forthcoming, except that of the Jullundur Doonab, and of part of the conterminous pergunna of Kot Kangra. Of this, mention has already been made under the head of "Revenue survey of Jullundur," vide p. 31. The revenue survey is advancing to the North-eastern Division of the Punjab; and measures are in progress to have the four doonabs of Sind Sagur, Jetch, Reechna and Bance (between the Indus and Beas rivers) surveyed simultaneously if possible; otherwise, at as early a period as practicable, as the political state of the country will allow. Up to the present date scarcely any additional geographical information worth recording has been received relative to the Punjab. Sketches on uncertain scales, sketches from memory relative to the boundary line between Goolab Sing's territory, and of part of Punjab proper, have come to hand, but these can only be classified with imperfect materials. Scraps of three new routes to the north-east, and two to the south-west in the Punjab have been transmitted to this department by the Quartermaster-general and the chief engineer to the Board of Administration, but being unaccompanied with any field book, it is difficult to determine their precise value.
India	Route Surveys	Various	various	-- In the Madras Presidency all the route surveys have been rendered valueless by the complete survey of the peninsula. The same remark will apply to those through the Nizam's dominions, and to the greater portion of others traversing the Bombay Presidency from Deesa and Puttun to Dharwar. In the Bengal Presidency all route surveys comprised within the coloured tracts are necessarily superseded by the revenue and other geographical surveys in detail. The tracts uncoloured indicate those parts of India of which topographical surveys are a great desideratum; our present geographical knowledge thereof mainly resting upon itineraries of travellers; European and native surveys of routes by harkarabs, possessing every variety of character.
Bengal	The Revenue Surveys in progress in Bengal at present, are of the following Districts, viz.: Beerbhoom District Raj-Shalce District Mymun Sing District Kishungur District	-- Under the superintendence of Capt. Sherwill, revenue surveyor. Mr. J. Pemberton, revenue surveyor. Mr. A. Wyatt, revenue surveyor. Capt. R. Smyth, revenue surveyor.	1840-50	-- These surveys are being conducted on the same principles as these of Bengal and Behar before noticed at page 34. The map of the district of Beerbhoom will furnish materials for part of atlas sheet No. 113; that of the Rajshye district for parts of Nos. 119 and 120; that of the 24 Pargunnahs for part of No. 121. The rapid progress now likely to be made by these parties to the eastward renders it desirable that the great triangulation should be extended from its present limits, viz., the meridian of Calcutta, so as to comprehend the several remaining districts of Bengal, as far as Dacca, Silhet, and the valley of Assam.
Trans and Cis Sutluj States	Revenue surveys of, are in progress	-- Lieut. T. C. Blagrove and Capt. H. V. Stephen.	1849-50	-- These surveys, already alluded to at pages 31 & 32, are progressing satisfactorily under the superintendence of the officers here named.

Surveyor-general's Office, Dehra Doon, }
20 October 1850.

A. S. Waugh, Lieutenant-Colonel, Engineers,
Surveyor-General of India,
and Superintendent Great Trigonometrical Survey.

RETURN of the Number and what Sheets of the GRAND ATLAS have been Completed and Engraved, with the Cost thereof to the Government, and the Selling Price per Sheet to the Public, and what progress the remaining Portions of the ATLAS are in.

Number
according to
Index.

- 42 contains North Canara, part of Soonda and Bilgy, and north-west part of Mysore.
 43 „ South Canara, Koorg, and south-west part of Mysore.
 44 „ part of Malabar.
 47 „ Himalaya Mountains, Protected Hill States.
 48 „ Protected Hill and Sikh States, Sirmoor, Dehra Doon, Suharanpoor, and Muzuffernuggur.
 49 „ Meerut, Bulundshukur, Rohtuk, Dehli, Goorgaon, &c.
 50 „ Muttra, Aga, Bhurtpoor, Marcherry, parts of Allygurh and of Jeypoor.
 56 „ Oodgheer, Daroor, Kowlas, parts of Nandair, Beder, &c.
 58 „ Moodgue, Raichoor, part of the Ceded Districts, &c.
 59 „ parts of Mysore and the Ceded Districts.
 60 „ parts of Mysore and Koorg.
 61 „ parts of Malabar, Coimbatore, Salem and Mysore.
 62 „ Cochin, parts of Malabar, Travancore, Madura, Tinnevely, &c.
 63 „ parts of Travancore and Tinnevely.
 65 „ Himalaya Mountains, parts of Bussahir and Chinese Tartary.
 66 „ Kumaon; part of Gurhwal, &c.
 67 „ Moradabad, Pillibheet, Bareilly, parts of Shajehanpoor, Budaon, Oude, &c.
 68 „ Furruckabad, Mynpoory.
 69 „ parts of Cawnpoor, Futtchpoor, Jaloun, Bandah, Humeerpoor, Jansi, &c.
 70 „ Saugor, and the States in South Bundelcund.
 72 „ North-west part of the Rajah of Berar's dominions.
 75 „ Hyderabad, Ramgur, Mungull, Daveconda, &c.
 76 „ parts of Guntoor, Nelloor, Ceded Districts, &c.
 77 „ parts of Ceded Districts, Nelloor and North Arcot.
 78 „ Chingleput, parts of North and South Arcot.
 79 „ Trichinopoly, parts of South Arcot, Salem and Tanjore.
 80 „ parts of Madura, Ramnad, Tanjore, &c.
 81 „ parts of Tinnevely and Ramnad.
 89 „ Rewah Territory, parts of Mirzapore, Singrowlee, &c.
 94 „ Rajahmundry, Ellore, parts of Condapilly and Kummamet.
 95 „ parts of Guntoor and Masulipatam.
 107 „ parts of Ganjam, Goondwara, Colahandy, &c.
 108 „ parts of Vizagapatam and Ganjam.
 109 „ part of Vizagapatam.
 124 „ Goalpara, Kamroop, part of Nowgong, &c.
 125 „ Sylhet, Cachar, Cossya Hills, and part of Mymunsing.
 129 „ parts of Luckimpoor, Seebpoor, &c.

130 contains parts of Nowgong, Luckimpoor, Seebpoor, &c.

131 „ Muneepoor.

8 „ Hill Country north-east of Assam.

Index Sheet.

The above 41 sheets, including the index sheet, have been published; five of them have been re-drawn and engraved. The cost for the drawing and engraving amounts to £.5,844.

The selling price per sheet is 4s. coloured.

SHEETS of the INDIAN ATLAS now in course of being Engraved.

Number
according to
Index Map.

- 24 contains Northern Konkun.
 25 „ part of Southern Konkun, including Bombay.
 26 „ part of Southern Konkun.
 27 } „ parts of Southern Konkun, Southern Mahratta Country, Goa Territory, &c.
 41 }
 39 „ Poonah, Ahmednuggur, parts of Bheer, Purrainda, &c.
 40 „ The Satara Territory, Kolapoor, Beejapoor, &c.
 51 „ parts of Scindiah's Dominions, Kotah, &c.
 55 „ Bassim, Maiker, parts of Jalnah, Patree, &c.
 57 „ Mulkhaid, Koolburga, Suggur, and part of Sholapoor.
 74 „ Eilgundel, Mullungoor, Wurungul, &c.
 88 „ Allahabad, Jounpoor, parts of Bandah, Futtchpoor, Mirzapore, Benares, Azimgurh, and of the southern part of the territory of Oude.
 102 „ parts of Goruckpoor, Sarun, Tirhoot and Nepal.
 103 „ Ghazeepore, parts of Shahabad, Behar, Patna, Azimgurh, Sarun, Benares and Tirhoot.

East India House, }
2 April 1851. }

John Walker.

STATEMENTS to illustrate the nature of the different Great Divisions, and Smaller Districts or Departments thereof, into which India within the line of the Indus is divided, for Political, Civil, Revenue, Judicial, and Military purposes, exhibiting the Areas, Population, and nature of Productions thereof; and showing the relation and authority under which they stand in to the East India Company, whether immediately subordinate to and under the direct Rule, or are Tributary, Protected, Subsidiary, or Independent.

THE great divisions of India under the direct rule of the East India Company may be considered to be the Presidency of Bengal, the Lieutenant-governorship of the North Western Provinces, the Presidency of Madras, and the Presidency of Bombay. The territories included in these divisions are for the most part subject to the Regulations enacted previously to the last Charter Act, by the respective governments of Bengal, Madras, and Bombay, and subsequently by the Governor-general in Council. But there are portions exempt from the ordinary Regulations, and administered by officers appointed either by the Governor-general, the Lieutenant-governor of the North Western Provinces, or by the Governors of Madras and Bombay, and accountable immediately to the authority from which they derive their power. Within these limits are also situate the territories not under the direct rule of the East India Company, containing the states and possessions of native princes.

According to existing arrangements, the Regulation Districts of the Presidency of Bengal are distributed, for revenue purposes, primarily into "Divisions." Of these there are seven, each containing several sub-divisions, called Collectorates or Zillahs, as enumerated in the following list:

BENGAL.

REGULATION DISTRICTS.

DIVISIONS.	DISTRICTS.	AREA		POPULATION	
		Of each District.	Of Total Division.	Of each District.	Of Total Division.
		<i>Sq. Miles.</i>			
Jessore - - - -	Jessore - - - - -	3,512	- -	381,744	5,345,472
	Twenty-four Pergunnahs - - -	1,180	- -	288,000	
	Burdwan - - - - -	2,224	- -	1,854,152	
	Hoogly - - - - -	2,089	- -	1,520,840	
	Nuddea - - - - -	2,942	- -	298,736	
	Bancoorah - - - - -	1,476	- -	480,000	
	Baraset - - - - -	1,424	- -	522,000	
Bhaugulpore - - - -	Bhaugulpore - - - - -	5,806	14,853	2,000,000	8,431,000
	Dinajpore - - - - -	3,820	- -	1,200,000	
	Monghyr - - - - -	2,558	- -	800,000	
	Poorneah - - - - -	5,878	- -	1,600,000	
	Tirhoot - - - - -	7,402	- -	2,400,000	
	Maldah - - - - -	1,000	- -	431,000	
			26,464		
Cuttack - - - - -	Cuttack with Pooree:				2,793,883
	Cuttack - - - - -	3,061			
	Pooree - - - - -	1,768			
		4,829	- -	1,000,000	
	Balasore - - - - -	1,876	- -	556,395	
Moorshedabad - - - -	Midnapore and Hidgellee - - -	5,029	- -	666,328	6,815,876
	Koordah - - - - -	930	- -	571,160	
			12,664		
	Moorshedabad - - - - -	1,856	- -	1,045,000	
	Bagoorah - - - - -	2,160	- -	900,000	
	Rungpore - - - - -	4,130	- -	2,559,000	
	Rajshahye - - - - -	2,084	- -	671,000	
Dacca - - - - -	Pubna - - - - -	2,606	- -	600,000	4,055,800
	Beerbhoom - - - - -	4,730	- -	1,040,876	
			17,566		
	Dacca - - - - -	1,960	- -	600,000	
	Furreedpore, Dacca Jelalpore - -	2,052	- -	855,000	
Patna - - - - -	Mymensing - - - - -	4,712	- -	1,487,000	7,000,000
	Sylhet, including Jyntea - - -	8,424	- -	380,000	
	Bakergunge, including Deccan Shabazpore. - - -	3,794	- -	733,800	
			20,942		
Chittagong - - - - -	Shahabad - - - - -	3,721	- -	1,600,000	2,406,950
	Patna - - - - -	1,828	- -	1,200,000	
	Behar - - - - -	5,694	- -	2,500,000	
	Sarun, with Chumparan - - -	2,560	- -	1,700,000	
Chittagong - - - - -	Chittagong - - - - -	2,560	13,893	1,000,000	2,406,950
	Tipperah and } - - -	4,850	-	806,950	
	Bulloah } - - -			600,000	
			7,410		
	Carried forward - - -	- -	113,702		36,848,581

B E N G A L—continued.

The NON-REGULATION PROVINCES within the limits of the Presidency of *Bengal*, subject to the Authority of Functionaries appointed by the Governor-General or Government of Bengal, are as follows,

DIVISIONS.	DISTRICTS.	AREA		POPULATION	
		Of each District.	Of each Division.	Of each District.	Of each Division.
		<i>Sq. Miles.</i>			
	Brought forward - - -	-	113,702	-	36,848,981
	Jaloun and the Pergunnahs ceded by Jhansie.	-	1,873	-	176,297
	The Saugor and Nerbudda Territories, comprising the Districts of,—				
Saugor and Nerbudda	Saugor - - - - -	1,857	-	305,594	
	Jubbulpore - - - - -	6,237	-	442,771	
	Hoshungabad - - - - -	1,916	-	242,641	
	Seonee - - - - -	1,459	-	227,070	
	Dumoh - - - - -	2,428	-	363,584	
	Nursingpore - - - - -	501	-	254,486	
	Baitool - - - - -	990	-	93,441	
	British Mahairwarrah - - -	282	-	37,715	
			15,670		1,967,302
Cis-Sutlej	Umballah - - - - -	293	-	67,134	
	Loodianah, including Wudni -	725	-	120,898	
	Kythul and Ladwa - - - - -	1,538	-	164,805	
	Ferozepore - - - - -	97	-	16,890	
					369,727
	Territory lately belonging to Seik chiefs who have been reduced to the condition of British subjects, in consequence of non-performance of feudatory obligations during Lahore war - - -	1,906	-	-	249,686
			4,559		
North-east Frontier (Assam)	Cossya Hills - - - - -	729	-	10,935	
	Cachar - - - - -	4,000	-	60,000	
			4,729		
	Lower { Camroop - - - - - 2,788	-	-	300,000	
	Nowgong - - - - - 4,160	-	-	70,000	
	Durrung - - - - - 2,000	-	-	80,000	
		8,948	-	-	
	Upper { Joorhat (Seebpoor) - 2,965	-	-	200,000	
	Luckimpoor - - - - - 2,950	-	-	30,000	
	Sudiya, including Mutruck 6,942	-	-	30,000	
		12,857			780,935
Goalpara - - - - -			21,805		
Arracan - - - - -			3,506		400,000
			15,104		321,522
Tenasserim Provinces -			29,168		115,431
South-west Frontier	Sumbulpore - - - - -	4,693	-	800,000	
	Ramgurh or Hazareebah - - -	8,524	-	372,216	
	Lohurdugga { Chota Nagpore and	5,308	-	482,900	
	Palamow - - - - -	3,468	-	-	
	Singhbhoom - - - - -	2,944	-	200,000	
	Maunbhoom { Pachete - - - - - 4,792	-	-	772,340	
	Barabhoom - - - - - 860	-	-	-	
			30,589		2,627,456
The Punjab, inclusive of the Julundur Doab and Kooloo territory -			78,447		4,100,983
	The Sunderbunds:				
	From Saugor Island on the west, to the Ramnabad Channel on east - - - - -	-	6,500	-	unknown.
	TOTAL - - - - -	-	325,652	-	47,958,320

NORTH WESTERN PROVINCES.

THE REGULATION PROVINCES of the *Agra* Division of the *Bengal* Presidency subject to the Jurisdiction of the Lieutenant-Governor of the North Western Provinces, are divided as follows.

DIVISIONS.	DISTRICTS.	AREA		POPULATION	
		Of each District.	Of each Division.	Of each District.	Of each Division.
		<i>Sq. Miles.</i>			
Delhi - - - - -	Paneeput - - - - -	1,279	-	283,420	
	Hurreeanah - - - - -	3,300	-	225,086	
	Delhi - - - - -	602	-	306,550	
	Rohituck - - - - -	1,340	-	294,119	
	Goorgaon - - - - -	1,942	-	460,326	
			8,463		1,569,501
Meerut - - - - -	Saharunpoor - - - - -	2,165	-	547,353	
	Mozuffernuggur - - - - -	1,617	-	537,594	
	Meerut - - - - -	2,332	-	860,736	
	Boolundshuhur - - - - -	1,855	-	699,393	
	Allygurh - - - - -	2,149	-	739,356	
			10,118		3,384,432
Rohilcund - - - - -	Bijnour - - - - -	1,904	-	620,546	
	Moradabad - - - - -	2,967	-	997,362	
	Budaon - - - - -	2,368	-	825,712	
	Bareilly and Pillibheet - -	2,937	-	1,143,657	
	Shajehanpore - - - - -	2,483	-	812,588	
			12,659		4,399,865
Agra - - - - -	Muttra - - - - -	1,607	-	701,688	
	Agra - - - - -	1,860	-	828,220	
	Farruckabad - - - - -	1,909	-	854,799	
	Mynpoorie - - - - -	2,009	-	639,800	
	Etawah - - - - -	1,674	-	481,224	
			9,059		3,505,740
Allahabad - - - - -	Cawnpore - - - - -	2,337	-	993,031	
	Futtehpore - - - - -	1,583	-	511,132	
	Humeerpore and Calpee - -	2,240	-	452,091	
	Banda - - - - -	2,878	-	552,526	
	Allahabad - - - - -	2,801	-	710,263	
			11,839		3,219,043
Benares - - - - -	Goruckpore - - - - -	7,346	-	2,376,533	
	Azimghur - - - - -	2,520	-	1,313,950	
	Jounpore - - - - -	1,552	-	798,503	
	Mirzapore - - - - -	5,235	-	831,388	
	Benares - - - - -	994	-	741,426	
	Ghazepore - - - - -	2,187	-	1,059,287	
			19,834		7,121,087
	Carried down - - - - -	-	71,972	-	23,199,668

NON-REGULATION PROVINCES.

DIVISIONS.	DISTRICTS.	AREA		POPULATION	
		Of each District.	Of each Division.	Of each District.	Of each Division.
		<i>Sq. Miles.</i>			
	Brought down - - - - -	-	71,972	-	23,199,668
	The Butty Territory, including Wuttoo - - - - -	3,017	-	112,974	
	Pergunnah of Kote Kasim - -	70	-	13,767	
	Jaunsar and Bawur - - - - -	579	-	24,684	
	Deyrah Dhoon - - - - -	673	-	32,083	
	Kuman (including Ghurwal) -	6,962	-	166,755	
	Ajmeer - - - - -	2,029	-	224,891	
	British Nimaur - - - - -	269	-	25,727	
			13,590		600,881
	TOTAL - - - - -	-	85,571	-	23,800,549

MADRAS.

MADRAS is divided for Revenue purposes into Twenty-one Divisions or Collectorates, of which the Eighteen following are under the Regulations of the Madras Government.

DIVISIONS.	DISTRICTS.	AREA		POPULATION	
		Of each District.	Of each Division.	Of each District.	Of each Division.
			<i>Sq. Miles.</i>		
	Rajahmundry - - - -	- -	6,050	887,260	
	Masulipatam - - - -	- -	5,000	544,672	
	Guntoor, including Palnaud - - - -	- -	4,960	483,831	
	Nellore - - - -	- -	7,930	421,822	
	Chingleput - - - -	- -	3,020	404,368	
	Madras, included in Chingleput - - - -	- -	- -	462,951	
	Arcot, South Division, including Cuddalore. - - - -	- -	7,610	873,925	
	Arcot, North Division, including Consooddy. - - - -	- -	5,790	623,717	
	Bellary - - - -	- -	13,056	1,200,000	
	Cuddapah - - - -	- -	12,970	1,223,546	
	Salem, including Vomundoor and Mullapandy. - - - -	- -	8,200	946,181	
	Coimbatore - - - -	- -	8,280	821,986	
	Trichinopoly - - - -	- -	3,000	634,400	
	Tanjore, including Najore - - - -	- -	3,900	1,128,730	
	Madura, including Dindigul - - - -	- -	10,700	570,340	
	Tinnivelly - - - -	- -	5,700	1,065,423	
	Malabar - - - -	- -	6,060	1,318,398	
	Canara - - - -	- -	7,720	995,656	
	Carried down - - - -	- -	119,946	- - -	14,612,206

The Three following are Non-REGULATION DISTRICTS, and are under the control of Agent of the Governor.

DIVISIONS.	DISTRICTS.	AREA		POPULATION	
		Of each District.	Of each Division.	Of each District.	Of each Division.
			<i>Sq. Miles.</i>		
	Brought down - - - -	- -	119,946	- - -	14,612,206
	Gangam - - - -	6,400	- -	438,174	
	Vizagapatam - - - -	15,300	- -	1,047,414	
	Kurnool - - - -	3,243	- -	- - -	
			24,943	241,632	1,727,220
	TOTAL - - - -	- - -	144,889	- - -	16,339,426

BOMBAY.

For Revenue Purposes the British Territory of the Bombay Presidency is divided into Thirteen Divisions or Collectorates.

DIVISIONS.	DISTRICTS.	AREA		POPULATION	
		Of each District.	Of each Division.	Of each District.	Of each Division.
			<i>Sq. Miles.</i>		
Surat - - - -	- - - -	- -	1,629	- - -	433,260
Broach - - - -	- - - -	- -	1,319	- - -	262,631
Ahmedabad - - - -	- - - -	- -	4,356	- - -	590,754
Kaira - - - -	- - - -	- -	1,869	- - -	536,513
Khandeish - - - -	- - - -	- -	9,311	- - -	685,619
Tannah - - - -	- - - -	- -	5,477	- - -	764,320
Poonah - - - -	- - - -	- -	5,298	- - -	604,990
Ahmednuggur, including Nassick Sub-collectorate. - - - -	- - - -	- -	9,931	- - -	929,809
Sholapore - - - -	- - - -	- -	4,991	- - -	613,863
Belgaum - - - -	- - - -	- -	5,405	- - -	860,193
Dharwar - - - -	- - - -	- -	3,837	- - -	647,196
Rutnagherry - - - -	- - - -	- -	3,964	- - -	625,782
Bombay Island, including Colaba Island. - - - -	- - - -	- -	18	- - -	566,119
	Carried down - - - -	- - -	57,405	- - -	8,151,049

The following are the Non-REGULATION PROVINCES under the Control of the Bombay Government.

DIVISIONS.	DISTRICTS.	AREA		POPULATION	
		Of each District.	Of each Division.	Of each District.	Of each Division.
			<i>Sq. Miles.</i>		
	Brought down - - - -	- -	57,405	- - -	8,151,049
Colaba - - - -	- - - -	- -	318	- - -	53,453
Sinde - - - -	Shikapore - - - -	6,120	- -	250,000	
	Hydrabad - - - -	30,000	- -	700,000	
	Kurrachee - - - -	16,000	- -	324,744	
Sattara - - - -	- - - -	- -	52,120	- - -	1,274,744
		- -	10,222	- - -	1,005,771
	TOTAL - - - -	- - -	120,065	- - -	10,485,017
EASTERN STRAITS SETTLEMENTS.					
	Penang - - - -	160	- -	39,589	
	Province Wellesley - - - -	140	- -	51,509	
			300	- - -	91,098
	Singapore - - - -	- -	275	- - -	57,421
	Malacca - - - -	- -	1,000	- - -	54,021
	TOTAL - - - -	- - -	1,575	- - -	202,540

DIVISIONS.

Chiefs reinstated or confirmed in their possessions upon the annexation of Bundelcund to the British dominions in 1802, when ceded by the Peshwah for the payment of the subsidiary force.

Governor-general's Agent for
Scindia's dominions, Bun-
deled, Sauger, and Ner-
budda Territories

(continued)

NATIVE STATES—continued.

DIVISIONS.	STATES.	AREA		POPULATION		Nature of Connexion with the British Government.	REMARKS.
		Of each State.	Of each Division.	Of each State.	Of each Division.		
Governor-general's Agent for States of Rajpootana	Bengal—continued.	Sq. Miles.	Sq. Miles.				
	Alwar	3,573	-	280,000	-	-- Under British protection, but not tributary.	
	Bharatpur	1,978	-	600,000	-		
	Bikaner	17,676	-	539,250	-		
	Jessulmer	12,252	-	74,400	-		
	Kishengurh	724	-	70,952	-	Independent.	
	Kerowlee	1,878	-	187,800	-		
	Tonk and its depend- cies.	1,864	-	182,672	-	Tributary and protected.	
	Dholapore	1,626	-	550,000	-		
	Kotah	4,339	-	483,900	-	-- Protected by British Govern- ment, but tributary to Holcar.	
	Shallawur	2,200	-	220,000	-		
Agent in Roohilund	Boondce	2,291	-	229,100	-	Tributary and protected.	
	Joudpore	35,672	-	1,783,600	-		
	Jeypore	15,251	-	1,891,124	-	Tributary and protected.	
	Odeypore	11,614	-	1,161,400	-		
	Pertabgurh	1,457	-	145,700	-	Tributary and protected.	
	Doongerpore	1,000	-	100,000	-		
	Banswara	1,440	-	144,000	-	Protected, but not tributary.	
	Serolice	3,024	-	151,200	-		
	Rampoor	-	119,850	-	8,745,098	Tributary and protected	-- Chiefs confirmed in their possessions at the close of the Nepal war in 1815.
	Hill States:	-	720	-	320,400		
Superintendent of Hill States	Blagul	100	-	40,000	-	Tributary and protected	
	Bughat	30	-	3,420	-		
	Buje	70	-	25,000	-	Tributary and protected	
	Bejah	5	-	3,000	-		
	Bulsah	64	-	5,000	-	Tributary and protected	
	Bussahir	3,000	-	150,000	-		
	Dhamie	25	-	3,000	-	Tributary and protected	
		-	-	-	-		
		-	-	-	-	Tributary and protected	
		-	-	-	-		

Superintendent of Hill States

Delhi Agency

Commissioner and Superin-
tendent, Cis-Sutlej StatesPolitical Agent, South West
Frontier

DIVISIONS.	STATES.	AREA		POPULATION		Nature of Connexion with the British Government.	REMARKS.
		Of each State.	Of each Division.	Of each State.	Of each Division.		
Delhi Agency	Dhoreattic	5	-	200	-	Tributary and protected	
	Gurwah	4,500	-	100,000	-		
	Hindoor or Nalagurh	233	-	20,000	-	Protected, but not tributary	
	Jochul	330	-	15,000	-		
	Kothar	12	-	4,000	-	Tributary and protected	
	Koonhar	12	-	2,500	-		
	Keonthul	272	-	26,000	-	Protected, but not tributary	
	Koonharsin	56	-	12,000	-		
	Kuhloor	150	-	32,250	-	Tributary and protected	
	Mangul	15	-	1,000	-		
Commissioner and Superin- tendent, Cis-Sutlej States	Muhlog	50	-	13,000	-	Under British protection, but not tributary.	
	Mance Meyrah	80	-	16,720	-		
	Sirmoor	1,075	-	62,350	-	Protected	
	Mundi	759	-	113,091	-		
	Sookeit	174	-	25,926	-	Tributary and protected	
	Jhujjur	1,230	11,017	110,700	673,457		
	Baladoorgurh	48	-	14,400	-	Under British protection, but not tributary.	
	Bullabgurh	190	-	57,000	-		
	Patowdee	74	-	6,660	-	Protected	
	Deojana	71	-	6,390	-		
Political Agent, South West Frontier	Loharoo	200	-	18,000	-	Tributary and protected	
	Furrucknuggur	22	-	4,400	-		
	Puttiala	4,448	6,746	662,752	1,005,154	Tributary and protected	
	Jheend	376	-	56,024	-		
	Furcedkote	308	-	45,892	-	Protected	
	Rai Kote	6	-	894	-		
	Boorech (Dealgurh)	80	-	11,920	-	Tributary and protected	
	Mundote	780	-	116,220	-		
	Chichrowlee	63	-	9,387	-	Tributary and protected	
	Nabla	541	-	80,000	-		
Political Agent, South West Frontier	Mulair Kotla	144	-	21,456	-	Tributary and protected	
	Korea	2,225	-	100,000	-		
	Sirjoora	5,441	-	316,252	-	Tributary and protected	
	Jushpoor	617	-	27,765	-		
	Odeypore	2,306	-	133,748	-	Tributary and protected	
	Suctee	268	-	12,060	-		
	Sohnpor	1,467	-	66,015	-	Tributary and protected	
	Burgun	390	-	17,955	-		
	Novagur	1,512	-	68,040	-	Tributary and protected	
	Ryghur	1,421	-	63,945	-		
Political Agent, South West Frontier	Patna	1,158	-	52,110	-	Tributary and protected	
		10,814	-	857,890	-		

(continued)

NATIVE STATES—continued.

DIVISIONS.	STATES.	AREA		POPULATION		Nature of Connexion with the British Government.	REMARKS.
		Of each State.	Of each Division.	Of each State.	Of each Division.		
Political Agent, South West Frontier	BENGAL—continued.	Sq. Miles.	Sq. Miles.				
	Gangpoor	2,493	-	112,185	-		
	Kerall	1,512	-	68,040	-		
	Bonei	1,057	-	47,503	-		
	Phooljee	890	-	40,050	-		
	Surunglur	799	-	35,955	-		
	Bora Samba	622	-	27,990	-		
	Boubra	1,244	-	55,080	-		
	Singboom	-	25,431	-	1,245,655		
	Kursava in British district of Sricakala	-	-	-	-		
Superintendent at Darjeeling	Sikkim	-	2,504	-	92,648		
	Bahulpore	-	20,003	-	600,000		
	Gholab Singh	-	25,123	-	750,000		
	Cooch Behar	1,364	-	136,400	-		
Board of Administration for Affairs of the Punjab	Tuleram Senaputty	2,000	-	30,000	-		
	Cossya and Garrow Hills:						
	Garrows, The	2,268	-	-	-		
	Ram Rye	328	-	-	-		
	Nustung	300	-	-	-		
	Muriow	283	-	-	-		
	Molyong	110	-	65,205	-		
	Mahram	162	-	-	-		
	Osimla	350	-	-	-		
	Kyrim, and other petty chiefs	486	7,711	-	231,605		
Governor-General's Agent, North East Frontier	Munneepore	-	7,584	-	75,840		
	Tipperah (Independent) country covered with jungle.	-	7,632	-	7,632		
	Cuttack Melals:						
	Dhenkanaul	-	-	-	-		
	Autgur	-	-	-	-		
	Berumbah	-	-	-	-		
	Tiggreh	-	-	-	-		
	Banky	-	-	-	-		
	Nyaghar	-	-	-	-		
	Kundiapurra	7,695	-	346,275	-		
Political Agent	Rupoor	-	-	-	-		
	Hindole	-	-	-	-		
	Angool	-	-	-	-		
	Nursingpoor	-	-	-	-		
	Talchur	-	-	-	-		
	Neelgur	-	-	-	-		
	Koonjerry	5,022	-	225,990	-		
	Mohurbunge	2,025	-	91,125	-		
	Boad	1,377	-	61,965	-		
	Autmallic	648	-	29,160	-		
Resident at Cochin Commissioner of Mysore Resident at Travancore Government Agent for district of Vizagapatam.	Duspulla	162	16,029	7,290	761,805		
	TOTAL BENGAL	-	583,404	-	43,054,506		
	MADRAS:						
	Cochin	-	1,988	-	288,176		
	Mysore	-	30,886	-	3,000,000		
	Travancore	-	4,722	-	1,011,824		
	Jeypore and Hill Zemindars	-	13,041	-	301,230		
	TOTAL MADRAS	-	50,637	-	4,691,230		
	These states are comprised within the territory ceded to the British by the Rajah of Nagpore, under the treaty of 1836.						
	Tributary, and protected						
	Tributary, and protected.						
	Protected, but not tributary; dependent, but not bound by subsidiary engagements.						
	British supremacy acknowledged; to be assisted in defending himself from his enemies. Tributary, and protected.						
	Protected.						
	Protection on the part of the British Government; submission on the part of the Native States.						

(continued)

Political Agent	Munneepore	-	7,584	-	75,840		Protected, but not tributary.
	Tipperah (Independent) country covered with jungle.	-	7,632	-	7,632		Independent.
	Cuttack Melals:						
	Dhenkanaul	-	-	-	-		
	Autgur	-	-	-	-		
	Berumbah	-	-	-	-		
	Tiggreh	-	-	-	-		
	Banky	-	-	-	-		
	Nyaghar	-	-	-	-		
	Kundiapurra	7,695	-	346,275	-		
Resident at Cochin Commissioner of Mysore Resident at Travancore Government Agent for district of Vizagapatam.	Rupoor	-	-	-	-		
	Hindole	-	-	-	-		
	Angool	-	-	-	-		
	Nursingpoor	-	-	-	-		
	Talchur	-	-	-	-		
	Neelgur	-	-	-	-		
	Koonjerry	5,022	-	225,990	-		
	Mohurbunge	2,025	-	91,125	-		
	Boad	1,377	-	61,965	-		
	Autmallic	648	-	29,160	-		
Resident at Cochin Commissioner of Mysore Resident at Travancore Government Agent for district of Vizagapatam.	Duspulla	162	16,029	7,290	761,805		
	TOTAL BENGAL	-	583,404	-	43,054,506		
	MADRAS:						
	Cochin	-	1,988	-	288,176		
	Mysore	-	30,886	-	3,000,000		
	Travancore	-	4,722	-	1,011,824		
	Jeypore and Hill Zemindars	-	13,041	-	301,230		
	TOTAL MADRAS	-	50,637	-	4,691,230		
	Subsidiary alliance.						
	Subsidiary alliance; at present under British management.						
	Subsidiary alliance.						
	Protected.						

DIVISIONS.	STATES.	AREA		POPULATION		Nature of Connexion with the British Government.	REMARKS.
		Of each State.	Of each Division.	Of each State.	Of each Division.		
	BOMBAY :	Sq. Mils.	Sq. Miles.				
Political Resident at Baroda	Baroda (Guicowar's dominions) -	-	4,399	-	325,526	Subsidiary alliance.	
Ditto at Kattywar	Kattywar (several petty chiefs) -	-	19,850	-	1,468,900		
Political Agent at Pallunpore	Pallunpore	1,850	-	136,900	-	-- Under British control ; tributary to the Guicowar.	
	Radhumpore	850	-	62,900	-		
	Warye	-	-	-	-		
	Thurraud	-	-	-	-		
	Merwara	-	-	-	-		
	Wow	-	-	-	-		
	Soegaum	-	-	-	-		
	Charent	2,325	-	172,050	-		
	Therwarra	-	-	-	-		
	Deodur	-	-	-	-		
Collector of Kaira	Baubier	-	-	-	-	Tributary and protected.	
	Thurra	-	-	-	-		
Agent to Governor at Surat	Kankrej	-	-	-	-	Protected, but not tributary.	
	Chowrar	225	-	16,650	-		
	Cambay	500	5,250	37,000	388,500	Tributary and protected.	
	Ballasinore	258	-	19,092	-		
Collector of Ahmednuggur	Dhurrumpoor	225	-	16,650	-	Tributary and protected.	
	Bansda	325	-	24,050	-		
Political Agent of Colapore	Sukeen	300	-	22,200	-	Protected, and under British management.	-- Protected ; and at present under British management.
	The Daung Rajahs	950	850	70,300	62,900		
Political Superintendent of Sawunt Warree.	Peint	750	-	55,500	-	Tributary and protected.	
	Hursool	-	-	-	-		
Political Agent in Myhee	Colapore	-	1,700	-	125,800	Tributary and protected.	
	Sawunt Warree	-	3,445	-	500,000		
Political Agent in Myhee	Myhee Caunta	-	800	-	120,000	Under British control ; tributary to the Guicowar.	
	Danuta	-	3,400	-	251,600		
	Edur	-	-	-	-		
	Ahmednuggur	-	-	-	-		
	Petit and other petty states	-	-	-	-		
		-	-	-	-		

Political Agent in Rewa Caunta	Rewa Caunta	4,879	-	-	361,046	-	- Under British control; tributary to Gutcowar and Scindia.	
	Loonawarra	-	-	-	-	-		
	South	-	-	-	-	-		
	Barreca	-	-	-	-	-		
	Odeypore (Chota)	-	-	-	-	-		
	Mewassee States	-	-	-	-	-		
	Rajpootla and other petty states	-	-	-	-	-		
	Wusravce and adjacent country	450	-	5,329	33,300	394,346		
	Cutch	-	-	6,764	-	500,536		
	Political Agent in Cutch	Sattara Jaghiredars:	-	-	-	-		-
Akulkote		-	-	75	-	8,325		
Rhore		-	-	-	-	-		
Juth		-	-	-	-	-		
Ound		-	-	-	-	-		
Phuktun		-	-	-	-	-		
Wyhee		-	-	-	-	-		
Southern Mahratta Jaghiredars		-	-	3,700	-	410,700		
Sanglee		-	-	-	-	-		
Koonwar		-	-	-	-	-		
Political Agent in Southern Mahratta Country	Meerij	-	-	-	-	-	Tributary and protected.	
	Jhunkundee	-	-	-	-	-		
	Moodhole	-	-	-	-	-		
	Nurgood	-	-	-	-	-		
	Hablee	-	-	-	-	-		
	Savanoor	-	-	-	-	-		
	TOTAL BOMBAY	-	-	56,320	-	4,613,225		
	FOREIGN POSSESSIONS:	Pondicherry	107	-	-	70,743		-
		Karikal	63	-	-	49,307		-
		Yanaon	13	-	-	6,881		-
Mahé		2	-	-	2,616	-		
Chandernagore		3	-	188	32,670	171,217		
PORTUGUESE POSSESSIONS:	Goa, and the Island of Damaun and Diu.	800	-	-	unknown.	-		
			-	800				

A B S T R A C T.

BRITISH STATES.	AREA.	POPULATION.	AREA.	POPULATION.
	<i>Sq. Miles.</i>			
Bengal - - - - -	325,652	47,958,320	677,752	98,785,852
North Western Provinces - -	85,571	23,800,549		
Madras - - - - -	144,889	16,339,426		
Bombay - - - - -	120,065	10,485,017		
Eastern Straits Settlements -	1,575	202,540		
NATIVE STATES:				
Bengal - - - - -	583,404	43,054,596	690,361	52,359,051*
Madras - - - - -	50,637	4,691,230		
Bombay - - - - -	56,320	4,613,225		
FOREIGN STATES:			1,368,113	151,144,903
French - - - - -	188	171,217	988	171,217
Portuguese - - - - -	800	not known		
GRAND TOTAL - - -			1,369,101	151,316,120

* It is proper to observe that this statement of the population of the Native States must be regarded only as an approximation to the actual amount. In a large number of cases the particulars have been derived from official sources; where no information of an official character existed, recourse was had to such publications as had reference to the subject; but some of these, it is right to mention, are not of recent date. Thus, the population of the States of Central India is given chiefly on the authority of Sir John Malcolm, and that of the Rajpoot States on that of Colonel Tod. In regard to the few States where no information from any quarter was attainable, the density of the population has been calculated in the same ratio to their areas as was found to prevail in the territories by which they are respectively surrounded.

The judicial divisions correspond generally with the revenue subdivisions, which have already been given.

There do not appear to be any divisions, distinct from those recognised for revenue and judicial purposes, that can properly be called civil.

The military divisions, with the districts comprehended within their respective limits, are as under:—

BENGAL.

PRESIDENCY GARRISON.—Fort William and Allypore.

PRESIDENCY DIVISION, comprising—

Assam.	Backergunge.	Bancoora.
Chittagong.	Cooch Behar.	Burdwan.
Arracan.	Rungpore.	Nuddea.
Jyntia.	Dinagepore.	Jessore.
Sylhet.	Malda.	Singbhoom.
Goalparah.	Bogra.	Barabhoom.
Mymensing.	Beerbhoom.	Midnapore.
Tipperah.	Moorsheadabad.	Hoogly.
Dacca.	Rajeshye.	24 Pergunnahs.
Dacca.	Pubna.	Baraset.
Jelalpoor.	Pachite.	

DINAPORE

DINAPORE DIVISION:

Sarun.
Tirhoot.
Purnea.
Eastern Ghazepoor.
N. E. Shahabad.

Patna.
Monghyr.
Bhagulpoor.
Behar.
Sirgooja.

Palamow.
Rangurh.
Odeepoor.
Chota Nagpoor.
Sumbulpoor.

BENARES DIVISION:

Goruckpoor.
Azimgurh.
Juanpoor.
Western Ghazepoor.

Allahabad.
Benares.
S. E. Shahabad.

Rewa.
Singrowlee.
Eastern Bundelcund.

CAWNPORE DIVISION:

Oude.
Furruckabad.
Mynpoorie.

Etawah.
Cawnpore.
Futtehpore.

Humeerpore.
Banda.
Western Bundelcund.

MEERUT DIVISION:

Gurwhal.
Kumaon.
Dehra Doon.
Suharunpoor.
Moozuffurnuggur.
Bijnoor.

Moradabad.
Meerut.
Boolundshuhur.
Pilleebheet.
Bareilly.
Budaon.

Shahjehanpoor.
Delhi.
Goorgaon.
Allygurh.
Muttra.
Agra.

SIRHIND DIVISION:

Cis-Sutlej States.
Hill States.

Bhuttiana.
Hurreana.

Paneeput.
Kurnal.

GWALIOR DIVISION:

Scindia's Territory.

JULUNDER DOAB DIVISION:

Julunder Doab.

PUNJAUB DIVISION:

Middle districts of the Punjaub, from the Suliman Mountains on the west to Kooloo on the east.

SINDE SAGUR DIVISION:

Upper part of Punjaub, between the Indus and the Jelum River, and bounded by the Salt Range.

PESHAWUR DIVISION:

North-western part of the Punjaub, bounded by the Indus River and the Salt Range.

MOOLTAN DIVISION:

Lower, or southern part of the Punjaub.

MADRAS.

CENTRAL DIVISION:

Guntoor - - - - North and South Arcot.
Nellore - - - - Chingleput and the northern part of Salem.

NORTHERN DIVISION:

Masulipatam, Rajahmundry, Vizagapatam, Ganjam, and the Bengal districts of Cuttack.

SOUTHERN DIVISION:

Southern part of Salem, Coimbatore, Trichinopoly, Tanjore, Madura, Tinnevely, and the Travancore Territory.

MYSORE DIVISION :

The Rajah of Mysore's dominions.

MALABAR AND CANARA DIVISION :

The Malabar and Canara Collectorates.

CEDED DISTRICT DIVISION :

Cuddapah, Bellary and Kurnool.

Hyderabad subsidiary force is stationed in the Nizam's dominions.

Nagpore subsidiary force is stationed in the Nagpore Rajah's territory.

SAUGOR DISTRICT :

Saugor and Nerbudda territory.

Besides the above-named divisions, Madras troops are stationed at Darwar, Kulladgee, and Sholapoor, in the Bombay Presidency, and also at the stations of Moulmein, Penang, Malacca, Singapor, Labuan; and, in conjunction with the Bombay troops, garrison Aden.

BOMBAY.

PRESIDENCY GARRISON comprises all the troops stationed on the Island of Bombay.

SOUTHERN DIVISION :

Southern part of Rut-nagherry. Sholapoor.	Belgaum. Dharwar. Sawunt Warree.	Kolapoor. The Southern Mah-ratta Country.
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POONA DIVISION :

Khandeish. Ahmednuggur.	Tannah. Poonah.	The Sattara Territory.
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NORTHERN DIVISION :

Ahmedabad. Kaira. Surat. Broach.	The Guicowar's territory of Kattywar and Baroda.
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SCIND DIVISION :

Scind, Cutch.

Rajpootana field force occupies the various territories forming Rajpootana.

Besides the above-named districts, Bombay troops occupy the detached fort of Asserghur, and, in conjunction with the Madras troops, garrison Aden.

In addition to grain and pulse, which are grown very generally in all parts of India, the undermentioned staple articles are produced, principally in the districts hereafter stated :—

Coffee.—Chota Nagpore, Malabar, Travancore, and Mysore.

Opium.—Patna, Benares, Malwa.

Tobacco.—Masulipatam, Rajhamundy, Coimbatore, Sandoway.

Sugar.—In the Valley of the Ganges, and in many parts under all the Presidencies.

Cotton.—(New Orleans), Dharwar, Coimbatore, and Candeish. (Native), Dacca, Tinnevely, Surat, Broach, Berar, Omutwarra.

Silk.—Moorshedabad, Burdwan, Assam.

Indigo.—Jessore, and other districts of the Lower Provinces of Bengal.

Tea.—In Assam, and in the Kumaon and Deyra Dhoon Plantations in the Himalays.

(Errors excepted.)

Statistical Office, East India House,
31 March 1851.

Edw. Thornton.

RETURN to an Order of the Honourable The House of Commons, dated 10 February 1848;—for,

A STATEMENT “of the Nature and Locality of all MARITIME SURVEYS undertaken by the East India Company in each Year since 1820; stating those completed or still in progress, and, if discontinued before completion, the Reasons for such discontinuance; with COPIES of CORRESPONDENCE, REPORTS, or other DOCUMENTS, originating in *England* or *India*, connected with such discontinuance; also, Statement of the Measures, if any, hitherto taken to connect the Surveys of the East India Company with each other and with those undertaken by Her Majesty’s Government, and to provide general and accurate CHARTS and SAILING DIRECTIONS for the Indian Ocean, Coasts of India, Red Sea, Persian Gulph, the Indian Archipelago, China and Eastern Seas, with the Rivers, Harbours, Ports and Channels thereof, for facilitating the Navigation of the Vessels carrying on the increasing Commerce of *India*:”

“ABSTRACT for each Year, since 1820, of the EXPENDITURE in the HYDROGRAPHIC DEPARTMENTS of the East India Company in *England*, and at the different Presidencies of *India*, for all the Maritime Surveys carried on under their Authority, stating under several Heads; namely, the Number and Rank of the Officers employed, and their extra Pay and Allowances; the Number of Men, and the Charge for Wages, Provisions and Allowances, if any, distinguishing for Officers and Men the Amount: Also, a RETURN of the Number, Class, Description, and Size of SURVEYING VESSELS under each Presidency, and the Numbers and Ranks of Officers and Men so employed in each of such Vessels, with the Total Annual Charge of each Vessel, in each Year; also the Amount for Office Expenses, for Surveying Instruments, and other Surveying Materials, for Charts and Sailing Directions, so as to exhibit the whole Expense incurred by the East India Company, in each of those Years, under that Department:”

“RETURN of the HYDROGRAPHIC DEPARTMENTS of the East India Company existing at present in *England*, and at the several Presidencies of *India*, stating the Number, Rank, and Pay of the Officers and others Employed, and the Expense of these Establishments at each such place; also, stating under what Superintendence each of the several Departments are placed:”

“List, Description, Dates of Execution and Publication of all CHARTS and SAILING DIRECTIONS; the Scale of the Charts, and their Size:”

“Also, a List of all SAILING DIRECTIONS, of MEMOIRS, or other Materials for CHARTS or Sailing Directions in the East India Company’s Establishments in *England* and in *India*, distinguishing those Published and Unpublished, stating also the Reasons, if any, which prevent the Unpublished Materials from being Published:”

“RETURN of the PRICES at which those Charts and Sailing Directions published by or under the direction of the East India Company are severally Sold, and the Names of the Agents and Places in *England* and *India* where Sold; stating also, the Allowances made to Parties selling the same: also what Supply, if any, is kept in *India*, and what Means, if any, are taken to make the same available to the Public:”

“And, Statements of any Special GRANTS of MONEY made by the East India Company, in each Year since 1820, to Officers in their service for Surveys; and also of all Payments to Individuals to assist them in preparing and publishing Surveys, Charts, and Sailing Directions for the Indian Ocean, Coasts of India, Red Sea, Persian Gulph, Indian Archipelago, China and Eastern Seas, and of the Measures which have been adopted by the East India Company to render the great Triangulation of the Survey of *India* available for establishing Points on the Coast of *India* for connecting and correcting the Maritime Surveys heretofore made, and for facilitating the carrying on of Surveys.”

LIST “of all LIGHTHOUSES, FLOATING LIGHTS, BEACONS, BUOYS, or other LAND or SEA MARKS, established by the East India Company, or by any other parties, in any parts of the Indian Ocean, on the Coasts of India, the Red Sea, Persian Gulph, Indian Archipelago, China, and Eastern Seas, with a Description of the Nature of such Light, the Cost of Erection, and the Means adopted for their Maintenance: Also, a Statement of all Applications for erecting LIGHTHOUSES and BEACONS, and for laying down BUOYS and SEA-MARKS for facilitating the Navigation of those Seas, made to the Governments of *India* and at Home, and whether allowed or not, and the Results thereof:”

“Statement of the Arrangements and Measures made by the East India Company, or in progress, with the view of Surveying and Providing LIGHTS for the Coasts above described, and for facilitating, surveying, improving, and making known to the Shipping the entrance into the Rivers and Harbours, Ports and Channels on the Coasts of *India*:”

“And also, REPORT from the Commodore Superintendent of the Indian Navy of the Measures required to make the Surveys, Charts, and Sailing Directions for the Seas and Coasts within the limits of the East India Company’s Charter generally available for the use of the Indian Navy and the Mercantile Marine: Also, what Measures are required to bring the Surveys, Charts, and Sailing Directions hitherto made by the East India Company in connection with each other, and in connection with and to correspond in uniformity of Scale and other particulars with those made in the Indian Ocean, China and Eastern Seas, by or under the Admiralty of Great Britain: Also, stating, in regard to the same Seas and Coasts, what Establishments of Officers and Men, the Size and Descriptions of Vessels, and what other measures are necessary to re-survey or determine doubtful Positions, to verify existing Charts, to correct known or admitted Errors, to make Surveys of un-surveyed Positions, and to replace obsolete Charts and Sailing Directions.”

East India House,
12 June 1851.

JAMES C. MELVILL.

(Mr. Hume.)

Ordered, by The House of Commons, to be Printed,
6 August 1851.

TRIGONOMETRICAL SURVEY (INDIA).

REPORTS of the Extent and Nature of the
OPERATIONS and EXPENDITURE connected
with the GRAND TRIGONOMETRICAL SURVEY
of *India*, from the Year the first Base was
measured to the latest Date; &c.

(Mr. Hume.)

Ordered, by The House of Commons, to be Printed,
15 April 1851.

[Price 8d.]

L I S T.

LETTER from the Superintendent of Marine to the Deputy Governor of Bengal; 23 August 1850 p. 3

Statements furnishing the Information called for:

- (A.)—Surveys Proposed, Commenced, Completed, or Rejected; also those in progress - p. 7
 Statement of the Measure taken to connect the Surveys of the East India Company with each other, and with those undertaken by Her Majesty's Government - p. 11
 Expenditure of the Hydrographic Department of the East India Company in England, from 1820 to 1850 - p. 11

- (B.)—Rank and Pay of Officers employed in Marine Surveys between 1820-21 to 1848-49 - p. 12

- (C.)—Statement of Charges on account of Surveys executed under the Bengal Presidency; Names of the Officers and Vessels employed; Rates of Pay and Allowances - p. 14
 Geographical Department, in England - p. 20

- (D.)—List of Charts executed under the Orders of the Government of Bengal, also those executed by Officers of the Royal Navy - p. 20

Sailing Directions:—North-west Coast of Cheduba to Foul Island; the Port of Akyab; the Sand-heads, pp. 22-28

List of Charts published at the East India House, and sold by their Booksellers - p. 29

Return of the Prices at which Charts, &c., are sold; Names of Agents, and Places in England and India where sold; Allowance made; what supply is kept in India, &c. - p. 34

Return as to Re-surveys, and Additions and Corrections to former Charts - p. 34

Extract Despatches to India, on the necessity of having the Marine Surveys constructed on the basis of the Trigonometrical Survey - p. 35

Letter from the Accountant-general, Fort St. George, to the Chief Secretary to Government - p. 36

Letter from the Civil Auditor, Fort St. George, to the Accountant-general - p. 37

Report on the Means adopted by the Madras Government since 1820, for facilitating the Navigation of the Coasts of the Madras Presidency - p. 38

List of Lights, Exhibited or Proposed, in the Madras Presidency - p. 64

List of Beacons, Buoys, &c. established under the Madras Presidency - p. 65

List of Charts executed under the Orders of the Madras Government - p. 66

Notices relating to the Navigation of the Coasts, published from time to time by the Madras Government - pp. 67-94

Letter from the Accountant-general, Fort St. George, to the Chief Secretary to Government - p. 95

No. 1. A Statement in detail relative to the Expenditure incurred in the Civil Department, on account of the late Survey of the Manar Gulf; and for Lighthouses, Beacons, Buoys, and Flagstaffs, exhibited on the Eastern and Western Coasts of the Madras Presidency; from 1830-31 to 1846-47 - p. 96

No. 2. Statement showing the Cost of Construction, and the Average Annual Charge of Maintenance of the several Lighthouses, Light Vessels, Beacons, and Buoys under the Bombay Presidency p. 111

No. 3. Statement of the Pay, &c. of the Officer in Charge of the Indian Navy Draftman's Department, and that of his Establishment, from 1822-23 to 1846-47 - p. 112

No. 4. List of Lighthouses, Floating Lights, Beacons, Buoys, or other Land or Sea Marks, under the Presidency of Bombay - p. 113

No. 5. Report from the Draftsman Indian Navy in Charge of Observatory to the Commander-in-Chief of the Indian Navy - p. 114

Appendix to the foregoing:

Description, Dates of Execution, and Publication of the Charts and Sailing Directions, published by Authority of the East India Company, from 1820 to 1849 inclusive - p. 133

SKETCH showing the Surveys executed by the Officers of the Indian Navy, from 1820 to 1847, at the end.

STATEMENT of the NATURE and LOCALITY of the MARITIME SURVEYS undertaken by the EAST INDIA COMPANY, since the Year 1820, and other Papers connected with that Subject.

From Captain *T. E. Rogers*, Superintendent of Marine, to Major-General the Honourable Sir *John Hunter Littler*, G.C.B., Deputy Governor of Bengal, dated 23 August 1850.

Honourable Sir,

I HAVE at length the honour to submit herewith the returns to the orders of the Honourable the House of Commons, forwarded to me with Mr. Under-Secretary W. Seton Karr's letter, No. 344, of the 1st May 1848. I regret very much the great delay that has occurred in the preparation of these statements, but it has been entirely unavoidable. The demands on the secretary and the regular current business of this office, and the preparations of the numerous returns of various kinds required of late years from this department, render it extremely difficult to furnish such statements as those referred to, and especially when the information required spreads over a period of nearly 30 years, and it is necessary therefore to search the records of the department for so many years, and when, moreover, in going back so far, they are found to be very imperfect. As it is, without the aid of the clerk in charge of the "Pluto," the delay would have been still greater. An attempt was made at first to cast the whole information, various as it is, into one tabular statement; but after some progress had been made in this attempt, with the aid of Mr. Weston, the naval storekeeper then unemployed, it was found necessary to abandon it and commence again on a new plan, that of separating the information into several distinct statements for each Order of the House.

Both the Orders of the Honourable House, your Honour will observe, bear date the same day, nor is there any indication upon them of the order in which they were issued, or were required to be replied to; I take them according to their positions as they were forwarded to me; I may observe too that the tenor of both is so similar, that at a first glance the one might almost be taken to be a duplicate of the other. Both relate to surveys. The distinction appears to be, that the first, according to the order in which they have reached me, includes the mention of lights and buoys.

The returns to both Orders are comprised in the statements of which a list is annexed. Those that contain the information called for in the first Order relating to lights and buoys are numbered from 1 to 6, and I believe they will be found to furnish all that is required by the Order, or that can be of any use in elucidation of the subject of inquiry. It is proper to remark, that much of the information contained in these answers to the first Order of the House of Commons is a repetition of that already supplied in the answers to the printed questions of the Admiralty, which were received some time after the Orders of the House reached me, but admitted of readier reply from the form in which the information required was asked for, the distinct and specific character of the questions, and the most limited range of the inquiry. All but the first paragraphs of this first Order belong to the Commodore Superintendent of the Indian Navy to answer.

The statements that supply the answer to the second Order of the Honourable House, relating to maritime surveys, charts, and sailing directions, are lettered 659.

for distinction from (A.) to (D.), and contain, I believe, all that is required in the Order, in so far as the records of this department enable me to furnish the information.

In the first Order of the House no period for which the returns are required is specified, but in the second 1820 is mentioned. I have gone back to that date in the statements, supplying the answers to both returns, except Statement No. 5, which the records in respect to buoys do not enable me to carry further back than the year 1828.

With regard to sailing directions, in the cases of most of the surveys executed under this Presidency within the periods included by the returns, the directions are those noted in the margin, copies of which are forwarded herewith.

Sailing directions for the Sand Heads.
Ditto - ditto - for Akyab Harbour.
Ditto - ditto - from the south-west coast of Cheduba to Foul Island.

In the first paragraph of the second Order, information is required as to what measures are adopted to connect the surveys of the East India Company with each other, or with those of Her Majesty's Government. Nothing of the kind is done at this Presidency, for the hydrographical department was abolished many years ago. This fact furnishes a sufficient answer, as far as this Presidency is concerned, to the third paragraph of the second Order, calling for a return of the hydrographical departments in India.

The information called for in the paragraph of the second Order of the Honourable House, as quoted in the margin, may be given here. All the charts executed under the auspices of the Honourable Company are published by Messrs. Allen & Co., of Leadenhall-street, and a list of them is contained in the printed pamphlet submitted herewith, as sent out by the Honourable Court. The pamphlet also shows their prices. The charts of all surveys executed here are transmitted through Government to the Honourable Court, and when these are published, copies are sent out by that authority to this Presidency, chiefly for the use of this department. In some cases many more are received than are required by our own vessels. The charts of surveys of the Sand Heads are also lithographed in this country, a large number of copies being struck off. In regard to these and all charts of which there are spare copies, these are supplied when required to commanders of merchant vessels, at an advance of 30 per cent. on prime cost. The prices of charts published at home are, as stated above, shown in the printed pamphlet referred to, and 30 per cent. is added to those prices. The charts of the Sand Heads lithographed here, which are sent by this department to the collector of Government customs for sale, are sold at two rupees a copy. I am not aware that the Honourable Court have any agencies in India for the sale of charts, and consequently no allowance is made to any one for selling them. It is not considered fair to come into competition with private vendors of charts, and none are supplied to any but the Government vessels, except when they are not procurable elsewhere.

"5. Return of the prices at which these charts and sailing directions, published by or under the direction of the East India Company, are severally sold, and the names of the agents and places in England and India where sold, stating also the allowances made to parties selling the same. Also what supply, if any, is kept in India, and what means, if any, are taken to make the same available to the public."

authorities to this Presidency, chiefly for the use of this department. In some cases many more are received than are required by our own vessels. The charts of surveys of the Sand Heads are also lithographed in this country, a large number of copies being struck off. In regard to these and all charts of which there are spare copies, these are supplied when required to commanders of merchant vessels, at an advance of 30 per cent. on prime cost. The prices of charts published at home are, as stated above, shown in the printed pamphlet referred to, and 30 per cent. is added to those prices. The charts of the Sand Heads lithographed here, which are sent by this department to the collector of Government customs for sale, are sold at two rupees a copy. I am not aware that the Honourable Court have any agencies in India for the sale of charts, and consequently no allowance is made to any one for selling them. It is not considered fair to come into competition with private vendors of charts, and none are supplied to any but the Government vessels, except when they are not procurable elsewhere.

I am unable to state, as required in the concluding passage of the second Order of the House of Commons, to what extent the great trigonometrical survey of India has been rendered "available for establishing points on the coast of India, for connecting and correcting the maritime surveys heretofore made, and for facilitating the carrying on of surveys;" but, as regards the coasts and islands of the Bay of Bengal from the Sand Heads down to the southern promontory of Ceylon on the western side, and down along the shores of Chittagong, Arracan, and Tenasserim to Junk Ceylon, with the isles and islets facing the last-named coast, and the Andaman archipelago, I believe that the geographical position of every important point has been correctly ascertained and laid down.

Your Honor will easily conceive that the difficulty of furnishing full and correct information relative to surveys and charts has been greatly enhanced by the

the want of a hydrographical department here, that which once existed having been abolished, as stated above, to collect and record all the statistics and other details of hydrographical researches.

It is not in my power to say anything to what is already stated herein that would throw any further light on the subject of lights or surveys. I have to express my regret that I have not yet received the chart of Lieutenant Fell's survey of the Coromandel Coast, finished in 1848, from the Patient Shoal to Bimlipatam and the Santapilly Rocks. He has explained that it has been delayed by his having accidentally mislaid one of his books of angles. I expect to receive it soon, and also the chart of his survey of the Pegue Coast, extending from Cape Negrais eastward to the entrance of the Situng River. Both will be submitted for transmission to the Honourable the Court as soon as they are received.

I am, &c.

Fort William,
Marine Superintendent's Office,
23 August 1850.

(signed) T. E. Rogers,
Superintendent.

(No. 488.)

Copy of this letter, with the statements in original therewith received, forwarded to the Home Department of the Government of India, with reference to the letter from the department No. 384, dated 15 April 1848.

By Order of the Honourable the Deputy-Governor of Bengal.

(signed) W. Seton Karr,
Under Secretary to the Government
of Bengal.

Fort William, 28 August 1848.

LIST of STATEMENTS furnishing the Information called for in two Orders of the Honourable The House of Commons, dated 10 February 1848.

FIRST ORDER, relating to LIGHTS, BUOYS, and MOORINGS.

No. 1. Lighthouses in existence.

No. 2. Floating Lights in existence.

No. 3. Lights proposed but not carried out.

No. 4. Lights abandoned.

No. 5. Channel buoys proposed or recommended by different officers, and of those mentioned by the Bengal Government during the official years from 1820-21 to 1848-49.

No. 6. Statement showing the expense incurred for Channel Buoys by the Bengal Government from the official years 1828-29 to 1848-49, including the construction, repairing and other charges under that head.

SECOND ORDER, relating to MARITIME SURVEYS, CHARTS, AND SAILING DIRECTIONS.

(A.) Surveys proposed, commenced, completed or rejected, also those in progress, 1820-29.

(B.) List of Rank and Pay Officers employed in Marine Surveys between the official years 1820-21 and 1848-49.

(C.) Statement of all Charges incurred on account of Surveys executed under the Bengal Presidency, from the year 1821-22 to the year 1849-50.

(D.) List of Charts in the office of the Superintendent of Marine, of all Surveys that have been executed between the official years from 1820-21 and 1848-49, under the orders of the Bengal Government.

(signed) J. Sutherland, Secretary.

Fort William, Superintendent's Office,
23 August 1850.

(A.)

SURVEYS Proposed, Commenced, Completed, or Rejected; also, those in Progress.

Year.	Names of Surveys.	When Proposed or Ordered.	When Commenced.	Period during which the Work was Carried on.	Names of Vessels Employed.	Names of Officers Employed.	When Completed or Discontinued.	REMARKS.
1820	- - A bank reported by the commander of the ship "Bulwer" (Bay of Bengal.)	1820	1820	1820-21	- - Hon. Co.'s ship "Near-chus."	Lieutenant Maxfield, I.N.	Discontinued 1821.	- - Lieutenant Maxfield forwarded a manuscript chart of the track of the "Near-chus" while engaged in the survey, which however did not lead to the discovery of the bank. A manuscript chart completed.
1820	London Shoal - -	1820	1820	-	- - Hon. Co.'s ship "Near-chus."	Lieutenant Maxfield, I.N.	Completed 1821.	
1820	- - Coast between Kanaka and Balasore Rivers.	1820	1820	1820-21	- - Hon. Co.'s pilot vessels, "Hatrass" and "Asseerghur."	- - Commander Court of the Bombay Marine.	1820	
1820	- - Bale of Cotton Rock, Bay of Bengal.	1820	1820	1820 to 1822	- - Hon. Co.'s pilot vessel "Henry Meriton," and Hon. Co.'s ship "Near-chus."	Mr. Branch Pilot Sinclair Lieutenant Maxfield, I.N.	Discontinued in 1822.	- - Three several attempts were made to discover this rock, but without success.
1820	- - An anchoring bank, about 15° 10' north and 83° 50' east.	1820	1820	1820	- - Hon. Co.'s pilot vessel "Henry Meriton."	Mr. Master Pilot Sinclair	1820	- - The first expedition in search of the Bale of Cotton Rock, also included a search for this bank, but with like want of success.
1821	The Chittagong River	Previous to 1820.	Previous to 1820.	-	- - Hon. Co.'s cruiser "Minto."	Lieutenant Criddle, B.M.	Finished 1821	No chart extant.
1821	The Coromandel Coast	Previous to 1820.	Previous to 1820.	1821, 1822, 1823, 1824, 1840-1845, 1846, 1847	Hon. Co.'s ship "Near-chus." Hon. Co.'s surveying vessel "Krishna."	Lieutenant Maxfield, B.M. Captain Lloyd, I.N. Lieutenant Fell, I.N.	-	- - Different portions of the Coromandel coast have been surveyed at different periods. A survey was commenced in 1821, and finished the next year, of the space between the Armagon Shoal and the mainland, or Blackwood's Harbour, however, there was a re-survey, and the brig "Mary Anne" kept riding in the harbour during the north-east monsoon, with a view of ascertaining if vessels could ride in it at that season of the year with safety. In 1824 a measurement survey of the harbour was also completed. In 1846-47 a survey of the coast was made by Lieutenant Fell, from Santapilly Rocks to Pulicat, as also other portions of the coast to the northward as far as the Armagon Shoal. Next was a survey of Coringa Harbour. The portion of the coast between Armagon Point to the north of Premain River was then surveyed. A partial survey of Mootapilly Shoals was likewise executed; and immediately after the surveys of the Pulicat and Armagon Shoals to Ponde Point, and from Ennore to Armagon Hill. In 1847 the survey of the coast from Masulipatam to Coringa Bay was completed; the surveys of the coast to the southward of Vizagapatam was in progress; and that from the Santapilly Rocks to Pulicat finally completed. Lieutenant Fell is now engaged in the preparation of a complete chart of his whole survey of the coast from Pulicat Shoal to Bimlipatam and the Santapilly Rocks.

(A.)—Surveys Proposed, Commenced, Completed, or Rejected; also, those in Progress—continued.

Year.	Names of Surveys.	When Proposed or Ordered.	When Commenced.	Period during which the Work was Carried on.	Names of Vessels Employed.	Names of Officers Employed.	When Completed or Discontinued.	REMARKS.
1821	-- A bank seen in the Bay of Bengal in the track to Madras, 28° 32' 30" north, 91° 43' east.	1821	1821	1821-1822	-- Hon. Co.'s cruiser "Minto," and Hon. Co.'s pilot vessel "Sophia."	Lieutenant Maxfield, I.N.	Completed in 1822.	Search unsuccessful.
1821	-- La Mamene's Reef in the Bay of Bengal.	1821	1821	1821-1822	-- Hon. Co.'s ship "Near-chus."	-- Captain Ross, I.N. Marine Surveyor-general.	Discontinued in 1822.	The search for the reef was unsuccessful.
1821	-- An island supposed to have been seen between 1° 5' 30" north, and 88° 95' east.	1821	1821	1821-1822	-- Hon. Co.'s ship "Near-chus."	-- Captain D. Ross, I.N. Marine Surveyor-general.	Discontinued in 1822.	Search unsuccessful.
1821	-- A shoal at the head of Bay of Bengal, 20° 31' north, 91° 40' 30" east.	1821	1821	1821-1822	-- Hon. Co.'s surveying vessel "Minto."	Lieutenant Criddle, B.M.	Completed 1822.	-- The survey was undertaken in consequence of a report made by Captain Allport of the ship "Edward Strettle;" but the result proved that the shoal was no other than the one laid down in Lacam's Chart of the Bay of Bengal as the North Patch.
1823	River Naaf in Arracan	1823	1823	1823	- - - - -	Mr. Branch Pilot Chew	Completed in 1823.	-- Mr. Chew, as the result of his survey, reported favourably on the river as a navigable stream.
1823	-- The Coast of Tenasserim and the islands off it.	1823	1823	1823-1824 1825-1826 1827 1831-1839	Hon. Co.'s ship "Research." Hon. Co.'s ship "Investigator." Hon. Co.'s schooner "Freak." Hon. Co.'s pilot vessel "Lady Wm. Bentinck."	- - - - - Captain D. Ross, I.N. - - - - - - Captain R. Lloyd, I.N. -	- - - - - 1839	-- The survey of the Coast of Tenasserim was not executed at one time or systematically, but various portions of it, together with the islands off the coast, were undertaken at different intervals. In 1823 the survey of the Mergui Archipelago off Tenasserim was recommended and commenced. The survey was partially finished in 1827, from latitude 7° north to Tavoy Island. In 1828 the coast from Amherst to Mergui was surveyed, and in 1831 the survey of the coast was completed. Simultaneously a survey more in detail than that executed by Captain Ross was ordered, but the following year the order was suspended. In 1839, however, the islands off the Tenasserim Provinces and the coast itself were surveyed by Captain Lloyd in the "Lady William Bentinck," to the full extent considered necessary.

1825	The Coast of Arracan	1825	1825	1825-1826 1827-1828 1831 1833	Hon. Co.'s ship "Investigator," Hon. Co.'s schooner "Freak." Hon. Co.'s ship "Research." Hon. Co.'s private vessel "Guide," Hon. Co.'s pilot vessel "Flora." Hon. Co.'s pilot vessel "Sophia."	- - - - - Captain D. Ross, I.N. - - - - - - Captain R. Lloyd, I.N. -	- - - - -	-- This survey was undertaken in 1825. In 1827, the coast from Chittagong to south of Cheduba was finished, but in 1828 the survey was suspended, to enable the surveying officers to examine other parts, considered of more urgency and importance. At this time the work had advanced from latitude 17° to Cape Negrais in 15° 40'. In 1831 the survey was resumed, and during the following two years the survey included the subjoined portions of the coast and channels, viz. Kyauk, Phayoo Harbour, Arracan River, Combermere Bay, and Channel Anchorage to the eastward of Ramree and Juggoo, &c. A chart of this survey was supplied and published in 1833. These surveys were conducted by Captains Ross and Lloyd; the former left the Arracan Coast about the middle of the year 1833, leaving Captain Lloyd to finish Combermere Bay and the inland navigation in the approaches to Aeng and the Talach. Latterly, Captain Lloyd had a little vessel, called the "Sophia," and officers were supplied from the pilot service to assist in the survey. In 1834 the survey was suspended.
1825	The Coast of Martaban	1825	1825	1825 1826-1827 1828 1840 1847	- - - - - Hon. Co.'s ship "Research" Hon. Co.'s ship "Investigator." Hon. Co.'s ship "Satellite"	- - - - - Captain D. Ross, I.N. - - - - - - - - - - -	- - - - - 1847	-- The survey of the coast was extended from Martaban to Tavoy, including an examination of the northern and southern channels of the Island of Pelo Gheun leading to Amherst Town, with a view also of finding a harbour of refuge for vessels, and a suitable place for landing cargo. This work was carried on up to 1828, when it was discontinued, but resumed in 1840, when Lieutenant Fell, in the "Krisna," surveyed Amherst northward round Pelaw Gheun and the coast as far as the Sittang River.
1826	Rangoon River	1826	1826	1826	-- Hon. Co.'s ship "Research," Hon. Co.'s ship "Investigator."	Captain D. Ross, I.N. -	- - - - -	A chart was forwarded by the surveyor.

(B.)

LIST of RANK and PAY of OFFICERS employed in Marine Surveys between the Official Years
1820-21 to 1848-49.

NAMES.	RANK.	MONTHLY PAY.	REMARKS.
		<i>Rs. as. p.</i>	
Squire, E. B. - - -	2d Lieutenant B. M. -	70 - -	
Nott, A. H. - - -	" " -	70 - -	
Ross, Daniel - - -	Captain " -	240 - -	
" " - - -	" " -	602 - -	-- As Junior Captain ashore.
" " - - -	" " -	540 - -	-- As Senior Captain afloat.
Minchin, George -	1st Lieutenant -	221 - -	
" " - - -	Captain I. N. -	400 - -	
Williams, A. S. - -	2d Lieutenant I. N. -	70 - -	
Crawford, John - -	Junior Captain I. N. -	180 - -	
Harrison, G. B. - -	2d Lieutenant I. N. -	70 - -	
" " - - -	1st " (acting) I. N. -	110 - -	
Montriau, Charles -	Midshipman I. N. -	30 - -	
" " - - -	Lieutenant I. N. -	120 - -	-- Sicca or Company's Rs. 125. 6. 5.
" " - - -	" " -	150 - -	
Williams, A. S. - -	Lieutenant I. N. (2d acting 1st.) -	110 - -	
Laughton, G. - - -	1st Lieutenant I. N. -	250 - -	
Boscawen, George -	2d Lieutenant I. N. -	200 - -	
" " - - -	Lieutenant I. N. -	300 - -	
" " - - -	" " -	120 - -	
Lloyd, R. - - -	1st Lieutenant I. N. -	110 - -	
" " - - -	" " -	150 - -	
" " - - -	Captain I. N. -	300 - -	-- Sicca or Company's Rs. 313. 8.
Chalke, J. H. - - -	" " -	- - -	
Gulson, Joseph - -	" " -	- - -	
Shum, W. J. - - -	Midshipman I. N. -	50 - -	
" " - - -	" " -	100 - -	-- As 1st Officer of "Eagle" tender.
Rennie, J. - - -	" " -	50 - -	
" " - - -	" Acting Lieut. -	145 - -	
Prentice, T. - - -	Lieutenant I. N. -	145 - -	-- Reduced in 1838 to 120 rupees.
Fell, William - - -	Midshipman I. N. -	50 - -	
" (acting) - - -	Lieutenant I. N. -	145 - -	
" " - - -	2d Lieutenant I. N. -	90 - -	
" " - - -	1st Lieutenant I. N. -	120 - -	
" " - - -	Commanding Lieut. I. N. -	550 - -	} Includes allowances.
" " - - -	" " -	650 - -	
Young, E. G. C. - -	Senior Lieutenant I. N. -	150 - -	
Young, J. W. - - -	Lieutenant I. N. -	145 - -	
Jones, N. J. - - -	2d Officer I. N. -	90 - -	
Cantor, T. E. - - -	Surgeon, uncovenanted -	250 - -	
Beaumont, C. A. - -	Mate - - -	90 - -	
Pollard, John - - -	Midshipman I. N. -	60 - -	
Cearns, Charles - -	" " -	60 - -	
Williams, R. - - -	Clerk, uncovenanted -	50 - -	
Johnston, Edward -	Midshipman - - -	50 - -	
Inman - - -	" " -	50 - -	
Rennie, J. - - -	2d Officer I. N. -	90 - -	
" " - - -	Lieut. I. N. 2d Officer -	120 - -	
Keymer - - -	Mate - - -	90 - -	
Powell - - -	Midshipman - - -	50 - -	
Eckley - - -	" " -	50 - -	
" " - - -	" " -	30 - -	
Buxter - - -	" " -	50 - -	
Thomson, George - -	Surgeon - - -	250 - -	
Perry, W. C. - - -	Midshipman - - -	60 - -	
" " - - -	Mate - - -	90 - -	
Owen, J. - - -	Midshipman - - -	60 - -	
Weston, H. B. - - -	1st Officer, uncov. -	120 - -	
" " - - -	In command - - -	300 - -	
Parker, A. - - -	Mate - - -	90 - -	

NAMES.	RANK.	MONTHLY PAY.	REMARKS.
		<i>Rs. as. p.</i>	
Cearns, W. - - -	2d Mate - - -	90 - -	
Bull, J. G. - - -	Midshipman - - -	50 - -	
Auld, S. J. - - -	Mate - - -	90 - -	
Owen, J. - - -	Midshipman - - -	50 - -	
Vigey - - -	" " -	50 - -	
Robertson, A. - - -	Surgeon, uncovenanted -	250 - -	
Smith, T. W. - - -	2d Officer - - -	90 - -	
Warden, C. W. - - -	Mate - - -	90 - -	
Young, Charles - - -	Midshipman - - -	50 - -	
Kellens - - -	Mate - - -	90 - -	
Griffiths - - -	Midshipman - - -	40 - -	
Rivett - - -	Officer - - -	100 - -	-- "Eagle."
Crawley, L. - - -	Midshipman - - -	50 - -	
Coverly, Samuel - -	1st Officer, uncov. -	120 - -	
Swan - - -	2d " - - -	90 - -	
Barlow, F. - - -	Mate, Pilot service -	- - -	
Haggan - - -	Midshipman, Pilot service.	- - -	
Bull - - -	Midshipman, uncov. -	50 - -	
Maxton - - -	Surgeon " - - -	250 - -	
Robson - - -	Commanding, Pilot service.	- - -	
Scallan, T. - - -	Mate, Pilot service -	130 - -	
Power, T. E. - - -	1st Officer - - -	120 - -	
Bedford, A. - - -	2d " - - -	120 - -	
Clark, W. - - -	2d " - - -	120 - -	
Ross, R. S. - - -	2d " uncovenanted -	120 - -	
Parker, C. - - -	2d " - - -	90 - -	
Gatfield, H. - - -	3d " - - -	90 - -	
Shield - - -	3d " - - -	90 - -	
Williams, R. - - -	Clerk - - -	50 - -	
Knight - - -	2d Officer - - -	90 - -	
" " - - -	1st " - - -	120 - -	
Dilber - - -	1st " - - -	120 - -	
Harrison - - -	2d " - - -	90 - -	
Keymer - - -	Mate - - -	90 - -	
Porter - - -	Midshipman - - -	60 - -	
" " - - -	" " -	50 - -	
Gomey - - -	" " -	30 - -	
Warson, E. H. - - -	Surgeon, uncovenanted -	250 - -	
Llewelyn, W. T. - -	1st Officer - - -	150 - -	
McDonald, J. - - -	2d " - - -	100 - -	
Brooming - - -	3d " - - -	70 - -	
Ravenscroft - - -	Clerk - - -	50 - -	
Maudell, J. - - -	Surgeon, uncovenanted -	250 - -	
Adams, G. F. - - -	1st Officer " - - -	150 - -	
Eales, C. - - -	2d " " - - -	100 - -	
" " - - -	2d " " - - -	115 - -	
Stables, S. W. - - -	3d " " - - -	70 - -	
Hodge, T. - - -	1st " " - - -	135 - -	
Campbell, N. - - -	Surgeon, uncovenanted -	250 - -	
Fell, R. B. - - -	3d Officer " - - -	70 - -	
" " - - -	2d " " - - -	100 - -	
Shephard, J. - - -	1st " " - - -	135 - -	
Spiers, R. - - -	Surgeon " - - -	250 - -	
Mayers - - -	3d Officer " - - -	70 - -	
Fryer, A. - - -	Commanding " - - -	300 - -	
Mansfield, W. - - -	1st Officer " - - -	100 - -	

Fort William,
Marine Superintendent's Office, }
23 August 1850.

James Sutherland, Secretary.

(C.)

STATEMENT of all CHARGES incurred on account of SURVEYS executed under the Bengal Presidency, from the Year 1821-22 to the Year 1849-50, with the Names of the Officers and Vessels employed in them, and the Rates of Pay and Allowances of such Officers.

Names of Vessels.	Class or Tonnage.	Names of Officers.	POSITION.	RANK.	Allowance.	Total Pay of Officers and Crew.	Expense of Provisions, Stores, and Contingencies.	Total Annual Expense.	TOTAL.	REMARKS.
Year 1821 and 1822:										
Nearchus -	-	Court	Surveyor	Captain	Rs. 5,720	-	-	5,720	-	To May 1821. From May 1821 to March 1822.
Minto -	-	Maxfield	1st Assistant Surveyor	"	6,304	5 7	-	6,304	5 7	
Sophia -	-	Criddle	"	Lieutenant	3,000	-	-	3,000	-	
Henry Meriton -	-	Barnard	Draftsman	"	1,519	2 1	-	1,519	2 1	
	-	Maxfield	Commander	"	-	16,481 14 3	5,455 1 9	21,937	6 8	
	-	Criddle	"	Captain	-	11,081 14	5,027 8 8	16,109	6 8	
	-	Maxfield	"	Lieutenant	-	14,398 2 4	7,403 11 5	21,801	13 9	
	-	Court	"	Captain	-	20,252 11 2	22,381 6 9	42,634	1 11	
	-		"	"	-	-	-	1,19,055	14 -	
Year 1822 and 1823:										
Nearchus -	-	Criddle	2d Assistant Surveyor	Lieutenant	2,708	5 4	-	2,708	5 4	House Rent. Pay to a seaman.
Henry Meriton -	-	Barnard	Draftsman	"	2,340	12 -	-	2,340	12 -	
	-	Maxfield	1st Assistant Surveyor	Captain	3,826	10 8	-	3,826	10 8	
	-	Ross	Surveyor	"	1,080	-	-	1,080	-	
	-	Maxfield	1st Assistant Surveyor	"	669	3 -	-	669	3 -	
	-	"	Commander	"	-	9 5 4	-	9	5 4	
	-	"	"	"	-	10,857	-	10,857	-	
	-		"	"	-	-	-	22,001	4 4	
Year 1823 and 1824:										
Investigator	-	Ross	Surveyor	Captain	1,065	-	-	1,065	-	Table money paid to Mr. Mullen. For new vessel.
Research -	-	Crawford	1st Assistant Surveyor	"	4,725	-	-	4,725	-	
	-	Barnard	Draftsman	"	331	13 -	-	331	13 -	
	-		"	Midshipman	-	-	264 -	264	-	
	-		"	"	-	-	34 -	34	-	
	-		"	"	-	11,416 -	16,002 8 3	27,418	8 3	
	-		"	"	-	5,605 8 9	19,935 14 1	25,541	6 10	
	-		"	"	-	-	-	59,379	12 1	
Year 1824 and 1825:										
Investigator	-	Ross	Surveyor	Captain, B.M.	9,600	-	-	9,600	-	Difference of allowance.
Research -	-	Crawford	1st Assistant Surveyor	"	4,200	-	-	4,200	-	
	-	Lloyd	"	"	1,179	-	-	1,179	-	
	-		"	"	-	37,611 12 3	16,488 5 1	54,100	1 4	
	-		"	"	-	10,413 12 8	5,753 1 2	16,166	13 10	
	-		"	"	-	-	-	85,245	15 10	

Year 1825 and 1826:										
Investigator	-	Ross	Surveyor	Captain	9,600	-	-	9,600	-	Table Allowance in adv to Officers. For box chronometer. " Signal Flags.
Research -	-	Criddle	1st Assistant Surveyor	"	1,500	-	-	1,500	-	
	-	Crawford	"	Captain	2,900	-	-	2,900	-	
	-		"	"	1,240	-	-	1,240	-	
	-		"	"	-	1,742 12 1	2,716 4 10	2,716	4 10	
	-		"	"	-	-	-	19,669	- 11	
Year 1826 and 1827:										
Trusty	-	Ross	Surveyor	Captain	8,800	-	-	8,800	-	Table Allowance in adv to Officers. For box chronometer. " Signal Flags.
	-	Crawford	1st Assistant Surveyor	"	4,258	5 4	-	4,258	5 4	
	-		"	"	1,280	-	-	1,280	-	
	-		"	"	-	-	-	1,000	-	
	-		"	"	-	-	-	900	-	
	-		"	"	-	-	-	11	-	
	-		"	"	-	-	-	940	12 -	
	-		"	"	-	-	-	10,400	-	
	-		"	"	-	-	-	2,791 10 8	-	
	-		"	"	-	-	-	5,893 8 9	-	
	-		"	"	-	-	-	600	-	
	-		"	"	-	-	-	394	-	
	-		"	"	-	-	-	850	-	
	-		"	"	-	-	-	372 10 11	-	
	-		"	"	-	-	-	2,776	2 4	
	-		"	"	-	-	-	12,067	-	
	-		"	"	-	-	-	1,432	2 -	
	-		"	"	-	-	-	3,150	-	
	-		"	"	-	-	-	516 2 -	-	
	-		"	"	-	-	-	274 12 4	-	
	-		"	"	-	-	-	517 -	-	
	-		"	"	-	-	-	305 4 9	-	
	-		"	"	-	-	-	44 -	-	
	-		"	"	-	-	-	136	-	
	-		"	"	-	-	-	10,650	-	
	-		"	"	-	-	-	1,380	-	
	-		"	"	-	-	-	3,146	9 3	
	-		"	"	-	-	-	2	7 -	
	-		"	"	-	-	-	7,336	8 -	
	-		"	"	-	-	-	19,650	-	
	-		"	"	-	-	-	1,380	-	
	-		"	"	-	-	-	3,146	9 3	
	-		"	"	-	-	-	2	7 -	
	-		"	"	-	-	-	7,336	8 -	
	-		"	"	-	-	-	22,515	8 3	
Year 1827 and 1828:										
Frak	-	Ross	Surveyor	Captain	10,400	-	-	10,400	-	Survey Western Channel. Survey Thornhill Channel. Examining Channel Creek.
Trusty	-	Lloyd	2d Assistant Surveyor	"	2,791	10 8	-	2,791	10 8	
	-	Montrou	"	"	5,893	8 9	-	5,893	8 9	
	-		"	"	600	-	-	600	-	
	-		"	"	394	-	-	394	-	
	-		"	"	-	-	-	850	-	
	-		"	"	-	-	-	372 10 11	-	
	-		"	"	-	-	-	2,776	2 4	
	-		"	"	-	-	-	12,067	-	
	-		"	"	-	-	-	1,432	2 -	
	-		"	"	-	-	-	3,150	-	
	-		"	"	-	-	-	516 2 -	-	
	-		"	"	-	-	-	274 12 4	-	
	-		"	"	-	-	-	517 -	-	
	-		"	"	-	-	-	305 4 9	-	
	-		"	"	-	-	-	44 -	-	
	-		"	"	-	-	-	136	-	
	-		"	"	-	-	-	10,650	-	
	-		"	"	-	-	-	1,380	-	
	-		"	"	-	-	-	3,146	9 3	
	-		"	"	-	-	-	2	7 -	
	-		"	"	-	-	-	7,336	8 -	
	-		"	"	-	-	-	19,650	-	
	-		"	"	-	-	-	1,380	-	
	-		"	"	-	-	-	3,146	9 3	
	-		"	"	-	-	-	2	7 -	
	-		"	"	-	-	-	7,336	8 -	
	-		"	"	-	-	-	22,515	8 3	
Year 1828 and 1829:										
Investigator	-	Ross	Surveyor	Captain	10,400	-	-	10,400	-	Survey Western Channel. Survey Thornhill Channel. Examining Channel Creek.
Research -	-	Crawford	1st Assistant Surveyor	"	4,258	5 4	-	4,258	5 4	
	-	Lloyd	"	"	1,280	-	-	1,280	-	
	-	Montrou	"	"	-	-	-	1,000	-	
	-		"	"	-	-	-	900	-	
	-		"	"	-	-	-	11	-	
	-		"	"	-	-	-	940	12 -	
	-		"	"	-	-	-	10,400	-	
	-		"	"	-	-	-	2,791 10 8	-	
	-		"	"	-	-	-	5,893 8 9	-	
	-		"	"	-	-	-	600	-	
	-		"	"	-	-	-	394	-	
	-		"	"	-	-	-	850	-	
	-		"	"	-	-	-	372 10 11	-	
	-		"	"	-	-	-	2,776	2 4	
	-		"	"	-	-	-	12,067	-	
	-		"	"	-	-	-	1,432	2 -	
	-		"	"	-	-	-	3,150	-	
	-		"	"	-	-	-	516 2 -	-	
	-		"	"	-	-	-	274 12 4	-	
	-		"	"	-	-	-	517 -	-	
	-		"	"	-	-	-	305 4 9	-	
	-		"	"	-	-	-	44 -	-	
	-		"	"	-	-	-	136	-	
	-		"	"	-	-	-	10,650	-	
	-		"	"	-	-	-	1,380	-	
	-		"	"	-	-	-	3,146	9 3	
	-		"	"	-	-	-	2	7 -	
	-		"	"	-	-	-	7,336	8 -	
	-		"	"	-	-	-	19,650	-	
	-		"	"	-	-	-	1,380	-	
	-		"	"	-	-	-	3,146	9 3	
	-		"	"	-	-	-	2	7 -	
	-		"	"	-	-	-	7,336	8 -	
	-		"	"	-	-	-	22,515	8 3	
Year 1829 and 1830:										
Mermad	-	Ross	Surveyor	Captain	10,400	-	-	10,400	-	Contingencies, &c.
Hatras	-	Montrou	Draftsman	"	1,380	-	-	1,380	-	
	-		"	"	-	-	-	3,146	9 3	
	-		"	"	-	-	-	2	7 -	
	-		"	"	-	-	-	7,336	8 -	
	-		"	"	-	-	-	19,650	-	
	-		"	"	-	-	-	1,380	-	
	-		"	"	-	-	-	3,146	9 3	
	-		"	"	-	-	-	2	7 -	
	-		"	"	-	-	-	7,336	8 -	
	-		"	"	-	-	-	22,515	8 3	

(continued)

(C.)—Statement of all Charges incurred on account of Surveys executed under the Bengal Presidency, &c.—continued.

Names of Vessels.	Class or Tonnage.	Names of Officers.	POSITION.	RANK.	Allowance.	Total Pay of Officers and Crew.	Expense of Provisions, Stores, and Contingencies.	Total Annual Expende.	TOTAL.	REMARKS.
Year 1830 and 1831:										
Eliza	-	Ross	Surveyor	Captain B.M.	10,725	-	-	10,725	Co.'s Rs. as. p.	Contingencies. " " -- Pay and provisions included in one sum. 47,666 4 -
Research	-	Montrou	Draftsman	Midshipman "	1,200	-	-	1,200	-	
Trusty	-	Lloyd	1st Assistant Surveyor	Captain -	1,050	-	-	1,050	-	
Freak	-	-	-	-	-	-	4,475 1 4	4,475 1 4	-	
-	-	-	-	-	-	-	389 3 9	389 3 9	-	
-	-	-	-	-	-	-	18 10 -	18 10 -	-	
Year 1831 and 1832:										
Eliza	-	Ross	Surveyor	Captain B.M.	10,650	-	-	10,650	-	-- Arrears of pay and provision money. 32,778 4 11
Guide	-	Lloyd	1st Assistant Surveyor	" "	4,200	-	-	4,200	-	
Flora	-	Montrou	Draftsman	Midshipman "	1,080	-	-	1,080	-	
-	-	-	-	-	-	-	5,397 6 11	5,397 6 11	-	
-	-	-	-	-	-	1,640	-	1,640	-	
-	-	-	-	-	-	5,596	4 14 -	5,600 14 -	-	
Year 1832 and 1833:										
Flora and Sophia	-	Ross	Surveyor	Captain B.M.	7,200	-	-	7,200	-	Office rent, stores, &c. &c. 21,030 4 7
Sophia	-	Lloyd	1st Assistant Surveyor	" "	2,800	-	-	2,800	-	
"	-	Montrou	Draftsman	Midshipman "	1,034 10 8	-	-	1,034 10 8	-	
-	-	-	-	-	-	-	9,995 9 11	9,995 9 11	-	
-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	
Year 1833 and 1834:										
Flora and Sophia	-	Ross	Surveyor	Captain I.N.	10,400	-	-	10,400	-	-- House rent and office rent, provisions, &c. 25,055 15 11
Sophia	-	Lloyd	1st Assistant Surveyor	" "	7,200	-	-	7,200	-	
"	-	Montrou	Draftsman	Midshipman "	3,752 1 8	-	-	3,752 1 8	-	
-	-	Power	1st Officer	1st Officer	404 12 -	-	-	404 12 -	-	
-	-	-	-	-	-	-	1,902 -	1,902 -	-	
-	-	-	-	-	-	-	394 1 8	394 1 8	-	
Year 1834 and 1835:										
Flora and Sophia	-	Ross	Surveyor	Captain B.M.	3,066 10 8	-	-	3,066 10 8	-	-- House rent and office rent, provisions, &c. 25,055 15 11
Sophia	-	Lloyd	1st Assistant	Lieut. I.N.	1,416 10 8	-	-	1,416 10 8	-	
"	-	Montrou	As Officiating Surveyor	" "	8,133 5 4	-	-	8,133 5 4	-	
-	-	-	Draftsman	Midshipman	1,675 -	-	-	1,675 -	-	
-	-	-	-	-	-	-	1,524 5 -	1,524 5 -	-	
-	-	-	-	-	-	-	-	-	-	

Henry Meriton	-	Jump	Captain	Captain, I.N.	-	-	2,276 10 4	2,276 10 4	-	Provisions, stores, &c. These sums are entered as having been all disbursed by Lieutenant Lloyd, I.N., in charge of the survey.
Eliza	-	Lloyd	Commanding	Lieutenant, I.N.	-	3,793 6 1	377 4 -	4,170 10 1	-	
Flora	-	"	"	"	-	4,862 13 6	913 3 -	5,776 -	-	
Sophia	-	"	"	"	-	2,231 3 8	2,186 -	4,417 4 4	-	
Henry Meriton	-	"	"	"	-	5,108 11 3	928 -	6,036 11 3	-	
Sophia	-	"	"	"	-	-	1,522 2 4	1,522 2 4	-	
Year 1835 and 1836:										
Henry Meriton	-	Lloyd	Surveyor, Officiating	Lieutenant, I.N.	-	-	-	9,518 12 -	-	
Flora	-	Montrou	Draftsman	"	-	422 3 1	588 6 7	2,220 8 1	-	
"	-	"	"	"	-	-	-	1,010 9 8	-	
Megna	-	"	"	"	-	-	26,413 12 3	26,413 12 3	-	
"	-	"	"	"	-	-	1,073 - 9	1,073 - 9	-	
Henry Meriton	-	Lloyd	Officiating Surveyor	Lieutenant, I.N.	-	-	-	10,861 -	-	
Flora	-	Montrou	Draftsman	"	-	232 12 6	-	2,730 13 5	-	
"	-	"	"	"	-	-	-	232 12 6	-	
Megna	-	"	"	"	-	-	-	2,336 10 11	-	
"	-	"	"	"	-	-	-	8,372 4 10	-	
Henry Meriton	-	"	"	"	-	-	-	3,769 1 8	-	
Flora	-	"	"	"	-	-	-	161 4 -	-	
"	-	"	"	"	-	-	-	16,536 - 7	-	
"	-	"	"	"	-	-	-	21 12 9	-	
Year 1837 and 1838:										
Megna	-	Lloyd	Officiating Surveyor	Lieutenant, I.N.	-	-	-	10,032 -	-	
Hatras	-	Montrou	Draftsman	"	-	-	-	2,486 - 3	-	
Henry Meriton	-	Young	Assistant Surveyor	"	-	-	-	2,606 4 -	-	
Merna	-	"	"	"	-	-	-	667 3 9	-	
Eagle	-	"	"	"	-	-	-	2,621 8 10	-	
First Surveying Vessel	-	"	"	"	-	-	-	2,320 4 9	-	
Lady Wm. Bentinck	-	"	"	"	-	-	-	5,845 12 8	-	
"	-	"	"	"	-	-	-	1,626 15 5	-	
"	-	"	"	"	-	-	-	10,895 -	-	
"	-	"	"	"	-	-	-	4,862 -	-	
Year 1838 and 1839:										
Hatras	-	Lloyd	Officiating Surveyor	Captain, I.N.	-	-	-	10,032 -	-	
Lady Wm. Bentinck	-	Montrou	Draftsman	Lieutenant	-	-	-	1,707 8 1	-	
Eagle	-	Young	Assistant Surveyor	"	-	-	-	232 4 1	-	
"	-	"	"	"	-	-	-	640 -	-	
"	-	"	"	"	-	-	-	5,450 10 7	-	
"	-	"	"	"	-	-	-	14,523 3 11	-	
"	-	"	"	"	-	-	-	3,591 9 2	-	
"	-	"	"	"	-	-	-	31,995 3 4	-	
"	-	"	"	"	-	-	-	72,255 2 5	-	
"	-	"	"	"	-	-	-	45,034 12 8	-	
"	-	"	"	"	-	-	-	69,926 7 2	-	

(continued)

GEOGRAPHICAL DEPARTMENT IN ENGLAND.

THE expense of the Geographical and Hydrographical Department in England is 300 *l.* per annum, 200 *l.* being for the salary of the Geographer, and 100 *l.* the allowance to him for keeping the Charts in a complete state according to the latest authorities, by the insertion of all new surveys and shoals which are discovered, and correcting positions which have been found to be inaccurate. As regards the marine surveys, it is his duty to prepare them for publication and to attend to the transmission of the Charts, when published, to the different depôts in India, to the Admiralty and to the Company's agents, for sale, also to the supply of additional copies as they are required. He attends likewise to all the general business of the department.

The surveys in India are under the immediate superintendence of the marine authorities at each Presidency.

John Walker.

East India House, May 1851.

(D.)

LIST of CHARTS in the Office of the Superintendent, of all SURVEYS that have been Executed between the Official Years from 1820-21 to 1848-49, under the Orders of the Government of *Bengal*; and also those Executed by Officers of the Royal Navy, of Ports, Rivers, &c., under the Jurisdiction of the Supreme Government, for a like Period.

TITLE or DESCRIPTION of CHARTS or MAPS.	AUTHOR.	By whose Authority.	Date of Survey or Compilation.	Date of Chart.	Number.	Engraved, Litho- graphed, or Manuscript.	Scale to Inch.	Size.
A plain Chart of the track of the H. C. S. "Neachus," in search of Bale of Cotton Rock.	Lieut. Maxfield, B. M.	- - -	1821	1821	1	M.	15	49×28
Track of the H. C. S. "Neachus," in search of the London Bank, with sketch of the coast of Coromandel from the northern extremity of the Pulicat and Armacan Hill.	Lieut. Maxfield, I. N.	- - -	- - -	1821	1	M.	-	50½×28½
Survey of Blackwood's Harbour	J. J. Underwood, Lieutenant Engineers.	- - -	1822	- - -	1	M.	1,000 yds.	29×28½
East Coast of Sumatra, in three parts	Lieutenants Rose and Moresby, I. N.	- - -	1822	1824	36	E.	5	38×25
Straits of Durian, in one part, incomplete.	Lieut. Moresby, I. N.	- - -	1822	1823	9	E.	1½	30×23
Passages from Tanjong Bon and Pulo Barellah to the southern entrance to the Straits of Durian.	Lieutenants Collinson and Moresby, I. N.	- - -	1823	- - -	14	E.	2½	46×22
Chart of River Tavoy	Lieut. Moresby, I. N.	Capt. Hardy, R. N.	1824	1827	60	E.	1½	25×14
Rangoon River (some copies with improvements by Captain J. Russell, commanding H. C. Steamer "Nemesis") in two sheets.	Captain D. Ross, I. N.	- - -	1825	1827	62	E.	1	32×27
Arracan Coast from Diamond Island to the Calventuras, in five sheets.	Lieut. Crawford, I. N.	- - -	1826	1828	38	L.	2	41×24
Coast of Ava from 16° 50' to 18° N. up to Foul Island, in two sheets.	" " "	- - -	1826	1827	6	E.	2	35×17
Tavoy and Moscos Island and half of Tavoy Island.	Lieut. C. Court, I. N.	- - -	1826	- - -	12	E.	1½	25×15
Part of Tenasserim Coast from latitude 13° 3' to 13° 40' N. including Tavoy River.	Lieut. C. Court, I. N.	- - -	- - -	1826	1	E.	4	24×14
Singapore Harbour	Captain D. Ross, I. N.	- - -	1827	1830	106	E.	1	21×19
Harbour and Islands in the vicinity of Singapore.	Captain D. Ross, I. N.	- - -	1827	- - -	64	L.	1	25×19
Coast of Tenasserim and Islands, 12° 26' to 13° 40' N., second sheet, on large scale.	Captain D. Ross, I. N.	- - -	1828	1829	46	E.	2	21×37
Tavoy to Mergui.	Captain D. Ross, I. N.	- - -	1828	- - -	4	-	-	22×39
Part of Tenasserim Coast and Mergui Archipelago, 9° 30' to 12° 50', in two sheets.	Captain D. Ross and Lieut. R. Lloyd, I. N.	- - -	1828	1828	17	L.	4	50×27
Hastings Harbour	Captain D. Ross, I. N.	- - -	1828	1829	5	L.	1	26×18
Chart of the Mergui Archipelago, from 8° 27' to 10° 30' N., with improvements, in three sheets.	Captain D. Ross, I. N., and Lieutenant R. Lloyd, I. N.	- - -	1828	1839	43	E.	4	30×19

TITLE or DESCRIPTION of CHARTS or MAPS.	AUTHOR.	By whose Authority.	Date of Survey or Compilation.	Date of Chart.	Number.	Engraved, Litho- graphed, or Manuscript.	Scale to Inch.	Size.
Martaban to Tavoy Point and Moscos Island, in two sheets.	Captain D. Ross, I. N.	- - -	- - -	1828	45	E.	1	25×18
Entrance to Chittagong River	Mr. B ^d Pilot Sinclair	- - -	1829	- - -	1	M.	2	25×18
Chart of Cheduba Roads and Ramree Harbour.	Lieut. R. Lloyd, I. N.	- - -	- - -	1829	4	L.	4	15×14
Kyook Phyo Harbour and Combermere Bay.	Commander Laws, R. N.	Admiral Sir E. Owen.	1830	- - -	36	L.	1	46×36
Kyook Phyo Harbour and Port Selina, including Combermere Bay, Coast of Arracan, in four sheets.	Messrs. Cannon and Icely and Com- mander Laws, R. N.	Admiral Sir E. Owen.	1830	- - -	30	L.	1½	124×40
Chart of part of the Coast of Mergui Archipelago, from 10° 10' to 12° 50', with additions by Lloyd, in two sheets.	Captain D. Ross, I. N.	- - -	1830	1839	12	E.	4	37×23
Chart of Port Owen, east side of Tavoy Island.	Commander Laws, R. N.	Admiral Sir E. Owen.	1830	- - -	23	L.	1	24×19
Survey of the Islands lying off the Coast of Tenasserim from 10° 10' to 13° 33' N., in three sheets.	Captain D. Ross, I. N.	- - -	1830	1832	36	L.	4	45×24
Bentick Sound	N. Icely, R. N.	- - -	1830	- - -	-	-	-	-
River Tavoy	Commander Maingy	- - -	1828	- - -	-	-	-	-
Upper Point, River Tavoy	Capt. R. Moresby, B. M.	- - -	1824	- - -	-	-	-	-
Port Owen on eastern side of Tavoy Island	Midshipman Julian, R. N.	- - -	1830	- - -	-	-	-	-
Tenasserim Coast and Islands	Captain D. Ross, I. N.	- - -	1831	1831	15	L.	-	-
Arracan River, with additions, by H. B. Weston.	Captain R. and Lieut. Lloyd, I. N.	- - -	1832	1834-47	129	E & L.	1	26×19
Chart of Kyook Phyo Harbour and the entrance to Hay's Straits, from an original survey by Captain Bowman, with alterations.	Officers of H. M. S. "Satellite."	- - -	1832	1843	156	L.	½	30×26
Kyook Phyo and Combermere Bay	Captain D. Ross, I. N.	- - -	1832	1833	156	E & L.	-	-
Cheduba and Coast of Ramree	Captain D. Ross, I. N.	- - -	1832	1834	2	L & E.	2	30×22
Cheduba Straits and Coast of Ramree, with additions from the surveys of Captain Halsted, R. N.	Captain D. Ross, I. N.	- - -	1832	1842	157	E.	1	30×29
Plan of the Anchorage between Ramree and Juggoo.	Lieut. R. Lloyd, I. N.	- - -	1832	- - -	14	L & E.	1	29×22
Combermere Bay, Fletcher and Hay's Straits.	Lieut. R. Lloyd, I. N.	- - -	- - -	1833	1	L.	1	49×45
Coast from Chittagong to Arracan River, from Akyab River to 17° 50', including the Terribles and Cheduba.	Captain D. Ross, I. N. Lieut. R. Lloyd, I. N. Captain Halsted, R. N.	- - -	1833 1839 1841	1842	107	E.	4	36×24
False Point and its vicinity	Lieut. R. Lloyd, I. N.	- - -	- - -	1835	2	M.	-	-
Survey River Hooghly from Calcutta to Saugor.	Lieut. R. Lloyd, I. N.	- - -	- - -	1836	1	E.	1	60×28
Part of Sootermooky, Jamerah and Rymutlah Rivers.	Lieuts. W. Fell and J. Renny, I. N.	- - -	1837-41	- - -	2	M.	1	39×26
Survey of the Sea-face of the Soonderbunds, from latitude 20° 58' N., in three sheets.	Lieut. R. Lloyd, I. N.	- - -	1837-40	1842	20	E.	4	29×59
An Eye Sketch of the Bridge Hurree Creek, and part of the Roymutlah or Mutlah River.	Lieuts. C. Montrieu and J. Renny, I. N.	- - -	1838	- - -	1	M.	½	45×22
Survey of the Sea-face of the Soonderbunds from Middleton Point to Muzatlah River, including the Eastern Channel.	Lieut. R. Lloyd, I. N.	- - -	- - -	1838	1	M.	2	49×28
Chart of Western and South Channel	Lieut. Young, reduced by Lieut. Lloyd, I. N.	- - -	- - -	1838	1	M.	1	32×26
Chart of the Northern part of the Bay of Bengal.	Lieut. R. Lloyd, I. N.	- - -	- - -	1840	2	L.	½	51×24
Arracan and Sandoway Rivers, in four sheets.	Lieut. R. Lloyd, I. N.	- - -	- - -	1839	18	L.	2	46×62
Survey of Chittagong or Koornafoolee River.	Lieutenants Young and Rennie, I. N.	- - -	1840	1842	36	E.	½	24×16½
Commencement of a Chart of the Bay of Bengal, to be completed from Captain Ross's own surveys.	Lieut. R. Lloyd, I. N.	- - -	1840-44	- - -	2	M.	12	59×28
Survey from False Point to Kedgerree, in 88° 49' E., including Balasore Roads.	Lieutenant R. Lloyd, I. N., and Mr. H. B. Weston, B. S. S.	- - -	1841	- - -	103	E & L.	4	27×26
Chart of Anchorage of Amherst	Captain D. Ross, I. N.	- - -	- - -	1841	2	L.	500 yds.	32×26
Survey of Mergui Harbour	Lieut. Young, I. N.	Marine Surveyor- general R. Lloyd, I. N.	- - -	1841	65	E.	500 yds.	30×24
Chart of the South Coast of Ava from Negrais to Rungoon and Moulmein, with the Prepara, compiled from the latest surveys.	Captains Ross and Crawford, I. N., and Roe, R. N.	- - -	- - -	1841	32	L & E.	10	28×15
Salween River above Moulmein	Lieut. Nolloth, R. N.	- - -	1843	1845	1	E.	1	24½×18
Lloyd's Channel to Upper Floating Light.	Mr. B ^d Pilot Bedford.	- - -	1844-45	1844-45	17	L.	1	30×22
Sangarall Reach, with section of the depth of water.	Ditto.	- - -	1844	- - -	1	M.	250 yds.	23×16
Survey of Armacan and Pulicat Shoals.	Lieut. W. Fell, I. N.	- - -	1846	- - -	1	M.	2,000 yds.	58×24

(continued)

TITLE or DESCRIPTION of CHARTS or MAPS.	AUTHOR.	By whose Authority.	Date of Survey or Compilation.	Date of Chart.	Number.	Engraved, Litho- graphed, or Manuscript.	Scale to Inch.	Size.
River of Martaban, and part of the eastward side of the Gulf of Mar- taban, and Moulmein River.	Lieut. W. Fell, I. N.	- - - -	1847	1848	34	E.	1	24×13
Gulf of Martaban from Amherst Point to entrance of Sitang River.	Lieut. W. Fell, I. N.	- - - -	1847	- - -	1	M.	4056 yds.	28×20½
Hooghly River from Calcutta to Cowcolly Lighthouse.	Mr. Bedford, B ⁿ . Pilot	- - - -	1847	- - -	275	L.	1	39×23
Pagoda Point to Alguada Bay	Lieut. W. Fell, I. N.	- - - -	1848	- - -	1	M.	4000 yds.	20×15
Survey of Lacam's Channel to the east of Moira's Harbour.	Lieut. Maxfield, I. N.	- - - -	- - -	- - -	1	M.	½	7×7
Cape Negrais to Moulmein	Lieut. W. Fell, I. N.	This Chart is not yet received from Lieutenant Fell.						
Plan of Attack, of the Tenasserim Coast.	Commodore Hayes	- - - -	- - -	- - -	1	M.	½	20×16
An unfinished Survey of Malacca Straits about Parcellar Hill.	Lieut. Maxfield, I. N.	- - - -	- - -	- - -	1	M.	-	31×25
Islands of Cocob and Pulo Pisang, adjoining Coast and Mud Point.	F. A. Cudlip, R. N.	- - - -	- - -	- - -	35	L.	1	24×17
Chart of the Coast of Arracan from Chittagong to Sandoway, in two sheets.	Commodore Hayes	- - - -	- - -	- - -	1	L.	6	54×17½

Note.—Besides the above, there are numerous copies, both in manuscript, lithographed, and a few engraved, by officers of the Bengal sea-service, and other individuals, executed without the orders of Government, and without expense to the State, on which account they cannot be considered as official surveys, and are not included in the above.

Where no authors' names, dates of survey, compilation of the charts are given, and also where the scale is not stated, none of this information is to be found in them, nor the means of ascertaining it. Some are mere sketches without any scale.

Fort William,
Marine Superintendent's Office,
23 August 1850.

James Sutherland, Secretary.

SAILING DIRECTIONS.

SAILING DIRECTIONS from the North-West Coast of *Cheduba* to *Foul Island*.

THE extreme or N. W. rocks of the N. W. reef of *Cheduba* lie in $18^{\circ} 55\frac{1}{2}'$ N. lat. and $93^{\circ} 26' 41''$ east long., being five miles from the N. W. point of *Cheduba*. From thence the northern edge of the reef runs nearly east $3\frac{3}{4}$ miles to *Sandy Island*, or rather to the end of the reef to north eastward of it, which extends N. E. b. E. $\frac{1}{2}$ E. three-quarters of a mile. As the distance of three-quarters of a mile east from the N. W. rocks is *Beacon Island*, which can be seen five or six miles, or even further in a very clear day. Its highest point is a round beacon of stones about 12 feet in height. The soundings along the north part of the reef are regular from 4 fms., quarter of a mile from the rocks to 10, 12 and 13 fms. about three miles off to the northward. On any part of this a vessel may anchor in the fine season. No protection can be said to be afforded by the reef in the S. W. monsoon; a vessel once getting round *Beacon Island* would have the north channel of *Cheduba* open to her with a fair wind, and would of course anchor between that island and *Ramree* on rounding *Beacon Island* for such purpose. There is a detached rock lying N. E. b. E. $\frac{1}{2}$ E. half a mile from the centre of *Beacon Island* with only seven feet water on it, and 5 fms. close to. The tides here run along and round the point of the reef with great velocity in the springs, but at the neaps do not exceed a knot or a knot and a half an hour. S. S. E. of *Beacon Island* one mile and three quarters is the harbour rock of *Port Childers*. Its mass extends E. N. E. and to S. W. about 50 yards; its western end is about 25 feet high and precipitous, and being the largest of the cluster it belongs to, it is therefore easily distinguished. A reef runs out a mile to the westward of it, the outermost rocks of which are dry; off the point of this reef there are 7 fms. within 300 yards of the rocks and 10 fms. a quarter of a mile further out. A little more than a quarter of a mile S. S. W. from the harbour rock is another rock above water, and at the same distance due south from it is a sunken rock on which the sea sometimes breaks, bearing E. $\frac{1}{2}$ N. from which is again another sunken rock about 700 yards distance. These two rocks buoyed mark the northern side of this channel, and with an iron pole beacon to assist in distinguishing the harbour rock, would

secure

secure safe ingress and egress to and from this little port. On the southern side of the channel is *Rib Reef*, so called from the peculiar appearance of the rocks, which resemble the skeleton of a whale or the ribs of a wrecked vessel. The channel is half a mile wide in its narrowest part, and has 6 fms. in the centre, 5 fms. near *Rib Reef*, and not less than 4 fms. on the northern side near the *Channel Rocks*. The rocks and reef are steep to. The course in is due east, keeping in mid-channel, till the *Volcano Hill*, the N. W. point of *Cheduba* bears S. b. E., when you must haul up E. N. E. till it bears S. b. W., and *Sandy Island* N. $\frac{1}{2}$ W., which is the best and deepest anchorage in from $3\frac{1}{2}$ to 4 fms. clay, mud, sand and shells much mixed, but affording very good holding ground. Vessels of a light draft may of course go further in towards the shore, remembering that there is here at the springs about $6\frac{1}{2}$ feet rise and fall. It is high water on the beach abreast or S. of the anchorage at 9 h. 30 m. a. m. at full and change. There is no passage through to the eastward except for very small vessels, and even to them it is dangerous if there is much wind, it being very full of rocks to the northward of the *White Rocks* and very shoal to the southward of them. The northern part of this harbour is deeper than the southern, 3 fms. extending from the above-named anchorage in a N. and N. E. direction more than a mile. East of the same spot you will have $2\frac{1}{2}$ and $2\frac{1}{4}$ fms. for the same distance, and to the southward in nearing the breach $2\frac{1}{2}$ to 2 for a short distance. A vessel wishing to go out from this port when the wind will not allow her to lay through the before-named channel, may pass to the southward of *Rib Reef*, keeping about a quarter of a mile from it, by which she will avoid several detached rocks on her larboard hand; but as some of these are under water, and a person must trust to his eye rather than anything else, it is not advisable to use this passage, but rather work out of the other, taking care not to approach the rocks too close, as the tide rather sets on them from the middle of the channel to both sides. This harbour is not proposed as safe during the bad weather. The sea soundings outside this port are very regular, gradually deepening from 13 or 14 fms. a mile outside the reefs, to no bottom at 120 fms. at the distance of 14 or 15 miles. To the northward of *Beacon Island* however, the water is shoaler further out, but there can be no danger in approaching the shore into 20 fms. in the day time or 40 at night. This holds good throughout the coast to which these directions refer, giving a distance by day of two miles clear of the dangers on *Cheduba*, and a mile further from those south of it, with the exception of *Foul Island*, which is on every side except the N. E. steep to. The N. W. point of *Cheduba* is in lat. $18^{\circ} 51\frac{1}{2}'$ N. and long. $93^{\circ} 29\frac{1}{2}'$ E., and is a volcanic hill though of no great height. It is easily distinguishable from its growing nothing but casuarina trees; at present all but one have been felled. Several rocks extend from it more than a mile all round it, and at the distance of two miles is the cluster marked *Henry's Rocks*, the highest of which is 35 feet out of the water, and can be seen seven or eight miles off. From it a reef runs off in a S. W. direction three-quarters of a mile, terminated by a rock above water, close to which there are 5 fms. and a cable's length of 13 fms. No vessels ought to pass between these rocks and the N. W. point, although there is 6 fms. in the channel, as the tides are very irregular and strong. But in 26 fms. water or about two miles outside these rocks, the tide runs nearly N. and S. about one knot and a quarter an hour, but close to the rocks it is much influenced by them. To the north-eastward of the large rock the reef extends two miles or more, leaving a channel between it and *Rib Reef* nearly a mile wide, with 7, 8, and 9 fms. in it. One or two large upright rocks are attached to this group. Before taking leave of the N. W. reef, I may mention that *Beacon Island* and *Sandy Island* are ordered to be planted with cocoanut trees, which when grown will cause them to be seen nearly from the edge of soundings which in a due-west line is about 17 miles from *Beacon Island*.

To the southward of *Volcano Point* the coast of *Cheduba* runs away as far as abreast of the *West Hill* in a S. E. b. S. direction, with a few rocks near the beach, the only one worth notice being *Oyster Rock*, which is level with the water; and bears S. S. W. from *Volcano Point* and S. E. b. E. $\frac{1}{4}$ E. from *Henry's Rock*, and is one mile and a half from the beach. *West Hill* is the highest land on this part of the island, it is a large round topped hill with a large single tree on its summits, which is 1,300 feet above the level of the sea, and can be seen long before striking soundings abreast of it, which are here deeper

in-shore than they are to the northward. No bottom at 120 fms. being to be got at the distance of 10 miles. There is another hill with a single tree on it called N. W. Peak, between West Hill and N. W. Point, but it is much lower. Under the West Hill off the village of Prengowks is a pretty good anchorage for vessels in the N. E. monsoon, although a heavy swell sometimes come in with the sea breeze which blows from about N. W. b. W. They may anchor in from 7 to 10 fms. about three-quarter of a mile from the shore, inside a rock, which always breaks and which is a mark at low water, keeping to the northward of it in coming in. This rock lies about 2,000 yards from the shore and has 11 fms. inside of it in one place, but the generality of the soundings are from 9 to 7 fms. The tides here are very irregular, so much so that they cannot be reduced to any register. Sometimes the current running two or three days to the southward, and then perhaps 24 hours to the N. westward again. The rise and fall on the beach too is at times hardly perceptible, while at others it amounts to six or seven feet. From hence the coast trends with slight indentations about S. E. until you come to the Pyramid Rock. This Pyramid is 187 feet high, very steep, and is in $18^{\circ} 40\frac{1}{4}'$ N. lat. and $93^{\circ} 40'$ E. long. very nearly; it is connected by a reef with the shore to the eastward of it, through which however there are some boat channels. It marks the position of a small harbour on this part of the coast, which in the fine season would be available for native vessels seeking rice. The land from abreast of the Pyramid gradually turns to the eastward, forming the south point of Cheduba, which is in lat. $18^{\circ} 40'$ N. From a point east of the Pyramid a dangerous reef extends nearly three miles in a S. S. W. direction, to the eastward of which and southward of Cheduba is a mass of rocks in very shoal water. About a mile inland and due north from South Point is the South Peak rising to the height of 1,700 feet, and can be seen distinctly 30 miles off in clear weather. It is the highest land in the island. The tides off the South Point run between it and Flat Island with great rapidity, following the direction of the channel, which is very shallow off Flat Island and from thence through to Round Island.

Flat Island Volcano is in $18^{\circ} 38'$ N. Lat. and $93^{\circ} 48\frac{1}{4}'$ E. Long. and the whole Island from N. to S. is four miles and a quarter long. It is nearly divided into two parts, the strip of land connecting them being only about 100 yards wide. Off the south part of it is Hill Island, at the distance of a little more than half a mile, connected with it by a reef of rocks. Off the south end of Hill Island is a remarkable rock in $18^{\circ} 34\frac{1}{4}'$ N. Lat. and $98^{\circ} 48\frac{1}{4}'$ E. Long. which forms the northern side of the entrance to Heyward's Channel. Off the western side of Flat Island, is an extensive patch of rocks and rocky ground, extending three miles to the westward, and terminating by rocks, showing themselves above water. Half way between the northernmost of these rocks, and the extreme of the southern reef of Cheduba, bearing from it W. N. W. at the distance of four miles and a half, is a patch of land and rocks with 3 fms. on its shoalest part, and 9 and 10 fms. round it. But this Channel between Flat Island and Cheduba cannot be passed through by other than large boats, as there is only 6 feet water in the N. E. part of it.

S. 87° E. from the volcano of Flat Island, and at the distance of 6 miles, is a small sandy island, with bushes on its centre, called False Island. At present, it can be distinguished only at a short distance, but having been ordered to be planted with cocoanut trees, will when they grow up, be seen ten or twelve miles. It cannot now be mistaken for any other island. At the distance of five and a quarter miles S. b. W. $\frac{3}{4}$ W. from False Island is a large rock, marked in the chart "Sail Rock," between which and False Island, extends a continuous reef with many large rocks, showing high above the water. This reef, together with the West Shoal, a round rocky patch half a mile in diameter, lying S. W. b. S. three miles from the Sail Rock, constitute the southern or rather eastern side of Heyward's Channel, which is four miles and a quarter in width between the rock off the southward of Hill Island and the West Shoal; which two points form its entrance from the sea. The course through in mid-channel is N. E. b. N., in from $13\frac{1}{2}$ to 5 fms. water as you approach False Island, and the bottom is principally sand. Vessels may anchor in moderate weather with the centre of Hill Island, bearing W. $\frac{3}{4}$ S. and the Volcano of Flat Island N. b. W. $\frac{1}{4}$ W. in from $7\frac{1}{2}$ to 10 fms.

At

At the distance of $11\frac{1}{4}$ miles S. 40 E. from Hill Island, is Tree Island, which is rather more than three-quarters of a mile long from N. to S. It has a reef extending about three-quarters of a mile from its southern end, and there are several patches and detached rocks all round the east side, but none more than half a mile distant from it. Off the N. W. end at the distance of about 700 yards, there is a rocky spot with 4 fms. on it, but between that and the island there are 6 fms. With these exceptions, it may be approached with safety in fine weather. The West Shoal bears from Tree Island N. 56° W. five miles and three-quarters, and the two form the entrance from the sea to the best channel there is through the line of these islands and shoals, for ships or vessels going to Ramree, Cheduba or Jaggoo. N. 15° E. from the N. N. E. end of Tree Island is a large and dangerous shoal at the distance of three miles and a half, the distance between which and the Sail Rock is four miles and a half, being the narrowest part of the above ("The Childers'") channel. It is bounded on the N. W. side by the False Island Reef, Sail Rock, and West Shoal, which divide it from the Heyward Channel; and on the S. E. side by Tree Island and the shoal to the N. N. eastward of it. The soundings just off and round the West Shoal are very irregular, the bottom principally mud. There are 20 fms. within half a mile of it to the westward, and 13 fms. close to. The mid-channel course is N. b. E. $\frac{1}{4}$ E. with from $13\frac{1}{2}$ and 14 fms. between Tree Island and the West Shoal, to 10 and 12 between Sail Rock and its opposite Shoal N. N. eastward of Tree Island. Further to the northward than this, a vessel will carry 10 and 11 fms. with sandy bottom, and east of False Island, and two miles from it are $9\frac{1}{4}$ fms. sand. This channel is perfectly clear, the shoalest place in the fair way being a little knowl of 9 fms. sand. Tree Island being so very easily distinguished, and seen as far off as 10 or 12 miles, makes it a certain mark on this score for this channel, which is preferable to Heyward's as much from its greater width as from its avoidance of the West Shoal. The tides set through both channels, following their course at the rate of about two or two miles and a quarter an hour on the ebb, and a little less during the flood. Tree Island by observation and triangulation is in $18^{\circ} 26\frac{1}{4}'$ N. Lat. and $93^{\circ} 56\frac{1}{4}'$ East Longitude, and has a hill in its centre with a single large dark tree on its top.

Five miles and a quarter S. 49° E. from Tree Island, lies the Nerbuddah Rock, in Lat. $18^{\circ} 23\frac{1}{4}'$ N. and Long. $94^{\circ} 00\frac{1}{4}'$ East. It is a very small pinnacle, a wash at low water, with six fathoms close round it, and 9 and 10 at the distance of three-quarters of a mile, deepening into 15 midway over to Tree Island. The channel between them may be taken by a vessel if necessitated, but it is not to be recommended if possible, to round Tree Island. If taken, the course through will be E. N. E. not passing Tree Island at the distance of more than two miles if possible.

Twenty-five miles and a quarter S. 25° E. from Tree Island is Foul Island, which is much higher, and entirely covered with trees. It is about one mile and three-quarters long from N. E. to S. W. and perhaps a mile from N. to S. There is a bank runs off the south point for a few hundred yards, gradually deepening 6, 7, 8, 9, into 13 fms. and a quarter of a mile outside; that on 20 and 25 off the north part of the island, is a sand and mud-bank with $5\frac{1}{2}$ fms. on the shoalest spot, deepening into 7 fms. between that and the island, and into 10 and 14 to the northward and westward. The 10 fms. is the best anchorage mud and sand, about half a mile off shore. With these exceptions, the island is steep to all round, there not being one single detached rock off it. Observations were taken on the top of the hill, which place it in $18^{\circ} 3\frac{1}{4}'$ N. Lat. and $94^{\circ} 8'$ E. Long. N. $21\frac{1}{4}$ E. three miles and three-quarters from Foul Island is the Brougham Shoal, which is a patch of rock half a mile long from N. N. E. to S. S. W. and always breaks. It is nearly steep to, having 5 fms. close to the rocks, 13 a cable's length further off, then 17, and at less than a mile 24 to 27 fms. mud to the southward and westward and 21 and 23 fms. to the northward and eastward. The tides run between this and Foul Island about E. N. E. and W. S. W. one mile and a half an hour. N. 15° W., $12\frac{1}{2}$ miles from Foul Island, is the shoalest spot (viz. 4 fathoms) of what is put down on the Chart as the Four-fathom Shoal. It is a great extent of rocky bottom, with spots of coarse sand and gravel, and coral here and there. The soundings on it vary from

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13 fms.

13 fms. to 4, and are very irregular; a very heavy rolling swell appears to come at all times from the westward over this shoal, and the tides run in races and whirlpools very violently over the shoaler parts. There are one or two patches to the S. S. W. of this, but as they have not less than 10 or 11 fms. on them, they can hardly be called dangers. There are 16 fms. in mid-channel between the Four-fathom Shoal and Nerbuddah Rock, and the passage is altogether between 5 and 6 miles wide, but it is not a good one, as there are no marks to carry a vessel through it, unless she get a sight of the Nerbuddah breaking. The vessel or shoal nearest Foul Island to the eastward, bears S. 83° E. six miles and three quarters from Foul Island. It is a very small spot with heavy breakers on it, and is steep to, having 20 and 22 fms. almost close to it all round.

The Williams' Shoal bears S. 77 E. from Foul Island, is about one mile in length from E. to W. with only 2 fms. on its E. and W. ends. These always break, even in a calm. Between the ends there are 5 and 7 fms. rocky bottom, over which rolls a long heavy swell, which sometimes breaks. It is likewise steep to, like the Vestal. A vessel going to the northward and passing to the eastward of Foul Island should keep about two miles from the latter, as the water is deep and clear. The Satellite Shoal was not found, but if it exists, the most likely spot for it is N. 79 E. about 13 miles from Foul Island. The soundings south of Foul Island increase gradually from 30 fms. at the distance of two miles from the island to 50 at the Latitude of 17° 50' the termination of the Childers' Survey. About 15 miles S. W. of Foul Island no bottom is gotten with 140 fms. of line. Abreast of Tree Island the soundings run out 24 miles before you lose them, at the same length of line, and abreast of the Pyramid at the south part of the Cheduba there is a spot only seven miles off shore when the soundings suddenly go off from 56 to 120 fms. and the next cast no bottom; all within a couple of cables' length.

E. P. Halsted, Commander.

SAILING DIRECTIONS for the Port of *Akyab*, in the Arracan River.

SHIPS sailing for Akyab during the south-west monsoon should steer for the south end of the Western Bolongo, in lat. 19° 50' N. long. 93° 3' E., then standing along the coast to the northward and westward about five or six miles off shore, until the light is sighted on the Great Savage, at the entrance of the Arracan River, then steer so as to bring it to bear N. by East or N.N.E., and if they intend to run in during the night, with either of these bearings they will cross the bar in the best water, in three fathoms low water spring tides.

After deepening across it, the course should be altered to N. by W. or even N.N.W., according to the state of the tide and sea at the time, to avoid the western rocks (above water) bearing from the light S.W. $\frac{1}{2}$ S., distant nearly half a mile; the flood tide sets in on these rocks.

When the light bears east in six to nine fathoms on the edge of the flat to the westward, the course must be altered to N.N.E. and N.E. by N., having brought the light to bear S.E. by S. $\frac{1}{2}$ S. the ship will be inside of Passage Rock, which is 5 to 7 feet above water, and bears from the Savage Light N.W. $\frac{1}{4}$ N. distant a quarter of a mile, and should then steer N.E. easterly, to avoid the reef projecting from Faqueer's Point a mile in extent to the south; some of the rocks are above water at half ebb. There is a red buoy placed on the southern entrance in about nine fathoms, which with attention may be seen in a clear night without the moon, and after bringing Faqueer's Point to bear N.W. by N. to N. W. the ship should anchor.

On Faqueer's Point a small lighthouse is nearly finished, the light of which will be a deep red, and will be seen about six miles, or three miles beyond the bar, as a leading mark to clear the Western Rocks, keeping it a little open to the westward of the Savage Light when steering in or out, also to point out when the ship is inside of the reef off Faqueer's Point. With this light bearing N. W. by N. to N. W. is good anchorage, having excellent holding ground and perfectly sheltered from the sea.

A stranger

A stranger should not attempt to run in at night, particularly in the rains, except at high or low water, as the ebb tide runs very rapidly in strong eddies off the Passage Rock, over the dangerous flat to the westward, and the flood in strong eddies upon the rocks.

During the N. E. moonsoon ships bound to Akyab, from the northward, should endeavour to make the table land of the Western Bolongo in lat. 20° 1' N., then steering due east they will avoid the Oyster Reef in lat. 20° 5' N. long. 92° 40' East, which is distant from the Savage Light 15 miles due west. This course is recommended, as although in favourable weather the Savage Light is seen outside the reef in 16 to 17 fathoms water, the depth suddenly decreases, and the probability of hazy or rainy weather would prevent the light being seen, and steering boldly in to sight it, to the northward of lat. 20° 1', would endanger the safety of the vessel, by suddenly falling upon the Oyster Rock or Reef before sighting the lighthouse.

I would not advise strangers on any occasion to make use of the channel inside of the Oyster Rock or Reef.

James Paterson,

Comdr. H. Co.'s Ship "Amherst."

THE directions above given by Captain Paterson were published in 1844. The Red Light referred to was finished and first exhibited in 1845. In 1848 a red buoy was laid on the N. E. edge of the bar in 3½ fathoms low water.

The following additional directions are therefore considered necessary by the Port Master, and by Captain Dicey of the Honourable Company's steamer "Tenasserim."

In the event of the red buoy on the edge of the bar breaking adrift, it is recommended in working across the bar not to bring the Great Savage Light to bear more easterly than N.E. by N. until you deepen over. When you do so, Captain Paterson's directions may be followed.

Captain Paterson's caution as to not going at night, must still be attended to, as the Red Light is not seen till the bar is crossed.

By order of the Superintendent of Marine.

Fort William, }
31 October 1849. }

(signed) *James Sutherland,*
Secretary.

SAILING DIRECTIONS for the *Sand Heads*.

The PILOT STATION for the River Hooghly in the South-west Monsoon.

Directions for approaching the Pilot Station for the River Hooghly during the South-West Monsoon.

EXPERIENCE of the new pilot station off the south channel having established that it can be made by vessels from False Point with the greatest facility, and that pilots can also be readily supplied, and the same causes existing which originally rendered necessary the removal of the pilot station from off Point Palmyras to a position about 15 miles S. W. b. W. of the Outer Floating Light in latitude 20° 56' N. long. 88° 03' E., and in from 17 to 22 fms. water, Notice is hereby given that this latter station will in future be continued during the S.W. monsoon, viz. from 15th March to the 15th September.

No difficulty can possibly be felt in passing from False Point to the present station, if common attention be paid to the lead and to the following directions, prepared by Captain Lloyd, late Officiating Marine Surveyor-general, after a careful survey of the ground between the two points.

" False Point Lighthouse is in latitude $20^{\circ} 19\frac{1}{2}'$ N. and longitude $86^{\circ} 47'$ E., and the South Channel Buoy in latitude $20^{\circ} 59'$ N. and longitude $88^{\circ} 4'$ E., and bears from the lighthouse N. 61° E. true, or N.E. by E. $\frac{1}{4}$ E. by compass, distant 83 miles, and is laid in 12 fms.

" A bank of soundings extends from off Point Palmyras in a direction towards the tail of the Western Sea Reef, and the nature of the bottom (as distinguished from that of the Hooghly deposit, which is sand, and mud with shining specks) is a gravelly substance composed of sand, shells, and small pebbles discharged from the 'Kunka,' and other rivers near Point Palmyras, the lighter material of which being carried further out, is deposited, and forms what is called the 'Pilot's Ridge,' which in crossing to the north-westward shows a little less water than on either side. In coming from seaward you shoal rather suddenly from 28 to 23 fms. upon its eastern edge. It is composed of a shelly sand, or minute gravel of a reddish or rusty brown colour.

" The best guide therefore to enable a vessel to direct her course from False Point to the pilot vessels at the present station, will be to run down the edge of the 'Pilot's Ridge,' which can readily be done by making the lighthouse and bringing it to bear about W. S. W. or S. W. by W. distant by computation from 10 to 15 miles, then steering to the E. N. E., and having gradually increased the depth of water to 23 fms. upon the eastern edge of the ridge, regulate the course to keep between it and 27 fms., when by attention to the lead and nature of the soundings, course, and distance run from the lighthouse, it is almost impossible to miss the pilot vessels (if the above limits are kept within) either by getting too far to windward or falling to leeward, for the soundings increase so rapidly to seaward from the present station, that 28 fms. will not be more than three or four miles to the southward of it, and 23 fms. the same distance to the westward of it.

" The soundings to seaward of the ridge are in general a greenish or olive-coloured mud, with occasionally a few bits of broken shells mixed with it."*

Vessels approaching the station during the day are required to show the usual signal for a pilot, and by night to give as early and as much warning as possible by firing guns, burning blue lights, and by exhibiting two lights in a vertical position, where best seen, but commanders are strictly enjoined to avoid as much as possible making the station during the night.

Ships have been lost from running for the station in dark, or threatening, or actually bad weather. In such weather the pilot vessels cannot be made out, and if fallen in with cannot board the inward-bound vessel, nor could the pilot take her in if he was on board. No advantage then is gained by attempting to get a pilot in such weather, while the danger is imminent. It is strongly recommended therefore to commanders under such circumstances to put their ships under snug canvass while well out in deep water, and keep to sea.

To mark the station, one of the pilot vessels will show during the day a large St. George's jack (white with red cross) at the main topgallant-mast head, and a good mast-head light during the night, and will burn a blue light and a maroon alternately every half hour, and fire a gun at 8 P.M., at midnight, and at 4 A.M. Vessels approaching the station, and while there, as well as when approaching the light and buoy station vessels, are warned to be careful in avoiding collision by night or by day, and in communicating with either of the above vessels either at anchor or hove to, when it is necessary to cross her to pass under the stern; several instances of serious damage having occurred during the S. W. monsoon, whereby the outer floating light was more than once compelled to leave her station for repairs, to the great inconvenience and risk of vessels entering and quitting the river.

By order of the Superintendent of Marine.

Fort William, }
18 August 1848. }

James Sutherland,
Secretary.

* The only alteration made in the above admirable direction of Captain Lloyd is that of substituting the expression "present station" for "proposed new station," which, as more than five years have elapsed since the change so indicated was adopted, might mislead.—J. S.

† The light vessels are directed when another vessel is approaching during the night, to show a light at the gaff end to mark the way they are riding.

A LIST of CHARTS published at the Chart Office, East India House, from SURVEYS executed by Order of the Honourable Court of Directors, and sold by their Booksellers, Messrs. Wm. H. Allen & Co., 7, Leadenhall-street, London, 1848.

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14. Sailing Directions for the Red Sea, Captain T. Elwon and Commander R. Moresby, 1841 -	-	3	-
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33. Anchorage off El Katiff, Lieutenants G. B. Brucks and W. E. Rogers, 1825 - - - - -	-	2	-
34. Harbour of Grane or Quade, Lieutenants J. M. Guy and G. B. Brucks, 1825 - - - - -	-	2	-
35. Entrances to the Rivers at the head of the Persian Gulf, Lieutenants G. B. Brucks and S. B. Haines, 1827 - - - - -	-	3	-
36. Head of the Gulf of Persia, Lieutenant J. M'Cluer, 1788 - - - - -	-	-	6
37. Coast of Persia, from Ras Tuloop to Bushire, Lieutenants G. B. Brucks and R. Cogan, 1826 - - - - -	-	2	6
38. Bushire Roads, Lieutenants G. B. Brucks and R. Cogan, 1826 - - - - -	-	2	-
39. Coast of Persia, from Bushire to Bassadore, Lieutenants G. B. Brucks and S. B. Haines, 1828 - - - - -	-	3	-
40. Clarence's Strait, 2 Sheets, Commander G. B. Brucks and Lieutenant S. B. Haines, 1828 - - - - -	-	5	-
41. Coast of Persia and Beloochistan, from Kooe Mubarrack to Kurrachee, with plans, Commander G. B. Brucks and Lieutenant S. B. Haines, 1823 - - - - -	-	3	-
42. Soonmieanee Harbour, Lieutenant C. W. Montriau, 1842 - - - - -	-	1	6
43. Kurrachee Harbour, Lieutenant T. G. Carless, 1838 - - - - -	-	2	-
44. Entrance of the Gulf of Cutch, Mr. J. F. Jones, Midshipman, 1833 - - - - -	-	1	-
45. Gulf of Cutch, Lieutenant Middleton, 1821 - - - - -	-	3	-
46. Coast of Kattywar, from Dio to Dwarka, Lieutenant H. H. Whitelock, 1833 - - - - -	-	2	6
47. Kattywar Coast, from Diu Head to Perim Island, Lieutenant R. Ethersey, 1836, 2 Sheets - - - - -	-	4	-
48. Diu Harbour, Lieutenant H. H. Whitelock, 1833 - - - - -	-	1	-
49. Gulf of Cambay, Lieutenant R. Ethersey, 1845 - - - - -	-	3	-
50. Malacca Banks, Lieutenant R. Ethersey, 1845 - - - - -	-	1	6
51. Bombay Harbour, Lieutenant R. Cogan and Mr. G. Peters, 2 Sheets, 1829 - - - - -	-	4	-
52. Angenweel Harbour, Lieutenant W. E. Rogers, 1826 - - - - -	-	1	-
53. Goa and Murmagoa Roads, Captain D. Inverarity, 1816 - - - - -	-	7	6
54. Laccadive Islands, Lieutenant R. Moresby, 1828 - - - - -	-	2	6
55. Maldeeve Islands, Commander R. Moresby and Lieutenant F. T. Powell, 3 Sheets, 1835 - - - - -	-	10	-
56. Maldeeve Islands, reduced from the above - - - - -	-	5	-
57. Chagos Archipelago, Commander R. Moresby and Lieutenant F. T. Powell, 1836 - - - - -	-	3	-
58. Principal Groups in the Chagos Archipelago, Commander R. Moresby and Lieutenant F. T. Powell, 1836 - - - - -	-	2	-
59. Nautical Directions for the Maldeeve Islands and Chagos Archipelago, Commander R. Moresby - - - - -	-	2	-
60. Coast of Timnevelly, Mr. J. J. Franklin, R.N., 1842 - - - - -	-	3	-
61. Coast of Madura, Lieutenants F. T. Powell, R. Ethersey, and Mr. J. J. Franklin, R.N., 1838 - - - - -	-	3	-
62. Western Side of Palks Straits, Lieutenants F. T. Powell and R. Ethersey, 1838 - - - - -	-	3	-
63. Roadstead and Harbour of Tuticorin, Mr. J. J. Franklin, R.N., 1842 - - - - -	-	3	-
64. Coast of Madura, from Manapar to Baypar, Mr. J. Wedgborough, 1796 - - - - -	-	2	-
65. Plan of Tuticorin, Mr. J. Wedgborough, 1796 - - - - -	-	2	-
66. Northern part of the Gulf of Manaar, Mr. J. Wedgborough, 1796 - - - - -	-	2	-
67. Part of the West Coast of Ceylon, Mr. J. Wedgborough, 1796 - - - - -	-	2	-

* Extending from Cape Moosendom to the Euphrates.

	£.	s.	d.
68. Paumben Pass, Lieutenants F. T. Powell and R. Ethersey, 1837 - - - - -	-	2	-
69. Pulicat and Armegon Shoals, Captain W. Maxfield, 1821 - - - - -	-	2	-
70. Mootapilly Bay, Captain C. Court, 1816 - - - - -	-	1	6
71. Point Palmyras Reef, Captain C. Court, 1816 - - - - -	-	1	6
72. False Point to Saugor Roads, Captain W. Maxfield, 1818, 3 Sheets, with additions from the surveys of Commander R. Lloyd, 1835 - - - - -	-	8	-
73. Balasore Roads, Entrance into the Hoogly, &c., Commander R. Lloyd, 1841 - - - - -	-	3	-
74. River Hoogly, from Calcutta to Saugor Point, Commander R. Lloyd, 1836 - - - - -	-	4	6
75. Sea face of the Soonderbunds, 3 Sheets, Commander R. Lloyd and Assistants, 1840 - - - - -	-	6	-
76. Chittagong River, Commander R. Lloyd and Assistants, 1840 - - - - -	-	1	6
77. Bay of Bengal, Captain James Horsburgh, 1825 - - - - -	-	6	-
78. Chittagong to Arracan River, Captain Daniel Ross - - - - -	-	3	-
79. Arracan River to Foul Island, Captain Daniel Ross, with additions by Commander R. Lloyd and Captain E. P. Halstead, R.N., 1841 - - - - -	-	3	-
80. Arracan River, Lieutenant R. Lloyd, 1832 - - - - -	-	2	-
81. Cheduba Straits and Coast of Ramree, Captain D. Ross, with additions by Commander R. Lloyd and Captain E. P. Halstead, R.N., 1841 - - - - -	-	2	-
82. Kyook Phyoo Harbour, Captain Bowman, 1829 - - - - -	-	1	6
83. Kyook Phyoo Harbour and Combermere Bay, Captain D. Ross, 1832, with additions by Commander R. Lloyd and Captain E. P. Halstead, R.N., 1841 - - - - -	-	3	-
84. Coast of Ava, from latitude 18° to Cape Negrais, Captain John Crawford, 1826, 2 Sheets - - - - -	-	6	-
85. Eastern Peninsula of India, Captain James Horsburgh - - - - -	-	9	-
86. Rangoon River, Captain D. Ross, 1825 - - - - -	-	2	-
87. Martaban River, Major Jackson, 1826 - - - - -	-	1	6
88. Andaman Islands, Lieutenant Archibald Blair, 1793, 4 Sheets - - - - -	-	8	-
89. Martaban to Tavoy Point, Captain D. Ross, 1828, 2 Sheets - - - - -	-	4	-
90. Moscos Islands, Captain Charles Court, 1826 - - - - -	-	2	-
91. Tavoy River, Lieutenant R. Moresby, 1824 - - - - -	-	2	-
92. Tavoy Point to Mergui, Captain D. Ross, 1828 - - - - -	-	3	-
93. Mergui Harbour, Commander R. Lloyd - - - - -	-	2	-
94. Mergui Archipelago, from Iron Island to the Sayer Islands, Captain D. Ross, 1828, with additions by Commander R. Lloyd, 1839, 2 Sheets, 3s. each - - - - -	-	6	-
95. Hastings Harbour (Mergui Archipelago), Captain D. Ross, 1828 - - - - -	-	2	-
96. Straits of Malacca and Singapore, Captain James Horsburgh - - - - -	-	7	6
97. Arroa Islands, Strait of Malacca, Captain D. Ross, 1819 - - - - -	-	1	6
98. North and South Sands (Strait of Malacca), Captain D. Ross, 1819 - - - - -	-	2	-
99. Singapore Harbour, Captain D. Ross, 1819 - - - - -	-	1	-
100. Singapore Harbour, and Islands in its vicinity, Captain D. Ross, 1827 - - - - -	-	2	-
101. West Coast of Sumatra, Captain James Horsburgh - - - - -	-	6	-
102. Northern Pepper Ports (West Coast of Sumatra), Captain S. Ashmore, 1821 - - - - -	-	2	-
103. Croee Roads, Mr. M'Kellar, R.N., 1810 - - - - -	-	1	6
104. Achen Road - - - - -	-	-	6
105. Track of the Carnatic from N. Watcher to North Island, Captain Lestock Wilson, 1787 - - - - -	-	-	6
106. East Coast of Sumatra, Lieutenants W. Rose and R. Moresby, 1822 - - - - -	-	3	-
107. Channel Westward of Romania Reef, Captain D. Ross, 1818 - - - - -	-	1	6
108. Islands Eastward of Bintang, Captain D. Ross, 1819 - - - - -	-	1	-

	£.	s.	d.
109. Straits of Rhio, Durian, &c., Captain James Horsburgh	-	7	6
110. East Coast of the Malay Peninsula, Lieutenant John Crawford, 1820	-	1	-
111. Straits of Durian, Lieutenants W. S. Collinson, Hawkins, and R. Moresby, 1822	-	2	-
112. Tanjong Bon and Pulo Barellah to the Southern entrance to the Straits of Durian, Lieutenants W. S. Collinson and R. Moresby, 2 Sheets, 1823	-	4	-
113. Ilchester Shoal, Captain D. Ross, 1819	-	1	-
114. Track through the Straits of Billiton, Lieutenant D. Ross, 1813	-	2	-
115. Track Northward of Lucepara Island, &c., Lieutenant D. Ross, 1813	-	2	-
116. Straits of Banca and Gaspar, Captain James Horsburgh	-	7	6
117. East, North, and North-west Coast of Banca, Mr. J. J. Robinson, 1819	-	3	-
118. Passage between Lucepara and Sumatra, Captain R. Torin, 1797	-	-	6
119. Sketch of the Strait of Banca, Captain R. Torin, 1797	-	-	6
120. Strait East of Banca, Captain Lestock Wilson, 1787	-	-	6
121. Channel between Sumatra and Lucepara, Captain D. Ross, 1818	-	1	6
122. Western Part of Pulo Leat, Captain D. Ross, 1818	-	1	6
123. Gaspar and Clements Straits, Captain D. Ross, 1818	-	3	-
124. Carimata Passage, Captain James Horsburgh	-	7	6
125. Tracks of the H. C. S. General Harris, on her passage from China to Gaspar Straits, 1825	-	1	6
126. Strait of Sunda, Captain James Horsburgh	-	6	-
127. Island of Thwart-the-Way, Captain Maxfield and Lieutenant J. S. Criddle, 1819	-	1	6
128. Caloombyan Harbour, Lieutenants W. H. Hull and W. H. Johnston, R.N., 1818	-	1	6
129. Rajah Bassa Road, Captain W. Moffat, 1815	-	1	6
130. Samangea Bay, Lieutenants W. H. Hull and W. H. Johnston, R.N., 1818	-	2	-
131. Straits of Bally, Lieutenant John Crawford, 1816	-	1	-
132. Strait of Allass, Mr. William Palmer, 1792	-	-	6
133. Strait of Allass, Mr. James Murray, 1797	-	-	6
134. Plans of the Strait of Sapy, Captains R. Torin and William Layman, 1797	-	1	-
135. Sketch of Sapy Bay, Mr. T. Welladvice, 1780	-	1	-
136. Sketch of the South Part of Mangarye (Flores), Captain W. Bligh, 1792	-	-	6
137. Sketch of part of ditto, Mr. A. Dalrymple, 1761	-	-	6
138. Sketch of Copang Bay (Island of Timor), taken on board H. M. S. Leopard, 1791	-	-	6
139. The Sea from Timor to Ceram, Mr. T. Hayward, 1801	-	-	6
140. Port of Geby (Molucca Islands), from the French, 1772	-	-	6
141. Kema Road and N.E. side of Celebes, Captain V. Ballard, 1801	-	-	6
142. South-west Coast of Celebes, Dutch M.S.	-	-	6
143. Boddam's Track from the Strait of Allass to Bouro, Captain George Palmer, 1797	-	-	6
144. Plan of Macassar, Lieutenant J. Crawford, 1814	-	1	-
145. Track through the Gillolo Passage, Mr. W. R. Blakely, 1823	-	2	-
146. Gillolo and adjacent Islands, 1807	-	-	6
147. Ternate and adjacent Islands, 1788	-	-	6
148. Island of Boero	-	-	6
149. Islands East and South of Banda, 1788	-	-	6
150. China Sea, Two Sheets, Captain James Horsburgh	-	15	-

	£.	s.	d.
151. Tumbelan Islands, Lieutenant D. Ross, 1814	-	1	6
152. Natuna Island	-	1	6
153. Appo Shoal, Lieutenant D. Ross, 1816	-	1	-
154. Track of the Antelope on the West Coast of Palawan, Lieutenant D. Ross, 1810	-	2	-
155. General Chart of the Paracels, two sheets, Lieutenants D. Ross and P. Maughan, 1808	-	4	-
156. Western Group of the Paracels, Lieutenant D. Ross, 1808	-	1	6
157. Amphitrite Islands, forming part of the Paracels, Lieutenant D. Ross, 1808	-	1	6
158. South Coast of China, West of Macao, 2 Sheets, Lieutenants D. Ross and P. Maughan, 1807	-	4	-
159. Passages leading to the Macao Roads, Lieutenants D. Ross and P. Maughan, 1810	-	3	6
160. Lintin to Bocca Tigris, Lieutenant D. Ross	-	2	-
161. Passages leading to the Lymoon, Mr. William R. Blakely, 1830	-	1	6
162. Canton River, Captain James Horsburgh	-	7	6
163. Longeet to Second Bar (Canton River), Lieutenants D. Ross and P. Maughan, 1815	-	3	-
164. Second Bar Creek to Whampoa Reach (Canton River), Messrs. D. R. Newell and H. P. Auber, 1816	-	3	-
165. Sketches to show the situation of the Lower Shoal and Brunswick Rock (Canton River), Captain Moffat	-	-	6
166. South-east Coast of Hainan, Captain D. Ross, 1822	-	1	6
167. Coast of China, East of the Great Ladrone, Lieutenant D. Ross, 1813	-	3	-
168. Continuation of ditto from Breaker Point to Lamock Islands, Lieutenant D. Ross, 1816	-	1	-
169. Harlem's Bay and Part of the Coast of China, Lieutenant D. Ross, 1812	-	2	-
170. Tihen Pien or Tien Pack Harbour (South Coast of China), Lieutenant D. Ross	-	2	-
171. Harbour of Hui-ling-san (South Coast of China), Lieutenant D. Ross	-	2	-
172. Namo Harbour (South Coast of China), Lieutenant D. Ross, 1807	-	2	-
173. Ki-san-seu Harbour, Lieutenant D. Ross, 1816	-	1	-
174. Oie-hai-oie Harbour, Lieutenant J. Crawford, 1816	-	1	-
175. The Dhaulle's Track between the East Coast of China, and Western part of Formosa, Mr. G. Blaxland, 1827	-	2	-
176. Soundings on the S.E. Coast of China, Lieutenant Parkyns, R.N., 1824	-	1	-
177. Killon Harbour and Merope's Bay (Island of Formosa), Lieutenant G. Parkyns, R.N., and Mr. J. B. Livesay, 1824	-	2	-
178. Gulf of Pe-tche-lee, Lieutenant D. Ross, 1816	-	1	-
179. East Coast of China, Captain James Horsburgh	-	8	6
180. Eastern Passages to China, 3 Sheets, Captain James Horsburgh	1	11	6
181. Track through Pitt's Passage and Dampier's Strait, Captain James Horsburgh, 1793	-	1	-
182. Track of the Warwick through Pitt's Passage and Dampier's Strait, Captain J. Dewar, 1761	-	-	6
183. Track of the Princess Augusta through ditto, Captain T. Baldwin	-	-	6
184. Part of New Guinea, and the Route through Torres Strait, Lieutenant J. McCluer	-	-	6

RETURN of the PRICES at which CHARTS and SAILING DIRECTIONS, published by or under the Direction of the East India Company are severally sold, and the names of the Agents and Places in *England* and *India* where sold; stating also, the Allowances made to Parties selling the same; also what Supply, if any, is kept in *India*, and what Means, if any, are taken to make the same available to the Public.

MESSRS. ALLEN & Co., Leadenhall-street, are the Company's Agent for the sale of their charts in England. They forward from time to time catalogues to the principal ports in Great Britain, America, and the Continent. They have an allowance of 35 per cent.

It is customary to send a large supply of every new chart, and of new editions of the other charts to each Presidency, to Aracan, and to the Admiralty, for the use of Her Majesty's Navy. Additional supplies are forwarded whenever they are applied for. The following copy of a circular addressed by the Court of Directors to the Governments of Bengal, Madras, and Bombay, dated 26th June 1844, will show the means that have been adopted, to make their charts available to the public in India.

(Copy.)

"As our marine surveys are published not only for the use of the Indian Navy, but for that of Her Majesty and the mercantile service, we forward in the packet 25 copies of a new catalogue of all the charts which we have directed to be compiled, any of which will be supplied by us on your making application for them."

John Walker.

East India House, May 1851.

RETURN as to what Establishments of OFFICERS and MEN, the Size and Descriptions of VESSELS, and what other Measures are necessary to re-survey doubtful Positions, to correct known or admitted Errors, to survey unsurveyed Positions, and to replace obsolete Charts and Sailing Directions which now exist, or would be requisite.

THE Court of Directors has not considered it necessary to have any special establishment in India for the re-survey of doubtful positions, to correct known or admitted errors, &c. &c., but whenever it becomes necessary to make such re-survey, the Governments in India appropriate for that purpose vessels of the Indian Navy. It will be seen from the following statement of re-surveys which have been executed, that the Governments in India keep this important subject in view.

Re-surveys, and Additions and Corrections to former Charts:—

Entrance to the Hoogly in 1841; Coast of Aracan in 1841; Gulf of Manaar, Coast of Madura, Tuticorin, in 1842; Martaban River in 1847; Laccadive Islands in 1848; Suez Harbour in 1848; Persian Gulf in 1849; Algoada Shoal in 1849; Pulicat Shoal and Mootapilly Bay in 1848; Gulf of Cutch in 1850, besides many others.

John Walker.

East India House, May 1851.

TRIGONOMETRICAL SURVEY.

THE Court of Directors have repeatedly impressed upon the Governments of India the necessity of having the marine surveys constructed upon the basis of the trigonometrical survey, as will be seen by the following extracts from their despatches, viz.:

EXTRACT Marine Letter to *Madras*, dated 24 August, No. 7 of 1842.

WE have received the papers relative to the survey of the Gulf of Manaar, which accompanied your secretary's letter in the Revenue Department, dated 15th November 1841, No. 63. We have also received the surveys commenced by Lieutenants Powell and Ethersey, and continued by Mr. J. J. Franklin, of the Coast of Madura, from Paumbem to Valinookum, of the western side of Palk's Straits, from Paumbem to Point Calimere, and of the Manaar Channel.

It would have been more satisfactory if the latitudes and longitudes of these surveys had been based upon the trigonometrical survey of India now in course of execution; a net of secondary triangles has been extended by Colonel Lambton from the meridional arc to Ramisseram Island, which passes through the whole line of the survey from Paumbem to Valinookum. This would have formed an excellent base upon which the latter might have been constructed, and would then have connected it with Madras, and all the other ports on the coast. The actual place from which the first meridian of the surveys of Messrs. Powell, Ethersey and Franklin has been measured, viz., Point de Galle, not being included in the trigonometrical survey of India, its position is not so accurately determined, and it cannot be considered so eligible for a point of departure as stations comprised within the general triangulation of that survey. We forward herewith a sheet of Colonel Lambton's triangulation along the coast of Madura, on which the latitudes and longitudes of the various stations are written as computed by him, and by which Mr. Franklin will be enabled to verify his survey.

EXTRACT Marine Letter to *Madras*, dated 2 November, No. 8 of 1842.

WE have received the chart of the Roadstead and Harbour of Tuticorin, executed by Mr. Franklin, which accompanied your secretary's letter in the Revenue Department, dated 13th June 1842, No. 39. We took occasion lately to express a wish that Mr. Franklin should take the trigonometrical survey of India as the base of his operations, and in the chart before us we perceive similar discrepancies to those which we noticed in former portions of his labours. For instance, Mr. Franklin places the obelisk on Hare Island in latitude $8^{\circ}45'33''$, whereas according to the trigonometrical survey, it should be in latitude $8^{\circ}47'17''$, a difference of one mile and three quarters. The flag-staff at Tuticorin is misplaced to the same extent, and there is also considerable difference in the meridional distance of the two surveys; you will accordingly direct Mr. Franklin to correct his charts by the sheet of Colonel Lambton's triangulation along the Madura coast, which was transmitted to you with our marine despatch of the 24th August last, and furnish us with fresh copies as early as possible, in order that they may be engraved and published for the benefit of navigation.

EXTRACT Marine Letter to *Madras*, dated 12 January, No. 1 of 1848.

WE have received with your letter, No. 3 of 1847, copies of the survey of a portion of the Coromandel Coast from Ennore to Armogham, and of the bay of Coringa, by Lieutenant W. Fell. It is several years since the triangulation of the Peninsula of India was completed. No marine survey therefore should be undertaken without having that triangulation for its basis. These charts appear to be deficient in that respect, as no latitudes or longitudes are drawn upon them. It is our desire to have another copy of each, with the necessary additions inserted.

COPY Marine Letter to *Bombay*, dated 13 March, No. 23 of 1850.

1. ON referring to the sketch chart which accompanied the report of Commander Montriau, transmitted to us with your letter No. 89, of the 17th October last, and which shows what surveys have been executed by officers of the Indian navy. We perceive that the survey of the whole of the eastern coast of India has been completed, but that of the western coast some portions are marked as only partially surveyed, and others as being still unsurveyed.

2. We think it important that the survey of the unfinished portions should be undertaken without further delay, and we should wish you to make such arrangements for that purpose as you may think expedient. The execution of the work to which we allude would be greatly facilitated now that the trigonometrical survey has been extended along nearly the whole line of coast.

EXTRACT Marine Letter to *Bengal*, dated 17 April, No. 15 of 1850.

Para. 6. We are glad to learn that this survey is complete, and we are desirous of having a copy of the chart as early as possible, with latitudes and longitudes drawn in conformity with the trigonometrical survey of India.

Letter from, No. 39, dated 8 November 1848.
—Completion of the Survey of the Coromandel Coast between the Santipilly Rocks and the Pulicat Shoal.

From Sir Vansittart Stonhouse, Bart., Accountant-General, to Sir H. C. Montgomery, Bart., Chief Secretary to Government.

Fort St. George Accountant-General's Office,
27 March 1850.

Sir,

WITH reference to the order of Government, No. 183, dated 4th May 1848, calling for a statement of the expenses incurred since the year 1820, in regard to the expenditure in the Hydrographic Departments of the East India Company under this Presidency, for all the maritime surveys carried on under their authority, and adverting to my letter of the 6th February 1849, No. 33, I have now the honour to submit, for transmission to the Government of India, a statement of the expenses in question, from 1830-31 to 1846-47, amounting in the aggregate to Company's Rupees 3,54,943. 8. 7., and to explain the circumstances under which the statement in question does not embrace the expenses incurred on this account for the previous period, namely, from the year 1820, being the year specified in the resolution of the House of Commons, dated 10th February 1848, communicated with the order of Government under reference.

I have already explained to the Government in my letter quoted in the preceding paragraph, that there was no information which their office possessed of the heads of account under which similar charges were formerly exhibited, and that it became necessary in consequence to trace the charges through the several heads of account under which they may possibly have been carried. This examination was entered into and completed, but the entries in the accounts furnished to this office do not exhibit, under the heads which have been examined, any particulars of the charges debited therein, which it was found could only be ascertained on reference to the vouchers thus charged, which were not in this office, but in that of the civil auditor. I have also already explained in my former communication, that that officer was applied to for a statement containing such information, in detail, as the records of his office furnished relative to these charges, and that this requisition led to a request on his part to be furnished with an extract from the ledgers of this office, showing the dates and amount debited on account of the present expenditure, to enable him to furnish the information called for. Extracts from the ledgers of the heads under which these charges may have been possibly carried, have been accordingly prepared,

MADE BY THE EAST INDIA COMPANY, SINCE 1820. 6037

prepared, and furnished to the civil auditor; but it will be seen from the accompanying copy of his letter, dated 10th January last, with which he transmitted a statement of these charges from 1830-31 to 1846-47, that the accounts and vouchers of his office from 1820 to 1829-30 relative to maritime charges were found, after a diligent search, to be so incomplete from loss and damage done by damp, white ants, &c., that it is impossible for him to furnish a correct detail of the required expenditure for these years.

I may further state, that the head "Marine Charges" and the other heads which have been examined, as those under which these charges may possibly have been carried, do not exhibit entirely and exclusively charges of the nature of those adverted to in the Honourable Court's despatch, but include other items also apparently not connected therewith, as would seem from a reference to the statement furnished by the civil auditor, and comparison of the amount exhibited therein with those in the extracts from the ledgers prepared in this office already referred to, and in the absence of the vouchers to which the charges thus debited refer, it is impossible for this office to separate the charges so as to enable it to furnish an account of the expenditure for the period prior to 1829-30 from the year 1820.

I have, &c.

(signed) T. V. Stonhouse,
Accountant-General.

From A. F. Bruce, Esq., Civil Auditor, to Sir Vansittart Stonhouse, Bart., Accountant-General.

Fort St. George, Accountant-General's Office,
10 January 1850.

Sir,

WITH reference to your letter of the 30th November last, and your previous communications on the same subject, I have the honour to forward herewith a statement exhibiting the expenditure incurred in the hydrographic departments of the East India Company under this Presidency, for objects connected with the maritime survey conducted under their authority, and for all land and sea marks, &c., as far as such expenditure is found contained in the accounts furnished to this department, from the official year 1830-31 down to 1846-47. From the year 1820, the period named in the resolution of the House of Commons, dated 10th February 1848, to 1829-30, the accounts and vouchers in this office* relative to maritime charges, are, it is found after a diligent search, so incomplete from loss and from damage caused by damp, white ants, &c., that it is impossible for me to furnish a continued or correct detail of the required expenditure for those years.

*Fort St. George, Civil Auditor's Office, 10 January 1850.

I am, &c.

(signed) A. F. Bruce,
Civil Auditor.

To Sir Vansittart Stonhouse, Bart.,
Accountant-General.

(A true copy.)

(signed) T. L. Lushington,
Assistant Accountant-General.

(True copies.)

(signed) H. C. Montgomery,
Chief Secretary.

REPORT on the Means adopted by the *Madras* Government since the Year 1820, for facilitating the Navigation of the Coasts of the *Madras* Presidency, including Notices of the SURVEYS executed, the LIGHTS, BEACONS, and BUOYS established, with other information called for in the Order of Government, dated 4 May 1848, No. 183.

1. No regular marine establishment afloat ever having been attached to the *Madras* Presidency, the surveys of its sea coasts have been principally undertaken by vessels of the Indian navy or Bengal marine, whence doubtless the details of their services will be furnished. The only two exceptions are to be found in a survey of Blackwood's Harbour by Major De Havilland and Captain Maxfield in 1822, and in the survey of the Gulf of Manaar and Palk's Bay in 1839-45, by the present secretary to the Marine Board.

Blackwood's Harbour, surveyed by Major De Havilland and Captain Maxfield.

2. The inconvenience and occasional hazard experienced by vessels lying in an open roastead like *Madras*, having been brought to notice, the Government directed their attention to that part of the coast least removed, which, from natural circumstances, appeared to offer a more eligible position for a general anchorage. Major De Havilland, the inspector-general of civil estimates, and Captain Maxfield, first assistant to the marine surveyor-general, in command of the Honourable Company's surveying vessel "*Henry Meriton*," having in 1822 examined the *Armegon Shoal*, inside which the naval commander-in-chief, Rear-Admiral Sir Henry Blackwood, had lain at anchor in Her Majesty's ship "*Leander*" for four days during the S. W. monsoon, pronounced its southern end capable of affording shelter, with a little assistance from art, to a safe and commodious haven between it and the shore, which might be frequented with safety all the year round; and with the view of testing its capabilities, the Supreme Government in 1823 engaged the "*Mary Ann*," Captain Cowels, to ride out the N. E. monsoon of that year in what was termed Blackwood's Harbour.

Captain Grant's Report.

3. During this time Captain Grant, then master-attendant at *Madras*, visited the place, and at once saw that it was not likely to realize the anticipations entertained. In a report submitted to the Marine Board, he stated that very little protection was afforded by the *Armegon Bank*, and in fact that in the ordinary monsoon weather the sea in the anchorage was equally turbulent, and the surf on shore just as violent as they were at *Madras*; although he observed that they did not proportionably increase with a gale of wind, which may be readily accounted for by the shoal being of insufficient height to check the ordinary monsoon wave, although it presented an obstacle to the free passage of the more elevated undulation of a gale. Captain Grant also noticed the inconvenience that would arise from the discharge and shipment of cargo at a place so far removed from the Presidency, to connect it with which a canal of 20 miles length would have to be cut; and finally observed, that few vessels would ever make use of it, and for these reasons: during the fine weather all vessels would of course prefer anchoring at *Madras*, where the whole of their business was to be transacted, and in the two first months of the N. E. monsoon they would rather avoid altogether touching on the coast. Under all circumstances therefore the intention of forming a harbour here was abandoned, and the project is not likely again to come under consideration, further experience having proved, that with due care and attention to the fitness of a vessel's ground gear, the *Madras Roads* afford a safe anchorage all the year round, and are only to be feared on the approach of a hurricane, when sufficient warning is invariably given to enable vessels to escape its fury, provided the commanders attend to the instructions founded on Colonel Reid's theory on rotary storms, so clearly explained in Mr. Piddington's "*Horn Book of Storms*," a work which every officer ought now to have in his possession.

4. Major De Havilland, Captain Maxfield and Sir Henry Blackwood, after whom the proposed harbour was to be named, were all strongly impressed in favour of the project which was to convert this spot into the future rendezvous of vessels trading to this Presidency; and in justice to these officers, the fact must

must not be omitted, that at the time when their survey was made, considerably less water existed on the *Armegon Shoal* than at present. The first-named officer reported that for ten miles the outer or eastern edge of the bank had only (12) twelve to (14) fourteen feet water over it, whereas Lieutenant Fell's late survey shows the depth to average from (14) fourteen to (18) eighteen feet at low water, with the exception of one or two knolls, the extent of which is too limited to afford shelter for vessels under their lee. It is well known that the sea has encroached on many parts of the coast during the last half century, and it is far from improbable that the same causes may have produced similar effects on the shoal in question, thus rendering the so-named harbour less open to improvement than it formerly might have been.

5. The only other maritime survey carried on by officers actually on the *Madras* establishment, is that of Palk's Bay and the Manaar Gulph, undertaken in connexion with the deepening of the Paumbem Channel, to facilitate the passage of vessels from one side of India to the other, without their being forced to round Ceylon *via* Point de Galle, which confined all small craft to one voyage during the year, it requiring even a powerful steamer to make any progress against the S. W. monsoon after passing the Basses, if proceeding within a moderate distance of the island. Large vessels making the passage at this season of the year, invariably make southing till in the S. E. trade, run down sufficient longitude, and then stand again to the northward. In this way a ship from *Madras* bound to Tuticorin in the S. W. monsoon is usually a month or five weeks making the voyage.

Survey of the Gulf of Manaar and Palk's Bay.

6. As far back as May 1822, the Marine Board brought to the notice of Government the advantage that would be derived from improving the communication *via* Paumbem; the principal aim then being the removal of some rocks, which being situated in the very centre of the narrow winding passage then in use, formed a considerable impediment to vessels of even the smallest description passing through. Captain Fullerton, the civil engineer of the southern division, under instructions from Government, examined the locality in the latter part of the same year, and stated that the ridge connecting the Island of Paumbem to India, through which the channel was formed, being of sandstone, of no great degree of induration, varying from (3) three to (8) eight feet in thickness, and in many places in detached masses, little difficulty would be experienced in overcoming the obstacle which then existed to the free navigation of the passage for small craft. With reference to the sand-bank to the southward, he anticipated that in deepening the northern channel, the current would force for itself a free passage of equal depth in that direction, although he prudently observed, that time would prove whether his expectations were well founded.

Captain Fullerton's Report in 1822.

7. Before proceeding, however, to the measures that were undertaken by Government to facilitate the passage of vessels from one side of the Peninsula of India to the other, it may be as well to give a short description of the nature of the formations that obstruct the communication.

8. The Island of Ceylon is separated from India by two deep bays or gulfs, the northernmost one called Palk's Bay, having a depth of from (5) five to (7) seven and (8) eight fathoms, and that to the southward called the Gulf of Manaar, in which the depth has not been ascertained beyond a few miles from the land, when soundings are lost with from (100) one hundred to (150) one hundred and fifty fathoms of line. These bays terminate in a line of sand-banks called Adam's Bridge, which with the islands of Manaar and Ramisseram, and a rocky ledge extending from the latter to Tonitory Point (otherwise designated Point Kamen) serves to connect the land of Ceylon at Mantotte, with that of India, at the before-mentioned point. The distance across in a direct line is about (48) forty eight miles, although it would be found somewhat more by pursuing the undulating course of this natural barrier, and through it are four channels more or less navigable to the small craft that ply along the coasts connecting the bays one with the other.

Description of the barrier connecting India with the Island of Ceylon.

9. Manaar, the western island, about (16) sixteen miles long, is situated about a mile from the coast of Ceylon, from which it is separated by a few small islets and extensive mud and sand-banks, through which winds the

Manaar Channel. narrow and tortuous passage named the Manaar Channel, which being about (9) nine miles in length, and having shifting bars of no greater depth than (5) five feet at high water, is only calculated for the navigation of the smallest description of craft, which are generally tracked or dropped through as the current may be against or in favour of them. At the west end of Manaar, where commences the so-termed bridge, is the second channel, called the Talmanaar Channel, from its proximity to a village of that name. In it, the depths average from four to six feet at high water, with but four at the southern end, thus debarring all but dhoney craft from using it.

Adam's Bridge. 10. Adam's Bridge is composed of hard sand, partly above water when the tide is out, and extends from Talmanaar in a W. N. W. direction for (17) seventeen miles, till it meets the long sandy tongue that forms the S. E. extremity of the Island of Ramisseram at Tannikoody, where is situated the third navigable channel, but with no greater depth than the one previously described, and consequently of no greater utility. The bridge varies in breadth from half a mile to two miles, with from (3) three to (7) seven or (8) eight feet over it at high water; but having always a heavy surf breaking on its weather side, and generally on both, it is quite impassible to all but the smallest description of dhonies, and to them only during very fine weather, and when they are light. The depths to the north are (4) four to (5) five fathoms at three miles, and the same to the south at one to one and a half mile, the former being fine sand, such as is found in places free of rock, the latter the coarse gravelly mixture that indicates the presence of a rocky substratum. At (12) twelve to (13) thirteen miles south soundings are lost from (20) twenty fathoms rock to no bottom at (150) one hundred and fifty.

Paumben Channel. 11. The Island of Ramisseram is (14) fourteen miles long, from Tamikoody to its west end, where is situated the channel that is now in course of improvement, cut through the ledge of rocks that joins the island to the continent of India at Tonitory point. This ledge, which is (2,250) two thousand two hundred and fifty yards long, was originally entirely above water, and the records* of the Pagoda at Ramisseram, relate that, until the early part of the 15th century, the Swamy was on certain festivals carried across in procession to the main-land of India, by this route three times a year. In 1480, during the reign of Achoodapah Naig, Rajah of Madura, a small breach in the dam was made during a violent storm, and subsequently, during a second, this was enlarged; the gap was then filled up and the road repaired, but about ten years afterwards a hurricane occurred, which destroyed the communication to such an extent, that no further attempt was made to preserve it, and each succeeding storm has had its share in undermining and breaking down the barrier, till it arrived at the state in which we now find it.

Colonel Sim's Report. 12. The operations in Ava having occupied the Government shortly after the preliminary steps before adverted to were taken, no progress was then made in the contemplated improvements, but in November 1828, the war having been brought to a successful termination, the Government again took the subject under consideration, and Major Sim, then inspector-general of civil estimates, was deputed to report fully on the practicability of making a channel that might render the communication free to large vessels, and to enable him the more readily to examine the locality, the schooner "La Belle" and the Honourable Company's anchor boat were placed under his orders.

Colonel Sim's Report in 1829. 13. In November of the following year 1829, this officer furnished a very full and luminous report, submitting three plans for the attainment of the general object in view, namely, the improvement of the communication.

1st. To straighten the channel then in use, without deepening, further than removing the rocks which obstructed it, many of which he had already displaced with the means then at his disposal, enabling, as he states, one or two keeled vessels, drawing about six feet, to pass through.

2d. To deepen the same opening to (8½) eight and a half or (9) nine feet at high water; or to make another of that depth about (1,300) one thousand and three hundred yards from the west end of the dam, where the natural obstacles were not so great, although its position (being nearly midway between the island and India) would be less sheltered.

3d. To

3d. To make a channel of twelve or fourteen feet at high water, either by deepening that then in use, or cutting through the promontory, where advantage might be taken of a natural channel about two miles west of Tonitory Point, which the sea had opened during a hurricane in 1814.

14. The breadth of the land is here (728) seven hundred and twenty-eight yards, with a depth of water of fourteen feet (400) four hundred yards from the north shore, and (15) fifteen feet (100) one hundred yards from the south; and Major Sim considered that a channel such as proposed might be excavated here with comparatively little difficulty at a moderate expense, although there was still some doubts as to whether it could be kept open on the south side, even by carrying it out into deep water, and placing a breakwater at right angles to its mouth to allow of the current passing out to the southward without being impeded by the swell of the S. W. monsoon, which causes a considerable surf to break on the beach, although protected by the chain of reefs and islands that lie between two and three miles from the shore.

15. Yet even with this doubt as to ultimate results, the deepening the channel then in use to an equal extent appeared to him a work of so much labour, expense, and uncertainty, that he felt he could not with propriety recommend its attempt. The dam through which it would have to be cut is composed of two distinct rocky ledges (140) one hundred and forty yards apart; the northern one being entirely, and the southern one partly uncovered at low water, although the former is not now sufficiently connected to stop the flow of water at any time of tide. The bottom between these ledges is composed of large detached masses of sandstone, with sand and gravel in the interstices, a formation of the same nature extending (800) eight hundred yards north and (200) two hundred yards south. A distance, therefore, of nearly (1,200) one thousand and two hundred yards would require to be excavated to a depth which, on examination, was found to average about four feet; and Major Sim was doubtful whether the outer part would not fill in again from the bottom on either side, not being sufficiently above the level of the channel itself to force the current through with that impetus required to prevent the deposit of sand or silt. He also expressed a doubt regarding the practicability of keeping open the channel over the Horse-shoe Bank, which would require to be deepened in proportion to the advance made in the opening to the northward; one point considerably in favour of the cut through the mainland being its perfect independence of this bank, which would be left a long way to the eastward.

16. In conclusion, this officer, with whom was associated Second Lieutenant now Major Cotton, of the Engineers, of whose services he speaks in the highest terms of acknowledgment, observes that nothing beyond a very rough estimate of the cost and time required for completing any of the plans could be hazarded, owing to the entire novelty of the undertaking in India not permitting the slightest comparison to be drawn, and for this reason he strongly recommended that an application should be made to some competent engineer in England who had been engaged in works of a similar nature, before any particular line of operation should be determined on. The following statement was, however, given, as the nearest approximation that, with their limited knowledge of the subject, could be arrived at:—

	Probable Cost.	Time required for Completion.
For making a channel 50 feet wide, 8 or 9 feet deep at high water, 1,300 yards from the west end of the dam - - - - -	C. Rs. 70,000	Two seasons.
Deepening the old channel to the same extent -	1,50,000	Three years.
Deepening either to 12 or 14 feet at high water -	So uncertain, that no estimate could be furnished.	
Opening a channel of the same depth two miles west of Tonitory Point - - - - -	1,50,000 to 4,00,000	Time uncertain.

Rear-Admiral Sir
E. Owen's opinion.

17. The naval commander-in-chief, Rear-Admiral Sir Edward Owen, having evinced considerable interest in the measures the Government were anxious to promote, Major Sim's report was submitted to him for any suggestions he might feel disposed to offer. His advice was, to take advantage of the channel already there, every rock removed from which would increase the facilities of the navigation, whereas in making a cut through the promontory, no benefit could be derived till the completion of the undertaking, which might occupy a number of years, and the success of which was after all a matter of uncertainty. This plain-sense view of the question was immediately adopted; the subject was referred to the Honourable the Court of Directors, and meanwhile the operations were confined to a gradual improvement of the original channel, a mode of proceeding which the Honourable Court subsequently approved and sanctioned in 1836. An officer was then placed in charge of the operations, with a strong body of convicts, and a company of Sappers and Miners, to carry on the work of blasting and dredging, for which latter purpose a hand-dredge was constructed and worked with considerable effect for several years. This was replaced in 1847 by a steam-dredge, built at Cochin, which is now in use, but which does not answer so well on rocky bottom as the other.

State of the passage
in 1828.

State of the passage
in 1848.

Amount of port
charges.

Trade passing
through Paumbem
passage.

18. The whole of these operations being under the direction of the chief engineer, it is not for this department to enter into details, but their general results may be mentioned. Major Sim, in the report before noticed, states that in 1828 there were obstructions in the channel, having but (5½) five and half feet of water over them at high water, and that no vessels, except in the finest weather, attempted to pass through drawing more than (4½) four and half feet. During the preliminary examination he was engaged upon in 1829, he removed some of the principal obstacles, and speaks of the effect as having enabled one or two keeled vessels, drawing six feet, to pass through, a circumstance evidently not of ordinary occurrence at that time. The northern channel has now a depth varying from (8) eight to (10) ten feet at dead low water springs, which, with a rise between (2½) two and half and (3½) three and half feet, enables vessels drawing (9½) nine and half to (10) ten feet to pass through without difficulty. On the south, the passage over the Horse-shoe Bank has been dredged throughout to about 10 feet at low water, without the slightest indication of its filling up. An establishment of native pilots, under the superintendence of an active Indo-Britain, is kept up by Government at an annual expense of (2,436) two thousand four hundred and thirty-six rupees; the returns on account of port charges, which include pilot and all other charges, being for Fusly 1257 (Rs. 6,634. 12.), six thousand six hundred and thirty-four, and annas twelve.

19. As a natural sequence to these extensive improvements, the trade through the Paumbem channel has gradually acquired a vigour which has, in the course of 13 years, more than quadrupled its former amount, and the annexed statement not only exhibits the progressive increase in the quantity of tonnage passing through, but shows that a superior description of vessel is being thereby brought into action. As long as the passage from the Coromandel to the Malabar Coast, on the west side Ceylon, was confined to one voyage in the year, the dhoney, a very frail description of craft, was in general favour as being less expense, and as easily sailed with a fair wind as any other, but now that the communication renders the passage practicable at all seasons, this is giving way to the more substantial brig and schooner, able to work down the Gulf of Manaar against the S. W. monsoon, a feat which 50 years back few English ships would attempt. These are built by natives at Cochin, Negapatam and Nagare; most are of teak, and many of them coppered, and being generally commanded and manned by natives, afford an interesting specimen of their advance in the science of navigation.

STATEMENT showing the Number of Vessels and their Tonnage that passed through Paumbem during the Years 1834, 1839-1847.

YEARS.	Number of Vessels.	Increase.	Decrease.	Amount of Tonnage.	Increase.	Decrease.	Number of Dhories.	Increase.	Decrease.	Amount of Tonnage.	Increase.	Decrease.	Total Number of Vessels and Dhories.	Increase.	Decrease.	Total Amount of Tonnage.	Increase.	Decrease.
1834	-	-	-	-	-	-	738	-	-	30,000	-	-	-	-	-	30,000	-	-
1839	105	-	-	10,728	-	-	1,148	-	-	54,106	-	-	1,343	-	-	64,834	-	-
1840	213	18	-	11,633	905	-	1,187	39	-	62,948	8,842	-	1,400	67	-	74,681	9,747	-
1841	301	88	-	18,400	6,773	-	1,408	221	-	74,632	11,684	-	1,709	309	-	93,038	18,457	-
1842	289	-	12	17,608	-	738	1,369	-	39	70,041	-	-	1,058	-	51	88,309	-	4,729
1843	434	165	-	28,586	10,918	-	1,407	38	-	68,199	-	-	1,861	203	-	96,785	8,476	-
1844	517	83	-	34,904	6,318	-	1,527	120	-	80,994	12,795	-	2,044	183	-	115,898	19,113	-
1845	687	170	-	48,605	13,701	-	1,523	-	304	63,612	-	-	1,910	-	134	112,217	-	3,681
1846	760	73	-	56,082	8,077	-	1,120	-	103	67,219	-	-	1,880	-	30	113,901	1,684	-
1847	849	89	-	63,541	6,859	-	1,132	12	-	59,120	1,901	-	1,981	101	-	122,061	8,760	-

Survey of the Gulf of Manaar by the Indian Navy, in 1837.

Continuation by Mr. Franklin, in 1839.

20. But with the view of rendering these operations as beneficial as possible, the survey of the Gulf of Mannar, on the south side of the pass, and of Palk's Bay or Straits, as it was formerly termed, on the north, was undertaken in 1837 by an expedition furnished by the Bombay Government, consisting of the "Royal Tiger," Lieutenant Powell, the "Shannon," Lieutenant Ethersey, with the tenders "Maldiva" and "Cardive," and a strong corps of mates and midshipmen as assistants. They arrived at the scene of their operations in the latter part of that year, and carried on their labours according as the seasons permitted, till April 1839, when the exigencies of the service required of the Indian Navy in the Persian Gulf and on the coast of Scinde, compelled the Governor-general, very reluctantly, to sanction their return to Bombay, leaving their task incomplete. Mr. Franklin, the present secretary to the Marine Board, was then appointed, with one assistant, to continue the work, and having, after considerable delay, occasioned by the difficulty in procuring a vessel fit for the service, engaged a small country craft of (60) sixty tons, commenced his labours in the month of October following, and continued so employed till the close of 1845, when the survey of both bays, from Cape Comorin to Point Calimere, in India, and from Point de Galle to Point Pedro, in Ceylon, was brought to a conclusion. The charts of the Indian coast, with sheets of the Paumbem Pass and Tuticorin Roads and Harbour, have already been published. Those of the Ceylon side are in the course of preparation.

21. The whole of the Indian side of this survey has been based in Colonel Lambton's triangulation, as far as the principal points are concerned, although so much discrepancy was found in working out the details, that the intermediate coast lines and position of the islands, according to the marine survey, were adopted.

22. The Ceylon side of the Manaar Gulf was fixed from the meridians of Galle and Colombo, and that side of Palk's Bay from the meridian of Paumbem.

23. The commencement of this survey having been carried on by vessels of the Indian Navy, with which this Government in no way interfered, except to afford such assistance in the way of money or supplies as was needed, the Bombay Government will of course furnish full details of the vessels and officers so employed, and the expense of their maintenance. The following statement exhibits similar information respecting the establishment entertained after their recall:—

1839:	Rs.	as.	p.	Rs.	as.	p.
One marine surveyor, from 12th April to 31st December, at 500rs. - - - - -	4,316	10	8			
One officer, from 27th April to 31st December, at 100rs. -	813	5	4			
One draftsman, from 19th April to 15th May, at 25rs. -	22	8	-			
Hire of a vessel of 60 tons, from 18th August to 31st December, at 200rs. - - - - -	893	5	4			
Wages and provisions of crew, from 2d August to 31st December - - - - -	1,386	11	4			
Incidental expenses, from 2d August to 31st December -	384	3	-			
				7,816	12	-
1840:						
One marine surveyor, from 1st January to 31st December, at 500rs. - - - - -	6,000	-	-			
One officer, from 1st January to 31st December, at 100rs. -	1,200	-	-			
Hire of a vessel of 60 tons, from 1st January to 31st August, at 200rs. - - - - -	1,600	-	-			
Hire of a vessel of 45 tons, from 1st September to 31st December, at 200rs. - - - - -	800	-	-			
Hire of a tender, from 18th March to 31st December, at 50rs. - - - - -	473	4	2			
Wages and provisions of crew, from 1st January to 31st December - - - - -	2,980	1	3			
Incidental expenses, from 1st January to 31st December -	1,142	13	9			
				14,196	3	2

1841:	Rs.	as.	p.	Rs.	as.	p.
One marine surveyor, from 1st January to 31st December, during which two months was on half-pay, at 500rs. -	5,500	-	-			
One officer, from 1st January to 31st December, at 100rs. -	1,200	-	-			
One ditto, from 14th July to 31st December, at 100rs. -	558	1	-			
Messing allowance for two officers, from 14th July to 31st December, at 22rs. 8as. each - - - - -	251	2	1			
Hire of a vessel of 45 tons, from the 1st January to 31st December, at 200rs. - - - - -	2,400	-	-			
Hire of tender of 10 tons, from 1st January to 31st December, at 50rs. - - - - -	600	-	-			
Wages and provisions of crew, from 1st January to 31st December - - - - -	3,378	12	8			
Incidental expenses, from 1st January to 31st December -	1,274	7	2			
Surveying instruments - - - - -	545	-	-			
				15,707	6	11
1842:						
One marine surveyor, from 1st January to 31st December, at 500rs. - - - - -	6,000	-	-			
One officer, inclusive of mess money, from 1st January to 31st December, 122rs. 8as. - - - - -	1,470	-	-			
One officer, inclusive of mess money, from 1st January to 30th June, at 122rs. 8as. - - - - -	735	-	-			
One officer, inclusive of mess money, from 1st September to 31st December, at 122rs. 8as. - - - - -	490	-	-			
One draftsman, from 6th July to 31st December, at 35rs. -	204	5	8			
Hire of a vessel of 45 tons, from 1st January to 31st December, at 200rs. - - - - -	2,400	-	-			
Hire of tender of 10 tons, from 1st January to 31st December, at 50rs. - - - - -	600	-	-			
Wages and provisions of crew, from 1st January to 31st December - - - - -	3,850	10	3			
Incidental expenses, from 1st January to 31st December -	1,578	15	11			
Surveying instruments - - - - -	150	-	-			
				17,478	15	10
1843:						
One marine surveyor, from 1st January to 31st December, at 500rs. - - - - -	6,000	-	-			
Two officers, from 1st January to 31st December, at 122rs. 8as. - - - - -	2,940	-	-			
One draftsman, from 1st January to 31st December, at 35rs. - - - - -	420	-	-			
Hire of a vessel of 45 tons, from 1st January to 31st December, at 200rs. - - - - -	2,400	-	-			
Hire of a tender of 10 tons, from 1st January to 31st December, at 50rs. - - - - -	600	-	-			
Wages and provisions of crew, from 1st January to 31st December - - - - -	4,367	5	3			
Incidental expenses, from 1st January to 31st December -	1,718	10	11			
				18,446	-	2
1844:						
One marine surveyor, from 1st January to 31st December, at 500rs. - - - - -	6,000	-	-			
Two officers, from 1st January to 31st December, at 122rs. 8as. - - - - -	2,940	-	-			
One draftsman, from 1st January to 31st December, at 35rs. - - - - -	420	-	-			
Hire of a vessel of 45 tons, from 1st to 31st January, at 200rs. - - - - -	200	-	-			
Hire of a vessel of 80 tons, from 1st February to 31st December, at 200rs. - - - - -	2,200	-	-			
Hire of a tender of 10 tons, from 1st January to 31st December, at 50rs. - - - - -	600	-	-			
Wages and provisions of crew, from 1st January to 31st December - - - - -	4,515	4	1			
Incidental expenses, from 1st January to 31st December -	1,593	9	6			
Surveying instruments - - - - -	187	8	-			
				18,656	5	7

(continued)

	Rs.	as.	p.	Rs.	as.	p.
1845:						
One marine surveyor, from 1st January to 31st December, at 500 rs.	6,000	-	-			
Two officers, from 1st January to 31st December, at 122 rs. 8 as.	2,940	-	-			
One draftsman, from 1st January to 28th February, at 35 rs.	70	-	-			
Hire of a vessel of 80 tons, from 1st January to 31st December, at 200 rs.	2,400	-	-			
Hire of a tender of 10 tons, from 1st January to 22d December, at 50 rs.	585	8	-			
Wages and provisions of crew, from 1st January to 31st December	4,705	12	2			
Incidental expenses, from 1st January to 31st December	968	4	3			
				17,669	8	5
1846:						
One marine surveyor, from 1st January to 2d February, at 500 rs.	535	11	3			
Two officers, from 1st to 3d January, at 122 rs. 8 as.	245	-	-			
Hire of a vessel of 80 tons, from 1st to 8th January, at 200 rs.	51	9	9			
Wages and provisions of crew, from 1st to 8th January	93	6	8			
Incidental expenses, from 1st to 8th January	791	1	2			
				1,716	12	10
Company's Rupees				1,11,688	-	11

24. The expenditure above shown was further augmented by the pay and table-money of an assistant apothecary detached from the southern division of the army to do duty with the establishment; his allowances, however, were drawn in the military department.

25. The third and last survey undertaken on the coasts of this Presidency is that just completed by Lieutenant Fell, of the Indian Navy, in command of the Honourable Company's brig "Krishna." This officer was under the orders of the Bengal Government; and as in the case of those first engaged on the survey last described, the authorities at Fort St. George abstained from all interference with his operations, merely affording such available assistance in the supply of boats, batta, Lascars, &c. as he required. It will only be necessary therefore to state, that it was commenced in February 1846, at the recommendation of the Marine Board, with the view of determining with greater accuracy than was then ascertained, the nature and position of the various dangers with which the navigation of the coast was beset between Ennore and the Santopilly Rocks, the extent to which the work was carried, and that Lieutenant Fell completed his labours in March of the present year 1848. He has been directed to base his charts on Colonel Lambton's triangulation, and it is expected that they will be ready in a short time to transmit to England for publication.

26. The portion of the Coromandel Coast remaining unsurveyed is therefore from the Santopilly rocks to the northern point of the Ganjam district on the north, the limit of Captain Lloyd's survey of the head of the Bay of Bengal; and on the south from Ennore to Point Calimere; but as along this extent there are no dangers which are not laid down in the existing charts with sufficient accuracy for the purposes of general navigation, it does not appear to be necessary at present to have them surveyed. Captain Ross, the present Master-attendant at Bombay, was engaged in 1824 in examining the Malabar Coast, but of what nature this examination was, whether a minute survey, or merely the determination of the principal points on the coast, the Board are unable to state, the whole conduct of the operations having been undertaken by and under the direction of the Bombay Government.

LIGHTS OF THE MADRAS PRESIDENCY.

27. The lights on the coast of this Presidency are eleven, four of which are exhibited from regular constructed lighthouses, six from flag-staves, on which the lanterns are hoisted at various elevations according to circumstances; and the remaining one (at Tuticorin) is placed on the summit of an old obelisk, built in former years by the Dutch, eligibly situated on an island, between two and three miles to seaward of the town, and which has always served as an useful landmark for vessels approaching that part of the coast.

28. Besides these, there are also two lights which have been proposed by the Master-attendant at Madras during the last two years, recommended by the Marine Board, and sanctioned by Government. They are in course of preparation, although it is feared that a considerable time may elapse before their completion, owing to the paucity of engineer officers available to superintend their construction. No application has been submitted to the Marine Board for exhibiting a light which has not been brought to the favourable notice of Government and sanctioned; the only circumstance that may be considered as an exception to this being a proposition emanating from Lieutenant Fell of the Indian Navy, lately employed in surveying the Coromandel Coast. This officer advised the substitution of Pulicat as the site for a light in lieu of Moonapolium, which had been previously selected as the most eligible spot from which to show a light to warn mariners of the vicinity of the shoalest part of the Armegon Bank, which, five miles due east of this position, has a depth of only (1½) one fathom and three-quarters over it, with five to six fathoms inside. Pulicat, off which the shoal water extends but (3½) three and a half miles, is only (20) twenty miles from the Madras light, which can be seen from the deck of a ship of ordinary size at about that distance, and from the mast-head at nearly (30) thirty miles. The Marine Board were therefore not disposed to yield their support to a proposition that would have placed a second light within visible distance of the one at Madras, and leave the most dangerous part of the Armegon Shoal unattended to.

29. Commencing from the northern part of the Coromandel Coast, and proceeding round by Cape Comorin to the limit of the sea-board of the Presidency on that of Malabar, the following is a serial list and description of the several lights exhibited and proposed, with such information relative to their origin, construction, and management, as appears necessary to enable the Honourable Court of Directors to comply with the requisitions of the Honourable the House of Commons of the 10th February last.

30. With respect to the general results that have followed the improvements in lighting up the coasts of this Presidency, there cannot be a divided opinion. Vessels are navigated with greater safety, and from the exhibition of harbour lights can make their ports at any hour of the night, without fear of overshooting their distance, an advantage not to be lightly appreciated in a country where the monsoons render it difficult and occasionally impossible to beat to windward. Some wrecks have lately occurred to the northward, and one at Covelong, within sight of the Madras light; but with the exception of the brig "Montefiore," which parted from two anchors in a heavy breeze at Monsoorcottah, their loss can be attributed to nothing else than inattention on the part of their commanders to the usual precautions taken when near land, and not in any way connected with the dangers of the coast. To render this intelligible, it will be sufficient to say that they all ran on shore on the beach in fine weather.

I.—Santapilly Light.

Latitude, 18° 1' N.; Longitude, 83° 39' E.*

31. The importance of a light in the vicinity of the Santapilly Rocks was first brought to notice by Captain Biden in September 1846, on his return from an examination of that locality in the "Hugh Lindsay." These rocks are stated by him to be between five and six miles from the shore, about ten feet under water, with eight to ten fathoms all round, and in fine weather do not present any appearance of breaking. So little is their danger apparent, that Lieutenant Hill, when about to survey them, anchored his vessel within a hundred yards

Number of Lights.

Proposed Lights under construction.

Lieutenant Fell's proposition for a Light at Pulicat.

* Indian Atlas.

Survey from Santopilly Rocks to Ennore, by Lieut. Fell, I. N.

Portion of Coast unsurveyed.

Captain D. Ross's examination of the Malabar Coast in 1824.

without perceiving them, although a good look-out was kept for this express purpose. The spot best adapted for the erection of a light as a beacon for their avoidance, appeared to be on the northern and lesser of the two Conara Hills, which is within half a mile of the beach, and is nearly abreast of the rocks; and as it is about (150) one hundred and fifty feet above the level of the sea, no lofty structure is needed to increase the height of the light. The following recommendation was therefore submitted by the Marine Board to Government and sanctioned.

32. That a light with two reflectors be exhibited from a platform on the little Conara Hill, under the charge of a superintendent and five Lascars, for whose accommodation a building should be erected in its immediate vicinity, the whole to be completed at an estimated cost of rupees (1,498. 15.) one thousand four hundred and ninety-eight, and annas fifteen. The light will be visible at a distance of about 15 miles in ordinary weather, and the monthly cost of its maintenance, which has received the sanction of the Supreme Government, will be as follows:—

	Rs.	Rs.	as.	p.
1 Superintendent	-	52	-	-
1 Tindal	-	6	-	-
4 Lascars	-	22	-	-
116½ Viss of oil	-	46	7	4
Cotton wick	-	1	2	8
Company's Rupees	-	127	10	-

II.—Coringa Light.

Indian Atlas.

Latitude, 16° 49' 5" N.; Longitude, 82° 22' 40" E. Distant from the proposed Santopilly Light S. 45° W. 103 Miles.

33. The proposal for the exhibition of this light emanated from the Marine Board in 1813; and on the recommendation of the officer then holding the appointment of Master-attendant at Coringa, Hope Island was selected as the position it should occupy. It was originally intended to have been placed on a mast, but subsequently in 1816, before the work was undertaken, the erection of a tower was determined on, and carried into effect soon after. The light was composed of ten wicks, placed in common tumblers arranged in a line, was (66) sixty-six feet above the level of the sea, and was visible, when properly attended to, at about (12) twelve miles distance.

34. In this condition the light remained till 1833, when it appears some discussion arose regarding the expediency of improving it. Lieutenant (now Major) Smith of the Engineers proposed that the illuminating power should be increased by substituting fifteen Argand lamps arranged in three circular tiers for the ten common ones then in use, and at the same time advised the introduction of certain alterations in the light-room for the better and freer supply of atmospheric air. These measures being at once sanctioned, the construction of a new lantern on the principles recommended was commenced, and after the old one had been consumed by fire in June 1834, was placed in its position in October or November of the same year. The brilliancy of the light was of course now considerably augmented, but unfortunately the internal heat was found to be so intense that the copper of the lamps actually fused; and the light-room continued so hot even when the number of burners employed was reduced to the minimum at which it was considered advisable to bring them, that the attendants had some difficulty in entering to perform their duties of trimming, &c. In August 1836, therefore, the construction of a new and larger lantern was sanctioned, but it does not appear that it was supplied before the hurricane which devastated that part of the country on the 16th and 17th November 1839, and which injured the building to such an extent as to preclude all possibility of exhibiting the light for some time.

35. The

35. The necessary repairs were immediately commenced, and were so advanced by the 3d of December following, that the light was again in operation at that date, and has continued so till the present time, with only two short interruptions in the early parts of 1840 and 1843, during which certain slight repairs and alterations were in course of execution; the latter consisting of the substitution of a light frame-work and large frames of plate glass round the light room for the ponderous and ineffective windows that were before in use.

36. As now conducted, the Coringa light burns nine argand lamps, whose power is increased by parabolic reflectors. Its height is (66) sixty-six feet above the sea level, and it is visible in clear weather at a distance of about fifteen miles. The following sketch exhibits the estimated and actual expenditure for its maintenance, the charge of the establishment being vested in the Master-attendant at Cocanada, from which port the light is distant (6) six miles.

	Sanctioned Estimate.	Actual Expenditure.
	Rs. as. p.	Rs. as. p.
1 Superintendent	52 - -	52 - -
1 Tindal	- - -	- - -
4 Lascars	27 8 -	27 8 -
1 Washerman for cloths	1 - -	1 - -
270 lbs. Oil	28 - -	45 9 7
Wick	1 12 10	- 13 4
Contingent charges	- - -	- 13 8
Company's Rupees	110 4 10	127 12 7

III.—Masulipatam Light.

Latitude, 16° 9' 30" N.; Longitude, 81° 12' 45" E. Distant from the Coringa Indian Atlas. Light S. 72°, W. 131 Miles.

37. A new lantern for the use of the Madras light being expected from England, Captain Clarence Dalrymple in 1837, then Master-attendant at Madras, proposed, with the view of lessening the frequency of the wrecks which he observes had occurred of late years between Masulipatam and Coringa, that the old apparatus should be made available for the exhibition of a light at Point Divi, the easternmost point of land near the mouths of the Kistna, where he considered that its utility to general navigation would be most conspicuously felt. Both the collector of the district and the civil engineer of the division were, however, impressed in favour of False Point, at the principal mouth of the river, as being a far more eligible position; Point Divi being very low, and the soil not sufficiently firm to afford a substantial foundation for the erection of a tower, although they subsequently stated that a flagstaff might be raised there. The Marine Board adopted Captain Dalrymple's view of the matter, but eventually, owing to the difficulties that presented themselves to the accomplishment of their original plans, and the evident inutility to general navigation of a light twenty miles west of the outer point of the coast, which it would have been had the suggestion of the collector and civil engineer been attended to, the sanction of Government was procured for its being exhibited from the Masulipatam flagstaff, which is situated about a mile from the beach on the south-eastern or sea-face of the fort. The propriety of placing another light at False Point was then discussed, but negatived by the Board until at least the result of that at Masulipatam had been shown. Ultimately it was considered unnecessary.

38. The old Madras light apparatus neither being available nor fit for the flagstaff, a two-reflector lantern was constructed in the arsenal, and on the 1st December 1840 the light was exhibited, and has continued so ever since, with but few interruptions for occasional repairs, to obviate which a duplicate was furnished

furnished in April 1846. Its height above the sea level is about (95) ninety-five feet, and it is visible from the deck of a vessel about twelve or thirteen miles. It is placed under the charge of the Master-attendant at the port, who is allowed an establishment of three men for its management, the monthly cost of maintenance being as follows:—

	Rs.	Rs. as. p.	Expenditure as sanctioned.
1 Head Man - - - - -	at 10	10 - -	
2 Lascars - - - - -	„ 7	14 - -	
240 lbs. Oil - - - - -	- -	27 13 8	
Wick - - - - -	- -	- 9 6	
Company's Rupees - - - -	- - -	52 7 2	

39. In September 1846 Captain Biden having visited the spot again, revived the abandoned idea of establishing the light at Divi, pointing out the advantage that must arise from its being placed on the most prominent part of the coast; Masulipatam being ten miles inside a line connecting the Divi and Narsipoor points, and the light there being of no service to any vessels but such as were bound to the port. The sanction of Government for the new site was thereon solicited and obtained, and a flagstaff is now ordered to be erected at the point, to which on its completion the lantern will be transferred.

40. The new position of the light will be about latitude 15° 57' 30" N., and longitude 81° 14' 5" E.; S. 51, W. 81 miles from Coringa light.

IV.—Armegon Light.

Latitude, 13° 53' N.; Longitude, 80° 16' E. Distant from Point Divi proposed Light, S. 24°, W. 186 Miles.

41. It was during a visit to the northern ports in September 1846, undertaken in the H. C. steamer "Hugh Lindsay," which vessel had shortly before been transferred from the Bombay Government to that of Madras, that Captain Biden perceived the necessity of introducing those improvements in the lighting of the Coromandel Coast that have already been noticed as emanating from his suggestions. He also drew attention to the peculiar dangers that beset the navigator on this coast, from the indraught so frequently and fatally experienced in the vicinity of the Armegon and Pulicat Shoals, on the former of which a patch of hard sand, with a depth over it of only ten and a half feet, is situated five miles from the shore. Some vessels had been wrecked, and many others placed in most hazardous positions from the influence of this indraught; and even since this period, no less than four vessels have been stranded and totally lost during fine weather, owing to the current having in each instance carried them considerably to the westward of their reckoning, although it must at the same time be admitted, that had a proper look-out been kept the accidents would not have occurred.

42. These observations and suggestions have been duly taken into consideration by the Marine Board; they addressed Government on the subject, and obtained sanction for the erection of a lighthouse at the village of Moonapolium, due west of the shoal spot before noticed. The estimated expense of the building is not yet ascertained, as the plans originally submitted have to undergo some modification, but it will probably not exceed (5 or 6,000) five or six thousand rupees.

The sanctioned monthly cost of the maintenance of the light is—

	Rs.	Rs. as. p.
1 Superintendent - - - - -	at 52	52 - -
3 Lascars - - - - -	„ 7	21 - -
Oil - - - - -	- -	15 - -
Wick, &c. - - - - -	- -	5 - -
Company's Rupees - - - -	- - -	93 - -

V.—Madras Light.

Latitude, 13° 5' 10" N.; Longitude, 80° 20' 44" E. Distant from the proposed Indian Atlas. Armegon light, S. 5°, E. 48 Miles.

43. The Madras light was for a very considerable time exhibited on a frame-work or scaffolding raised on the roof of the commercial exchange in the fort. The height above the sea level was about (100) one hundred feet, and it ought to have been visible at a distance of about (17) seventeen miles, but the principle of illumination was of a most primitive description. Twelve wicks were placed in common finger glasses and small country mirrors used as reflectors. It was hardly to be expected that a brilliant light could be produced by such means, and in 1834 Vice-Admiral Sir John Gore, the naval commander-in-chief in the East Indies, having brought to the notice of Government its inefficiency as regarded height, intensity, and position, it was resolved that measures should be taken for its improvement. To this end a communication on the subject was opened between the Marine Board and Captain (now Major) Smith of the Engineers, who being on the point of proceeding to England, expressed his readiness to institute all necessary inquiries, and ascertain the best means of carrying into effect the contemplated alterations; and finally the Honourable Court of Directors sanctioned, at a cost of (£. 1,500.) one thousand and five hundred pounds, the construction under his superintendence of an apparatus in which the reciprocating principle was introduced in lieu of the ordinary rotary motion, a plan then first suggested by himself.

44. In December 1837 this apparatus was brought out by Captain Smith, and as the old frame-work on which the light had hitherto been placed was in a decayed condition, and had been pronounced by such high authority as Sir John Gore, as well as by the Master-attendant, as too far to the south of the anchorage to be of the utility to the shipping that it might be if better placed, and moreover, that it was not of sufficient height, it became a matter of consideration whether it would not be advisable to incur the expense of a new building to be erected in a more eligible site for its reception.

45. A position was accordingly selected on the esplanade between the fort and the office of Messrs. Parry & Co., and the sanction of the Honourable Court having been received, a granite column was commenced in August 1838, under the direction of the talented officer who had been entrusted with the construction of that part of the work already executed, and was completed in December 1843, to such extent as to allow of the light being exhibited on the 1st of January following, timely notice of which was published in the English and vernacular languages.

46. The peculiar and delicate construction of the machinery rendered it necessary, not only that considerable care and attention should be bestowed on its management, but that its superintendence should be vested in some one practically versed in mechanics, and able to provide against any little obstacles that might oppose its free action. The whole establishment was therefore placed under the control of Captain Smith, who retained charge until the attendants had acquired a competent knowledge of their duties, and it was not till the 6th of October 1845 that it was transferred to the Master-attendant, under whom it has ever since remained.

47. The light is of the flashing description, the ratio of the flashes to the eclipses being in the proportion of two to three, although their actual duration is altered according to the position of the spectators. The means of illumination are afforded by fifteen argand lamps with parabolic reflectors, constructed on the latest and most improved principles, which are arranged in three tiers, and the area illumined comprehends (24) twenty-four points of the compass, being nearly (130) one hundred and thirty feet above the mean level of the sea; it is visible from the deck of a ship at a distance of about (20) twenty miles, and from the mast-head nearly (30) thirty, its brilliancy allowing it to be seen until shut out from view by the earth's convexity, and from the testimony of all who have visited the port, it may without exaggeration be pronounced the best in India.

The Indian Atlas places the Madras Observatory in longitude 80° 18' 30" E, but this has been corrected by the late Mr. Taylor, H. Co.'s astronomer, to 80° 14' 15". All the longitudes mentioned as being taken from the Indian Atlas requires therefore a correction of 4' 15".
•The difference of longitude between the observatory and lighthouse is 2' 14".

Indian Atlas.

Lieutenant Fell's survey taking the longitude of Madras from the Indian Atlas.

48. The monthly cost of the maintenance of the Madras light is as follows:

	Rs.	as.	Rs.	as.	p.	
1 Superintendent	70	-	70	-	-	Expenditure as sanctioned.
1 Deputy	21	-	21	-	-	
1 Headman	9	-	9	-	-	
1 Lascar	8	-	8	-	-	
1 Ditto	7	-	7	-	-	
1 Ditto	6	8	6	8	-	
1 Ditto	5	8	5	8	-	
208 Measures of oil	-	-	91	-	-	Expenditure as sanctioned.
Contingent charges	-	-	3	3	-	
Company's Rupees	227	3	-	-	-	

To this must be added the cost of spare articles from England, such as burners, chimnies, &c.

Pondicherry Light.

Latitude, 11° 55' 57" N.*; Longitude, 79° 53' 33" E. Distant from the Madras Light S. 17°, W. 72 Miles.

49. This light is exhibited from the summit of a column of masonry at a height of (95) ninety-five feet above the sea level, and is visible in clear weather at about (18) eighteen miles distant. It is a fixed light and burns of a pale colour, the means of illumination consisting of six burners and reflectors disposed in an horizontal semicircle facing the sea. It was first exhibited on the 1st July 1836.

VI.—Negapatam Light.

Latitude, 10° 45' 36"; Longitude, 79° 55'. Distant from Pondicherry Light, S. 71 Miles.

50. As the facilities of the passage through the Paumbem channels became developed, so was the trade of the port of Negapatam proportionally augmented, the principal exports being grain and cotton cloths to Colombo and other ports in Ceylon. In the early part of 1845, the native merchants feeling the want of a light to indicate their port, which is not easily discovered during the night, subscribed a sum of (250) two hundred and fifty rupees to defray the expense of a small lantern, such as had been supplied during the few previous years to the ports on the Malabar Coast, and addressed the Collector of Tanjore, with the view of procuring the exhibition of a light from the port flagstaff. After due inquiries had been made, a proposition to this effect was submitted by the Marine Board to Government, who immediately concurred in its propriety, and resolved that the State should bear all the attendant expenses. Two lanterns, one the duplicate of the other, having been furnished, and the flagstaff put into thorough repair, the light was exhibited on the 1st of August 1846, at a height of (100) one hundred feet above the level of the sea, visible from the deck of a ship at a distance of about eleven or twelve miles, which however is diminished to something less during the N. E. monsoon, when the violence of the wind renders it advisable not to hoist the lantern above the cap of the lower mast when it is but (88) eighty-eight feet above the sea level.

51. The lanterns are fitted with two burners each and parabolic reflectors.

52. The establishment is placed under the charge of the collector of the district, and the cost of its maintenance is as follows:

	Rs.	Rs.	as.	p.	
2 Lascars	at 5	10	-	-	Expenditure as sanctioned.
60 Viss of oil	-	15	-	-	
Wick, &c.	-	5	-	-	
Company's Rupees	-	30	-	-	

VII.—Paumbem Light.

Latitude, 9° 17' 30" N.; Longitude, 79° 15' 40" E. Distant from Point Calimere, Powell's Survey. S. 33°, W. 72 Miles.

53. The operations for deepening the passage between India and the Island of Ramisseram having naturally added stimulus to the trade between the ports on the opposite sides of the channel, it became a matter of consideration in 1842, whether it would not be advisable to exhibit a light at or near Paumbem. In a channel narrow, shallow and tortuous as the one undergoing improvement, it was impossible to place the light in such wise as to assist craft in passing through after dark. The principal desideratum was a beacon to afford facility to vessels approaching the port during the night, and to enable those coming from the northward to select during the N. E. monsoon convenient berths, whence they could by daylight weigh without danger, and proceed through. With this object in view, proposition was made to Government by the Marine Board, and sanction obtained in the latter part of 1842, for the erection, on a hill about a mile east of the northern channel, of a column from which to exhibit a light. In August 1843, the building was commenced under the superintendence of the late Lieutenant Robertson, the officer then in charge of the operations for deepening the channels, and on the 21st April 1846, the light was first shown. The lantern placed (84) eighty-four feet above the level of the sea, is composed of four burners, with parabolic reflectors arranged at right angles to each other, so as to direct the rays of light to all points of the compass, and it is visible from the deck of a small craft, at a distance of about ten or eleven miles.

Madras Observatory being considered to be in longitude 80° 17' 21" E., which being 3' 6" to the east of the position assigned by Mr. Taylor, a correction equal to the latter amount should be subtracted from all longitudes given in the Manaar survey by either Lieutenant Powell or Mr. Franklin.

54. The control of the establishment is vested in the office for the time being in charge of the engineering operations, who exercises a general supervision over the affairs of the port.

55. The monthly cost of maintenance is—

	Sanctioned Expenditure.	Actual Expenditure.
Rs.	Rs. as. p.	Rs. as. p.
2 Lascars	12 - -	12 - -
60½ Gallons of oil	60 13 4	60 13 4
Contingent charges	5 - -	5 - -
Wick, &c.	4 2 8	2 7 10
Company's Rupees	82 - -	80 5 2

VIII.—Tutacurin Light.

Latitude, 8° 47' 17" N.; Longitude, 78° 14' 1" E. Distant from Cape Comorin, N. 46° E. 60 Miles. Distant from Colombo, N. 42°, W. 149 Miles.

Franklin's Survey Allowance Madras Observatory to be in 80° 17' 21" E.

56. The advantage of establishing a light at the port of Tutacurin was brought to the notice of Government in June 1843, by Mr. Franklin, then employed in the survey of the Manaar Gulf. The trade of the port having considerably increased as the facilities of its approach and the safety of its anchorage became known, the proposition was favourably received; and on the 15th May 1845, a lantern having three burners, with parabolic reflectors, was placed on a platform raised on an old Dutch obelisk, on Hare Island, situated about (2½) two and a half miles east of the town of Tutacurin, and a-breast of the safest anchoring-ground.

ground for ships. The light is about (50) fifty feet above the level of the sea, and is visible from the deck of a ship about (10) ten miles off.

57. One great advantage secured by this light is, that during the S. W. monsoon, when vessels in the Colombo Roads frequently drag or part their anchors, they can stand across the gulf, and make Tutacorin during the night, where, although blowing hard, they are on a weather shore and in smooth water, and can anchor without the slightest risk of danger.

58. A fresh lantern is under construction to replace that now in use, in which the reflectors will be so arranged that (17) seventeen points of the horizon will be included in the arc of illumination.

59. The cost of maintenance is as follows :

	Rs.	Rs.	as.	p.	
1 Superintending Lascar - - - - -	-	9	-	-	Expenditure as sanctioned.
4 Lascars - - - - -	6	24	-	-	
60 Viss of oil - - - - -	-	17	8	-	
Wicks, &c. - - - - -	-	2	-	-	
Company's Rupees - - - - -	-	52	8	-	

IX.—Cochin Light.

Latitude, 9° 58' 5" N.; Longitude, 76° 18' 10" E. Distant from Cape Comorin, N. 34°, W. 136 Miles.

60. The entrance to the back-water at Cochin had been for some time marked by two buoys, but it appears that great difficulty was experienced, and considerable expense incurred, in preserving them in their position; they were also reported by the individual then holding the appointment of Master-attendant at that port, to be of very little service. It was therefore proposed to Government by the Marine Board in the latter part of 1837, that these bouys should be removed, and that in lieu, a light, such as had been shortly before supplied for the port of Tellicherry, should be exhibited from the Cochin flagstaff. The measure was immediately sanctioned, and on the 1st of April 1839 it was shown at an elevation of (114) one hundred and fourteen feet above the level of the sea, visible at a distance of about ten or eleven miles. The lantern consisted of one burner, with a concave metal reflector, constructed so as to give light a lateral range of sixteen points, being the entire seaward arc of the horizon.

61. During the S. W. monsoon, the topmast, to the head of which the lantern is hoisted, is struck, when the distance at which the light is visible is reduced to (10) about ten miles, its height above the sea level being then only (62) sixty-two feet.

62. The establishment is under the charge of the Master-attendant, and the monthly cost of maintenance is as follows :

	Rs.	Rs.	as.	p.	
2 Lascars - - - - -	5	10	-	-	Expenditure as sanctioned.
Oil, cotton, &c. - - - - -	-	5	8	-	
Company's Rupees - - - - -	-	15	8	-	

X.—Calicut Light.

Latitude, 11° 15' 15" N.; Longitude, 75° 49' 50" E. Distant from Cochin Light, N. 25°, W. 74 Miles.

63. This light was first proposed in June 1844, on the application of the merchants of Calicut by the collector of the district, strongly backed by Captain Williams, an officer of the Indian Navy, employed on the coast as agent for the purchase

purchase of Government timber. The necessary preliminaries were all completed, and the exhibition of a light sanctioned, when subsequently in July 1845, it was found that the flagstaff on which it was intended to hoist the lantern was in such a decayed state as to render its immediate removal a matter of safety. It was at first proposed to scarf it, but on inspection it proved to be too far decayed to admit of any repair; and as a laterite column (90) ninety feet high could be constructed at a cost not much exceeding that for which a new flagstaff could be raised, it was finally determined that the former should be erected at an expense of rupees (2,360. 5.) two thousand three hundred and sixty, and annas five. The building was completed by the beginning of 1847, and on the 1st of February of that year, a one-reflector light similar to that supplied to Cochin, was exhibited therefrom, at a height of (105) one hundred and five feet above the level of the sea, visible at a distance of about ten or eleven miles. This light is not shown during the S. W. monsoon, from the 20th May to the 10th August.

64. The establishment is similar to that attached to the Cochin light, and is placed under the superintendence of the Sea Custom Manager, the cost of maintenance being,

	Sanctioned Expenditure.	Actual Expenditure.
	Rs. as. p.	Rs. as. p.
2 Lascars, at - - - - -	10 - -	10 - -
Oil, wick, &c. - - - - -	5 - -	4 4 -
Company's Rupees - - - - -	15 - -	14 4 -

XI.—Tellicherry Light.

Latitude, 11° 14' 50" N.; Longitude, 75° 32' 50". Distant from the Calicut Light, N. 30°, W. 35 Miles.

65. The exhibition of a light on the flagstaff at Tellicherry was proposed in October 1834 by the Marine Board, who stated that it was generally regretted by merchant captains visiting the port, that a beacon of some sort was not shown to indicate its position. The proposition met with the immediate and favourable attention of Government, who in December following authorized the measure, and on the 1st of December 1835 all the arrangements having been concluded, the light was in operation. The means of illumination were afforded by one burner, and concave metal reflector, placed at (130) one hundred and thirty feet above the sea level, and visible from all points of the western horizon at a distance of about ten or eleven miles in clear weather.

66. The establishment is placed under the charge of the Master-attendant at the port, and the monthly charge of maintenance was as follows :

	Rs.	Rs.	as.	p.	
2 Lascars, at - - - - -	5	10	-	-	Expenditure as sanctioned.
Oil, &c. - - - - -	-	5	-	-	
Company's Rupees - - - - -	-	15	-	-	

In May 1838, however, it was thought advisable, with the view of distinguishing this from the others, that two lights should be exhibited from the flagstaff, at an interval of twenty to thirty feet, but no alteration was effected at that time.

67. On the 5th March 1845 the lantern, while in the cross-trees, unfortunately caught fire from the carelessness of one of the Massaulchees, who, in wiping the glasses, allowed his cloth to ignite, and before the flames could be extinguished it was entirely consumed, together with the cross-trees and adjacent-wood

wood-work. An old one which had been ordered to be sold, but for which no bidders were to be found, was immediately put in sufficient repair for the temporary continuance of the light; and to avoid any such accident in future, it was resolved to erect a laterite column close to the flagstaff, which is on one of the bastions of the fort, from which to exhibit the light in future. A sum of rupees (501. 13. 5.) five hundred and one, annas thirteen, and pice five, was sanctioned on this account, and the work was to have been commenced immediately, but on reconsideration, the civil engineer of the district, from whom the proposition had emanated, suggested as an improvement that such portions of the flagstaff and rigging as were from their proximity to the light subject to risk from fire, should be cased with copper, and iron chain used instead of rope, a measure that was at once sanctioned and put into execution. In the meantime fresh lanterns were supplied, and the proposition for distinguishing this beacon from those at Cannanore and Calicut, carried into effect by displaying two; one with two burners at a height of (140) one hundred and forty feet above the level of the sea; the other with one burner, at a height of (104) one hundred and four feet. This alteration dates from the 1st of January 1846, and consequent on the additional duties that thus devolved on the establishment, authority was granted in June 1848 for the entertainment of one more Lascar, the expense of maintenance being now

	Rs.	Rs. as. p.
1 Lascar	6	6 - -
1 "	5	5 - -
1 "	4	4 - -
Oil, &c.	5	5 - -
Company's Rupees	20	- -

XII.—Cannanore Light.

Indian Atlas.

Latitude, 11° 51' 30" N.; Longitude, 75° 26' E. Distant from the Tellicherry Light, N. 49°, W. 9 Miles.

68. The exhibition of a light from the flagstaff at this port was first brought under discussion in the latter part of 1842, its purpose being mainly to indicate the anchorage to Her Majesty's colonial steamer "Seaforth," which vessel was to touch there on her passage between Colombo and Bombay with the view of landing and receiving the mails and passengers, and of taking in coals. Tellicherry, at which port a light was already shown, and where there was a Master-attendant, being so near, in fact, at only an hour's steaming distance, it naturally occurred to the Marine Board that the "Seaforth's" touching point might be advantageously transferred to that place, but on inquiry it appeared that many inconveniences would have attended such an arrangement. Cannanore possessed the advantage of being a large military station. The heads of all departments were there located. The mails were closed and shipped at once without the delay of a land journey of twelve or thirteen miles, which would have been necessary if sent on board at Tellicherry, and all the authorities with whom military passengers, the most numerous class, had to communicate were there also. Moreover, the size and convenience of the town itself rendered it far preferable to Tellicherry as the point of embarkation or debarkation. Under all circumstances, therefore, Cannanore continued to be visited by the steamer, and on the 17th October 1843 the light was first shown on the flagstaff from an old lantern transferred from Tellicherry, which in December 1844 was replaced by a new one with a single concave reflector furnished expressly for the port, and a duplicate of which was subsequently supplied. The height of the light above the sea level is about (110) one hundred and ten feet, excepting in the south-west monsoon, when it is lowered to (85) eighty-five, and it is visible from ten to eleven miles in clear weather.

69. There

69. There being no master-attendant or marine establishment at the port, the charge of the light is entrusted to the commissary of ordnance at the station, the monthly cost of maintenance being—

	Rs.	Rs. as. p.	
2 Lascars	at 5	10 - -	Expenditure as sanctioned.
Oil, &c.	- - -	10 13 2	
Company's Rupees	- - -	20 13 2	

XIII.—Mangalore Light.

Latitude, 12° 51' N.; Longitude, 74° 53' E. Distant from Cannanore Light N. 31°, W. 69 miles. Horsburgh, Edition of 1846.

70. The collector of Canara having noticed that inconvenience was occasioned by the want of a beacon light to indicate the port of Mangalore during the night, represented the circumstance to the Marine Board in the latter part of 1839, and applied for one to be exhibited from the flagstaff, which was situated on a hill (200) two hundred feet above the level of the sea. Sanction was obtained for putting into effect the suggestion thus offered, and since the 1st of October 1842 the light has been shown during the fair weather season, the period of its extinction being, as with that of Calicut, from the 20th May to the 10th August. The lantern supplied for this purpose, of which a duplicate was furnished in October 1846, is fitted with three Argand burners and parabolic reflectors, and the distance at which the light may be discerned is reckoned about (16) sixteen miles.

71. No additional men were required for attendance, as it was found that the two already attached to the flagstaff could without inconvenience be charged with that duty. The monthly expense for oil, &c., is about (15) fifteen rupees, and the superintendence is vested in the sea customs' manager, who has held charge of the Marine department since the abolition of the office of master-attendant.

BEACONS, BUOYS, &c.

72. There are but few beacons or buoys used on the coast of the Madras Presidency, for being possessed of no harbours of depth, and of but few navigable rivers, and those, with the exception of the Godavary at Coringa, and the mouth of the Backwater at Cochin, only available to the smaller description of craft, there occurs but little necessity for them. Among the beacons, however, must be classed the flagstaves, which serve to point out the situation of the various ports at which they are placed. Pursuing the plan adopted in enumerating the lights, the following will be found to comprise a notice of all the buoys and beacons that have been or are about to be established for facilitating the navigation of these coasts:—

Monsoorcottah Flagstaff.

Latitude, 19° 14' N.; Longitude, 85° 3' E.

Horsburgh, 1846.

73. At this port there was formerly a flagstaff kept up at the expense of the master-attendant, but on the office being abolished in 1837, it appears to have fallen from decay and not again erected. Within the last few years the trade of the port has revived. Extensive sugar plantations have been brought into cultivation in its vicinity, and many English vessels now load there during the year. There are, however, no prominent natural marks by which the anchorage can be distinguished, and the Marine Board, at the suggestion of Captain Biden, recommended the erection of a port flagstaff on a small hill near the beach on which to display an ensign on the approach of a vessel. Sanction has been granted, and for the engagement of a lascar at a monthly salary of seven rupees for its care, and the work is now in the hands of the civil engineer of the division.

74. No signals will be supplied.

659.

H

Vizagapatam

Vizagapatam Flagstaff.

Latitude, 17° 42' N.; Longitude, 83° 21' 15" E.

Indian Atlas.

75. This flagstaff, which has been erected from time immemorial, is situated on a hill south of the port, called the Dolphin Nose, and is under the charge of the officer commanding the garrison, who employs a serjeant and a few lascars to attend to it. These are now about to be withdrawn, but as the staff is too distant from the port to admit of the sea custom gomastah, to whom, on the abolition of the master-attendant office in 1843, the Marine department was made over, taking charge of it in its present position, where it is found extremely useful in pointing out the port, which is shut in from the northward, the Marine Board have recommended that they shall be continued in their duties.

76. In the year 1843, Marryatt's book of signals was supplied, and in 1847, on a representation that inconvenience was experienced from the port not being furnished with the means of signaling with the shipping in the roadstead, a set of signal-flags was added.

Coringa Flagstaff.

Latitude, 16° 56' 25" N.; Longitude, 82° 17' 40" E.

Indian Atlas.

77. The Coringa flagstaff was for many years situated in the town of the same name, but the anchorage becoming gradually more distant as the banks formed by the mud and silt brought down by the Godavery extended, till at last it was only on a clear day that the staff was to be distinguished from the shipping, it was in 1847, under the advice of the collector and the master-attendant at Madras, removed to Juggernaik Poorum, where it is about due west of the ships in the roads.

78. One tindal and one lascar, on the respective monthly salaries of seven and four rupees, are employed in attendance, under the orders of the master-attendant, whose office was removed from Coringa to the same locality in the early part of 1847.

79. Marryatt's code of signals are furnished for the use of the port, and a small boat, manned by two lascars, at a monthly salary of five rupees each, is placed at the disposal of the master-attendant, to board ships on their arrival, and to supply oil, &c., to the lighthouse on Hope Island, which lies about (6) six miles from the port.

Masulipatam Flagstaff.

Latitude, 16° 9' N.; Longitude, 81° 12' 45" E.

Indian Atlas.

80. This staff is situated on the sea-face of the fort, about one mile from the beach, and is attended to by lascars supplied from the arsenal. It is placed under the charge of the master-attendant, who is also invested with the management of the light which is exhibited from it.

Eskapilly Flagstaff.

Latitude, 14° 44' N.; Longitude, 86° 10' 30" E.

Indian Atlas.

81. This is a small flagstaff kept up at the port of Eskapilly, under the control of the collector of the district. No establishment is allowed in the Marine department for its attendance.

Pulicat Flagstaff.

Latitude, 13° 35' 15" N.; Longitude, 80° 23' 40" E.

Indian Atlas.

82. This staff was formerly under the charge of the master-attendant of the port, but the office being abolished in 1837, the control of the Marine department was placed in the hands of the police ameen, who receives on this account an addition to his salary of (30) thirty rupees per month, and deposes two lascars to attend to the duties of the staff.

83. He

83. He is at present supplied with a code of Marryatt's signals, but as very few vessels, either European or native, visit the place, it is not in contemplation to renew them on their becoming unserviceable.

*Madras Flagstaves.*Master-attendant's, Latitude, 13° 6' N.; Longitude, 80° 21' 55" E.
Fort - - - - - 13° 5' N.; Longitude, 80° 21' 45" E.

Indian Atlas.

84. At Madras there are two flagstaves; one placed at the master-attendant's office on the north beach, from which all signals with the shipping are made and returned, the other on the sea-face of the Fort, under the charge of the town-major. Two signal-men are employed, at a monthly salary of (10) ten rupees each to attend to the former, while the latter is managed by men supplied by the officer under whose control it is placed.

85. The establishment kept up for the service of the port is one Masulah boat, with a crew of a tindal, ten men and a boy, employed in taking the master-attendant or his assistant afloat when necessary. Eight catamaran men, whose duties are to board ships coming into the Roads for their report, ascertain the depth of water in which they anchor, and otherwise carry orders. Two divers and six large catamaran men employed recovering anchors or other articles that may have been lost overboard, the salvage of which is credited to Government with the exception of (5) five per cent. on claimed, and (2½) two and-a-half per cent. on the proceeds of unclaimed articles, which is distributed to the establishment. The whole is superintended by a native overseer and deputy.

86. In 1834 a company was formed to carry into effect a proposition that had long occupied the attention of the community, namely, the building a breakwater within a moderate distance of the shore, with the view of facilitating the landing and shipment of cargo, which so frequently received damage in passing through the surf, proverbially known to break with violence on the Madras beach. The work was commenced in 1835, and a large quantity of granite was sunk in (26) twenty-six feet water abreast the master-attendant and sea custom offices, but after proceeding for a time it was found that the expenditure would be so infinitely beyond all the calculations, that the idea was abandoned. A danger, however, had now been formed, for the mount of granite rose from four fathoms to within twelve feet of the surface. A buoy has consequently been placed on the southern edge as a warning to ships, and more particularly to small craft, not to approach too close. The bearings of the breakwater from the master-attendant's flagstaff are S. E. by E. ¾ E. (300) three hundred yards from the shore. Extreme length from N.N.E. to S.S.W. (76) seventy-six feet. Extreme breadth (55) fifty-five feet.

Pondicherry Flagstaff (French).

Latitude, 11° 55' 57" N.; Longitude, 79° 53' 33" E.

From M. Holstein.
Capt. department.

87. This flagstaff is erected on the beach close to the lighthouse.

Cuddalore Flagstaff.

Latitude, 11° 43' N.; Longitude, 79° 50' E.

Horsburgh, Edition 1846.

88. This flagstaff is situated on the western bank of the river or backwater, on which the old town of Cuddalore is built. It was formerly under the charge of a master-attendant, but since that office was abolished in 1837, it has been under the care of the superintendent of sea customs, who employs men of that department to attend to it and the signals, of which two sets of Marryatt's are furnished for the use of the port.

89. Some sand-hills intervening between the beach and the flagstaff, of such elevation as in some directions to exclude its view from the sea, it is probable the Board will be under the necessity of advising its removal to a more convenient situation.

Porto Novo Flagstaff.

Latitude, 11° 31' N.; Longitude, 77° 48' E.

Horsburgh, Edition 1846.

90. This flagstaff is erected near the beach to point out the port, which like the others was at one time under the charge of a master-attendant, whose office being abolished, it is entrusted to the care of the superintendent of sea customs. National flags and Marryatt's book of signals are supplied for use.

Tranquebar Flagstaff.

Latitude, 11° 1' N.; Longitude, 79° 66' E.

Horsburgh, Edition 1846.

91. This flagstaff is placed on the sea-face of the old Danish fort, which is built close to the sea. It is under the sea customs' manager, and is supplied with the national flag, but not with signals.

Negapatam Flagstaff.

Latitude, 10° 45' 30" N.; Longitude, 79° 55' E.

Horsburgh, Edition 1846.

92. The flagstaff at Negapatam is placed on a bastion of the old fort near the beach, about (¼) quarter of a mile south of the custom-house, and about (½) half way between the two bars of the river, which here falls into the sea. These bars are seldom both open at the same time, and have only sufficient depth to admit of the passage of boats, except at high-water springs, when vessels of from (50) fifty to (100) one hundred tons, drawing about five feet, are taken across.

93. The office of master-attendant being abolished in 1837, the staff has since been under the charge of the Sea Custom department. National flags and Marryatt's book of signals are supplied for use.

Point Calimere Beacon.

Latitude, 10° 17' N.; Longitude, 79° 54' E.

Powell's Survey, Madras Observatory being in 80° 70' 21" E.

94. Between Point Calimere and the northern coast of the Peninsular of Jaffna, in Ceylon, exists an extensive range of banks, which have been appropriately termed the Middle Banks, composed of sand, in some places so firm as to resemble rock when sounded on. The depth over these varies from nine feet to (4) four fathoms, and there are several channels between them, with three to six fathoms, mud and sand, but from their being situated at too great a distance from the shore for any marks to be discerned whereby to indicate their exact positions, there are only two that can be of any practical use to vessels drawing ten or twelve feet water; one with a breadth of six miles, between the south end of the banks and Ceylon, the other about three miles off Point Calimere; and it is to render Palk's Bay more accessible by this last-mentioned passage, that Captain Biden proposed, after visiting the locality in August 1846, that a beacon should be erected on the low sandy point of Calimere. The water in the channel varies from three to four fathoms, with two on either side, but a small patch exists nearly in the centre, with only fifteen feet over it; nevertheless, were the point to remain distinguishable while passing it, the directions given in the published sailing instructions for the bay would enable a vessel to clear the danger, but this is not the case. Point Calimere, jutting out clear and well defined when viewed from the northward or westward, becomes merged in the surrounding low land when abreast of it, so as to render its determination for a compass bearing almost impossible. It is for this reason that a beacon was recommended to be placed there, on the erection of which the Calimere passage will become as easy of navigation as that on the opposite side of the strait; and the larger vessels to and from Paumbem will be able to shorten the voyage, by selecting the direct course through this channel, instead of as now going round the south end of the Middle Banks. A building consisting of a hollow column of masonry, which if required can hereafter be converted into a lighthouse, has been sanctioned, at a cost of rupees (1,960. 12. 1.) one thousand nine hundred and sixty, annas twelve, and pice one, and the civil engineer of the division is now engaged on its construction.

Paumbem Flagstaff and Buoys.

Latitude, of Flagstaff 9° 17' N.; Longitude, 79° 50' 20" E.

Powell's survey, Madras Observatory being 80° 17' 21" E.

95. The flagstaff at Paumbem is situated on the beach, due east of the rocky dam through which the northern channel leads, and stands immediately before the bungalow of the officer superintending the engineering operations, under whose charge it is placed. It is used as a mark for anchoring in the roads, and for signaling the rise and fall of the tide to the working parties in the channels. It is not supplied with a set of Marryatt's signals, as the chief portion of the craft using the channel belong to and are manned and commanded by natives.

96. There are also three buoys placed in the Paumbem channels to facilitate the passage through; one as a fairway buoy at the north end of the northern channel; one at the south end of the southern channel; and the third on a sandy knoll, awkwardly situated in the fairway, a little to the westward of it.

97. Two wooden beacons are also erected in the southern approaches to Paumbem, one on the northern extremity of a reef stretching out from some rocky islets, between which and the Island of Ramisseram the eastern channel leads; the other on a rocky patch nearly awash, four miles W. S. W. of the sand bank, lying directly in the fairway.

98. An inland navigation, fit for the passage of vessels drawing ten to twelve feet, and consequently of such as can make use of the pass, extends from Paumbem to Valonookum Point, a distance of about (34) thirty-four miles, formed by a rocky ledge, from two and a half to five miles off shore, having on it several low sandy islands, which afford complete shelter during the S. W. monsoon, which blows here with great violence nearly dead on the shore. Although the navigation is intricate, it is freely used by the coasting craft; but there are two places in which the passage becomes very confined; the first at Ramasawmy's Choultry, nine miles west of Paumbem, where a large black buoy is moored on each side of the channel, which is about a quarter of a mile wide; the other at Naajimundel, thirteen miles further west, at which one buoy is placed to indicate the passage, which is to the north of it.

99. Having connexion with this subject, it may be here noticed, that an establishment of native pilots is kept up for the purpose of taking vessels through the Paumbem passes. They are plentifully supplied with warps and grapnels, for the use of such vessels as may require them; and being under the superintendence of an active East Indian, their duties are performed satisfactorily. At present they are in the pay of Government, but consequent on instructions lately received from the Honourable Court of Directors, a system of licensing will shortly be introduced, when their remuneration will be regulated by their actual amount of work.

Tuticorin Flagstaff.

Latitude, 8° 48' 5" N.; Longitude, 78° 11' 53" E.

Franklin's Survey, Madras Observatory being in 80° 17' 21" E.

100. The Honourable Court having directed the abolition of the office of master-attendant at Tuticorin on the death of the incumbent, Mr. Baggott, the flagstaff was allowed to fall to decay. Subsequently, however, in consequence of the trade of the port rallying, a successor was appointed, and a new flagstaff has just been raised, occupying nearly the same position as the former one.

101. The port being frequented by English vessels, a set of Marryatt's signals are supplied, and a port boat, with a crew of one tindal and six lascars, placed at the disposal of the master-attendant, who is also furnished with the means of raising heavy anchors.

102. Ships anchor about a mile and a half outside the island on which is exhibited the light; a little to the north of which, and directly in the fairway of boats passing to and from the town, is a rocky patch with two and three feet over it, rendered dangerous during a moderate sea-breeze by its only occasionally breaking. On this a wooden beacon is now placed.

Cochin Flagstaff.

Latitude, 9° 58' 5" N.; Longitude, 76° 18' 10" E.

Indian Atlas.

103. The flagstaff at Cochin is situated on the south side of the Backwater, about a quarter mile from the entrance, and is placed under the care of the master-attendant at the port, who also has charge of the light which is exhibited from its topmast head; it is the principal mark for vessels anchoring in the roads, and is furnished with a set of Marryatt's signals.

104. A port boat, manned by a tindal and four lascars, is kept up for the use of the master-attendant.

105. It has been observed in the notice of the Cochin light, that the buoys which were once placed at the entrance to the Backwater were removed in the latter part of 1837, and that in lieu the light was substituted. A beacon was thus established, which served to point out the port during the night, but it could be of no practical utility to vessels crossing the bar, which could only be done during daylight. Some excellent marks for the fairway existed in three Roman-catholic churches on an island inside; but as these were occasionally obscured, inconvenience was frequently experienced from the absence of some objects visible at all times. With the view therefore of remedying this deficiency, the Marine Board, on the suggestion of the collector of Malabar, recommended in June 1846, that the channel over the bar should again be buoyed off, and the Government having acceded to the proposition, three buoys were constructed, one being a spare one, and moored on either side of the outer entrance on the 21st of September 1847. They are taken on shore, and the anchors weighed during the S. W. monsoon, when that coast is generally closed to the navigator.

Calicut Flagstaff.

Latitude, 11° 15' 15" N.; Longitude, 75° 49' 50" E.

Indian Atlas.

106. There is no regular flagstaff here now, a column having been erected in lieu for the exhibition of the light. A small mast is, however, rigged out, from the summit of which the national colours and signals are displayed, of which one set of Marryatt's is supplied, and the whole is placed under the charge of the sea-customs' manager.

Tellicherry Flagstaff.

Latitude, 11° 44' 50" N.; Longitude, 75° 32' 50" E.

Indian Atlas.

107. This flagstaff is on one of the bastions of the fort, and is placed under the charge of the master-attendant at the port. It is one of the principal marks for anchoring in the roads, and is supplied with a copy of Marryatt's book and a set of signals.

Cannanore Flagstaff.

Latitude, 11° 51' 20" N.; Longitude, 75° 26' E.

Indian Atlas.

108. This staff, like the others, is a leading mark for the anchorage. It is situated near the sea, on the south side of the fort, and is under the charge of the deputy commissary of Ordnance at the station.

Mount Delli proposed Harbour of Refuge.

109. In September 1840 Major (now Lieutenant-Colonel) Lawe, the civil engineer, of the 7th division, submitted a proposal to Government for the construction of a harbour at Mount Delli, which he observed might be effected by rolling

rolling down masses of the granite of which the Mount, which projects boldly into the sea, is composed, and gradually pushing out a breakwater in a southerly direction, whereby, he stated, might be formed a harbour capable of affording shelter to any number of ships at all seasons of the year, but more especially in the S. W. monsoon. At a rough calculation he named (18) eighteen lacs as the probable expense of carrying into effect this proposal, which sum, however, he thought might be reduced to one lac by employing a company of sappers and miners and a party of (500) five hundred convicts.

110. The Government, fully appreciating the importance of a work of this nature on a coast so deficient in shelter during the prevalence of the S. W. winds, issued instructions for a more detailed examination and report being made in communication with the Military and Marine Boards. Subsequently Captain Biden offered his services to survey the locality, and in November following, the Government having associated with him Lieutenant Fast, of the corps of engineers, he proceeded to the spot. His report was in substance, that a breakwater could be constructed and harbour formed as proposed, although its cost, he thought, would not fall short of fifty lacs of rupees; but it would be attended with certain objections, one of the gravest being that there would not be more than (5½) five-and-a-half fathoms of water at the entrance, on which a large ship might strike in a heavy sea such as is experienced on that coast in the S. W. monsoon. Another objection was, that although ships might get in, they could not by any possibility get out again without a shift of wind. These were nautical points on which the master-attendant's opinion was of the utmost weight; and although he stated that the last objection might be overcome by making a northern as well as southern outlet, the cost would be so great that he was not disposed to recommend the measure in its original shape, namely, the formation of a harbour of refuge for large ships. The Government decided accordingly that the undertaking involved a contemplated expenditure too vast to admit of its adoption being favourably submitted to the Honourable Court; but they were willing to entertain an amended proposition made by the master-attendant for constructing a pier with the view of forming an inner harbour on a small scale for coasting craft and steamers, which that officer considered might be effected at a very moderate outlay. The civil engineer of the division was consequently requested to report upon the undertaking, but some obstacle probably presented itself, and the matter here dropped.

Mangalore Flagstaff.

Latitude, 12° 51' N.; Longitude, 74° 53' E.

Horsburgh, 1846.

111. The flagstaff at Mangalore is situated on a hill about a mile from the landing-place, and is a very conspicuous object to vessels making the anchorage. There being no master-attendant at the port, its care is entrusted to the sea customs' manager, who is furnished with a copy of Marryatt's code of signals, but not with the flags.

By order,

Madras, Marine Board Office,
3 October 1848.

(signed)

John J. Franklin,
Secretary.

LIST of LIGHTS, Exhibited or Proposed, in the Madras Presidency.

NAME.	Number of Reflectors.	Latitude.	Longitude.	Height of Light.	Distance at which Visible.	Cost of Maintenance.	REMARKS.
Santopillay (proposed)	2	18 1 00 N.	83 39 00 E.	150	15	Rs. as. p. 127 10 -	This light is to be placed on a platform on the northern of two remarkable hills, abreast of the Santopillay Rocks, called the Conara Hills.
Coringa - - -	9	16 49 5	82 22 40	66	15	127 12 7	On a tower on Hope Island, off Coringa.
Masulipatam - -	2	{ 16 9 30 15 57 30	{ 81 12 45 81 14 5	{ 95 -	{ 13 -	{ 52 7 2 -	On the port flagstaff, about a mile from the beach. At Point Divi, to which its removal has been sanctioned.
Armegan (proposed) -	-	13 53 00 N.	80 16 00 E.	-	15	93 - -	A column to be erected at the village of Moonapollum, which is due west of the shoalest part of the Armegan shoal.
Madras (flashing) -	15	13 5 10	80 20 44	130	20	227 3 -	On a granite column erected on the esplanade north of the fort. Seen 30 miles from the masthead of a ship.
Negapatam - - -	2	(H) 16 45 30	79 55 00	100	12	30 - -	On the flagstaff close to the sea. In the N.E. monsoon the lantern is lowered to 88 feet.
Paumben - - -	4	(P) 9 17 30	79 15 40	84	11	82 - -	On a column built on a sand-hill about a mile east of the passage. The reflectors being placed at right angles to each other, the light can be seen from all points of the horizon.
Tuticorin - - -	3	(F) 8 47 17 N.	78 14 1 E.	50	10	52 8 -	On a platform fitted on the summit of an old obelisk on Hare Island, about two miles and a half east of the town.
Cochin - - -	1	9 58 5	76 18 10	114	11	15 8 -	On the flagstaff, about a quarter of a mile from the entrance to the Backwater. In the S.W. monsoon the lantern is lowered to 62 feet.
Calicut - - -	1	11 15 15	75 49 50	105	11	16 6 -	On a column erected near the beach. In the S.W. monsoon, from 20th May to 10th August, it is extinguished.
Tellicherry { Up. Light Low. do.	{ 2 1 }	11 44 50	75 32 50	{ 140 104 }	11	20 - -	A double light on the flagstaff burning throughout the year.
Campanore - - -	1	11 51 20	75 26 00	110	11	20 13 2	On the flagstaff, close to the beach. In the S.W. monsoon the lantern is lowered to 85 feet.
Mangalore - - -	3	(H) 12 51 00	74 53 00	250	16	15 - -	On the flagstaff, on a hill at the back of the town, 200 feet above the level of the sea, and about a mile from the beach. It is extinguished during the S.W. monsoon.

Note.—(H) denotes that the position is taken from Horsburgh's edition of 1846.

(P) denotes that the position is taken from Lieutenant Powell's Survey, allowing Madras Observatory to be in 80° 17' 21" E.

(F) denotes that the position is taken from Mr. Franklin's Survey, allowing Madras Observatory to be in 80° 17' 21" E.

These not marked are from the Indian Atlas, allowing Madras Observatory to be in 80° 18' 30". The true longitude of the Observatory has, however, now been determined by the late Mr. Taylor to be 80° 14' 15", leaving a correction of 4' 15" applied to the latter, and one of 3' 6" to the survey of Lieutenant Powell and Mr. Franklin.

All these lights are fixed ones, with the exception of that at Madras, which is of the flashing description.

(signed) J. J. Franklin,
Secretary Marine Board.

LIST of BEACONS, BUOYS, &c. established under the Madras Presidency.

WHERE.	Nature.	Latitude.	Longitude.	Signals.	REMARKS.
Ionsoorcotta (proposed) -	Flagstaff -	19 14 00 N.	85 3 00 E.	none -	To be erected abreast of the anchorage near the beach.
Vizagapatam - - -	ditto -	17 42 00 N.	83 21 15 E.	yes -	On the Dolphin's Nose, under the charge of the military authorities.
Coringa - - -	ditto -	16 56 25	82 17 40	yes -	At Juggernaikpoorum, about 6 miles north of the town of Coringa.
Masulipatam - - -	ditto -	16 9 30	81 12 45	none -	On the S.E. corner of the fort, about a mile from the beach.
Point Divi (proposed) -	ditto -	15 57 30	81 14 5	none -	On the beach at Point Divi, for the reception of the Masulipatam light.
Eskapillay - - -	ditto -	14 44 00	80 10 30	none -	Near the beach.
Pulicat - - -	ditto -	13 25 15	80 23 40	yes -	On an island in the Backwater, near the beach.
Madras, Master-attendant's	ditto -	13 6 00	80 21 55	yes -	On the south end of the sea custom and master-attendant's office.
Ditto, Fort - - -	ditto -	13 5 00	80 21 45	yes -	On the sea-face of the fort, under the military authorities.
Ditto, Fort - - -	Buoy -	- - -	- - -	- -	Bears S.E. by E. $\frac{3}{4}$ E. from master-attendant's flagstaff, 300 yards from the shore, on the south end of the granite heaps.
Pondicherry - - -	Flagstaff -	11 55 57	79 53 33	- -	On the beach near the lighthouse; position from Mr. Holstein, Capt. de Port.
Cuddalore - - -	ditto -	(H) 11 43 00 N.	79 50 00 E.	yes -	On the western bank of the Backwater.
Porto Novo - - -	ditto -	(H) 11 31 00	79 48 00	none -	Near the beach.
Tranquebar - - -	ditto -	(H) 11 1 00	79 55 00	none -	On the sea-face of the old fort.
Negapatam - - -	ditto -	(H) 10 45 30	79 55 00 E.	none -	On the bastion of the old fort.
Calimere (proposed) -	Beacon -	(P) 10 17 00 N.	79 54 20 E.	- -	A white column to be constructed on the low sandy point of Calimere, convertible into a lighthouse, if required.
Paumben - - -	Flagstaff -	(P) 9 17 00	79 15 20	none -	On the beach in front of the bungalow occupied by the superintendent of operations, and due south of the anchorage, north of the channels.
Paumben - - -	Buoy No. 1 -	- - -	- - -	- -	In the fairway at the north end of the northern channel.
Paumben - - -	" No. 2 -	- - -	- - -	- -	In the fairway at the south end of the southern channel.
Paumben - - -	" No. 3 -	- - -	- - -	- -	On the south side of a four-foot bank to the west of the southern channel.
Paumben - - -	Beacon No. 1 -	- - -	- - -	- -	On the north edge of the reef, stretching from the rocky islets east of the southern channel.
Paumben - - -	" No. 2 -	- - -	- - -	- -	On a rocky patch four miles W.S.W. of the southern channel.
Ramasawmy's Choultry -	Two Buoys -	- - -	- - -	- -	One on each side of this channel, which is but a quarter of a mile wide, and nine miles west from Paumben.

(continued)

WHERE.	Nature.	Latitude.	Longitude.	Signals.	REMARKS.
Naaje Mundell - - -	Buoy - - -	o ' "	o / "	- - -	On an eight-foot bank, 22 miles west of Paumbem. The deep water is to the north of it.
Tuticorin - - -	Flagstaff - - -	(F) 8 48 5	78 11 55	yes -	On the beach, near the town at the bottom of the harbour.
Tuticorin - - -	Beacon - - -	- - -	- - -	- - -	On a rocky patch of two and three feet, situated north of Hare Island, in the fairway of boats passing to and from the shipping.
Cochin - - -	Flagstaff - - -	9 58 5	76 18 10	yes -	On the south bank of the Backwater.
Cochin - - -	Two Buoys - - -	- - -	- - -	- - -	One on either side of the channel over the bar; taken up during the S.W. monsoon.
Calicut - - -	Flagstaff - - -	11 15 15 N.	75 49 50 E.	yes -	A small staff on the summit of the light column.
Tellicherry - - -	ditto - - -	11 44 50	75 32 50	yes -	On one of the bastions of the fort to seaward.
Cannanore - - -	ditto - - -	11 51 20	75 26 00	no -	At the south end of the fort; under the military authorities.
Mangalore - - -	ditto - - -	(H) 12 51 00	74 53 00	no -	On a hill 200 feet high, about a mile from the beach.

Note.—The explanation of the letters (H), (P) and (F), given at the foot of the List of Lights, applies equally to the above.

(signed) J. J. Franklin,
Secretary Marine Board.

LIST and Description of CHARTS executed under the Orders of the Madras Government.

LOCALITY.	Price.	Scale.	By whom executed.	
Paumbem Pass - - -	Rs. a. p. 2 8 -	1,000 yds. = 1.9 in.	Lieuts. Powell and Ethersey, in 1837-38	Published by John Walker, Geographer to the H. E. I. Company, 10 July 1839.
Tuticorin Harbour and Roadstead.	2 8 -	½ mile = 1 inch -	Mr. Franklin, 1842 -	Published by the Madras Government, and printed by W. Winchester, at Madras.
Tuticorin Harbour and Roadstead.	2 8 -	½ mile = 1 inch -	Ditto - - -	Published by John Walker, Geographer to the H. E. I. Company, 1 July 1846.
West side of Palk's Straits	2 8 -	2 miles = 1 inch -	Lieuts. Powell and Ethersey, 1837-38	Published by John Walker, Geographer to the H. E. I. Company, 30 April 1846.
Coasts from Paumbem to Tuticorin.	2 8 -	2 miles = 1 inch -	Lieuts. Powell and Ethersey, continued by Mr. Franklin.	Published by John Walker, Geographer to the H. E. I. Company, 30 April 1846.
Coasts from Tuticorin to Cape Comorin.	2 8 -	2 miles = 1 inch -	Mr. Franklin - - -	Published by John Walker, Geographer to the H. E. I. Company.

Note.—All these are sold by the Master-attendant at Madras and Tuticorin, and the officer in charge of the engineering operations at Paumbem, these being the places where they are most likely to be required. No allowance is made to these officers on account of such sales.

(signed) J. J. Franklin,
Secretary Marine Board.

LIST and Description of NOTICES relating to the Navigation of the Coasts, published from time to time by the Madras Government.

DATE.	How Published.	ON WHAT SUBJECT.
18 November 1835	Government Gazette	Notice by Commodore Moresby, I.N., respecting Pigeon's Island and Mangalore, on the Malabar coast.
26 November 1835	Ditto - - -	Notice of the exhibition of a light on the flagstaff at Tellicherry, by Mr. Clementson, principal collector of Malabar.
12 April - 1839	Ditto - - -	Notice of the removal of the buoys at Cochin, and the exhibition of a light from the flagstaff, by Mr. Underwood, acting collector of Malabar.
14 April - 1840	Ditto - - -	Notice to caution mariners from approaching the shoals off Point Gordeware and Coringa, by Captain Biden.
12 September 1840	Ditto - - -	Notice of the intention of exhibiting a light on the flagstaff at Masulipatam, by Mr. Grant, collector of Masulipatam.
17 May - 1841	Ditto - - -	Notice of the light at Masulipatam having been exhibited by the Marine Board.
26 November 1841	Ditto, and in a separate sheet for distribution.	Notice for vessels bound to Paumbem, with sailing instructions, by Captain Jenkins, deputy assistant quartermaster-general of the army in charge of operations, Paumbem.
31 December 1841	Government Gazette	Instructions for Tuticorin roadstead, by Mr. Franklin.
14 October - 1842	Ditto - - -	Notice of a danger off Manuckpatam, by the Marine Board, communicated by Mr. H. C. Hamilton, collector of Cuttack.
29 October - 1842	Ditto - - -	Notice of a light being exhibited on the flag-staff at Mangalore, by the Marine Board.
29 October - 1842	Ditto - - -	Instructions for Mangalore roadstead, by the Marine Board, communicated by Captain Biden.
9 October - 1843	Ditto, and in a separate sheet.	Notice of the exhibition of the new light at Madras, by the Marine Board.
5 February 1844	Government Gazette	Notice of the light at Cochin, by the Marine Board.
29 March - 1844	Ditto, and in a separate sheet.	Sailing directions between Tuticorin and Cape Comorin, by the Marine Board, communicated by Mr. Franklin.
29 March - 1844	Ditto, ditto - - -	Sailing directions for Palk's Bay, by Mr. Franklin.
8 January - 1845	Government Gazette	Notice of the exhibition of a light on the flagstaff at Cannanore, by the Marine Board.
1 August - 1845 May - 1846	Separate sheet - Government Gazette	Notice of the exhibition of a light on the Dutch obelisk, Hare Island, Tuticorin, by Mr. Franklin.
15 December 1845	Ditto - - -	Notice of the intention of exhibiting a double light at Tuticorin, to distinguish it from those at Cannanore and Calicut, by the Marine Board.
29 April - 1846	Government Gazette and separate sheet.	Notice of the exhibition of a light at Paumbem, by Mr. Franklin.
21 May - 1846	Government Gazette and separate sheet.	Instructions for navigating the Gulf of Manaar, by Mr. Franklin.
20 July - 1846	Government Gazette	Notice of the exhibition of a light from the flagstaff at Negapatam, by Sir H. Montgomery, Bart., collector of Tanjore.

DATE.	How Published.	ON WHAT SUBJECT.
21 September 1846	Government Gazette and in separate sheet.	Instructions for the Coromandel coast and Santopile Rocks, by Captain Biden.
1 February 1847	Government Gazette	Notice of the exhibition of a light at Calicut, by the Marine Board, communicated by Mr. Conolly, collector of Malabar.
19 October - 1847	Ditto - - -	Anchoring directions for the roadstead of Cuddalore, by the Marine Board, communicated by Mr. Smith, superintendent of sea customs.
11 February 1848	Ditto - - -	Notice of two buoys being placed at the entrance to the Cochin Backwater, by the Marine Board.
17 March - 1848	Ditto, and on a separate sheet.	Notice furnished by Mr. Bradley, master of H. M.'s Ship "Fox," relative to the erroneous position of several places in Duncan's Passage and the S.E. part of the Southern Andaman, by Captain Biden.

(signed) *J. J. Franklin,*
Secretary Marine Board.

NOTICES RELATING TO THE NAVIGATION OF THE COASTS.

I.—From the "Bombay Government Gazette."

NOTICES TO MARINERS, by Commander *Moresby*, of the Honourable Company's Surveying Ship "Benares."

Pigeon Island, coast of Malabar. Latitude taken from the centre of the island, 14° 1' 05" N. Longitude 1° 28' 54" east of the saluting battery at Bombay, or 74° 23' 28" east of Greenwich. The magnetic variation observed was 21' east, and the dip of the needle 7° 37'.

Mangalore.

Mangalore flagstaff about four years back was removed nearly one mile further inland, and it now stands N. 36° E. about one mile and a half distant from the mouth of the river.

The best anchorage for ships in the roads is the flagstaff in one with the south point of the river, bearing N. E. by N., 5 fathoms, muddy bottom, distant about one mile and a half from the shore, at which position a small house with a single tree near it on a round fortified hill bears S. E., distant about three miles.

The latitude of the flagstaff is 12° 52' north, the longitude of it 1° 59' 01" east of Bombay, or 74° 53' 42" east of Greenwich.

This is supposing Bombay saluting battery to be in 72° 54' 41" E.

The mean variation observed on shore by several theodolites was found to be 23' E.

(signed) *Charles Malcolm,*
Superintendent of the Indian Navy.

Bombay, 18 November 1835.

(True copy.)

(signed) *J. J. Franklin,*
Secretary Marine Board.

II.—Lighthouse at Tellicherry.

Principal Collector's Office on Circuit,
Manuapooram, 26 November 1835.

THE Right Honourable the Governor in Council having been pleased to authorise a light to be hoisted on the flagstaff at Tellicherry, notice is hereby given that the same will appear on the 1st December 1835, and be continued every night from sunset to sunrise, for the guidance of vessels to their anchorage, as laid down by Horsburgh.

The light will burn at an elevation of 130 feet above the level of the sea.

(signed) *F. Clementson,*
Principal Collector, Malabar.

(True copy.)

(signed) *J. J. Franklin,*
Secretary Marine Board.

III.

Malabar Principal Collector's Office,
Calicut, 12 April 1839.

NOTICE is hereby given that the buoys hitherto laid down at the mouth of the Cochin River were withdrawn on the 1st instant, from which date a light has been shown from the flagstaff at that port, about (111) one hundred and eleven feet above the level of the sea.

The proper place for ships to anchor outside the bar is in 5 ½ fathoms, muddy bottom, with the flagstaff bearing E. N. E.

The leading marks for ships running into the river is the northernmost of the three churches up the harbour at Anjicaimal, on with the Vypeon Point.

A pilot is employed at Cochin, who will board any ship hoisting the prescribed signal according to Marryatt's code.

A plan of the harbour of Cochin is annexed.

(signed) *W. E. Underwood,*
Acting Principal Collector, Malabar.

(True copy.)

(signed) *J. J. Franklin,*
Secretary Marine Board.

IV.—*Notice to Mariners.*

Caution to Coasting Vessels approaching the Reefs and Shoals off *Point Gordeware* and *Coringa*.

THE commanders of the barque "Charles Dumergue" and the brig "Union" have reported that the shoals off Point Gordeware and Coringa extend to the eastward and N. E. beyond their known limit. Previous to the disastrous hurricane and inundation at Coringa in November last, the brig "Union" on her last voyage to the northern ports ran aground on one of the shoals off Point Gordeware, and Captain Wilkins is confident that he was deceived by the extension of the shoal.

As it is extremely probable that the shoals and banks of soundings are affected by the storms and inundation which have occasionally happened on the coast of Coromandel, and are liable to change, therefore a cautious approach, a strict attention to the lead, and a vigilant look-out are always necessary, but now more especially, in the vicinity of Coringa and Point Gordeware.

(signed) *Christopher Biden,*
Master-Attendant.

Master-Attendant's Office,
Madras, 14 April 1840.

(True copy.)

(signed) *J. J. Franklin,*
Secretary Marine Board.

V.

Masulipatam Zillah,
Collector's Circuit Cutcherry at Ibrahimpatam,
12 September 1840.

NOTICE is hereby given that a light will be exhibited on the flagstaff at Masulipatam on the 20th proximo, at an elevation of about 95 feet above the level of the sea.

The bearings of the light will be as follows:

Point Devi bearing west in 6 fathoms, the light will bear N. W. by N.

Point Nursipore bearing west in 7 fathoms, the light will bear W. $\frac{1}{2}$ S. Sy.

In standing into the roads from Point Devi, it is advisable to shape a course $\frac{1}{2}$ or 1 point northerly to avoid the flat, which extends some distance off the western shore from Point Devi to the roadstead.

The light will be clearly visible 15 miles from the deck of a 700-ton ship, and 20 or more from the topmast head.

(signed) *P. Grant,*
Collector of Sea Customs.

(True copy.)

(signed) *J. J. Franklin,*
Secretary Marine Board.

VI.

Marine Board Office, Madras,
17 May 1841.

WITH reference to the advertisement which appeared in the "Fort St. George Gazette" of 20 October 1840, notice is hereby given that since the 1st day of December last a light has been exhibited, and that it will in future be continued, on the flagstaff at Masulipatam, at an elevation of about 95 feet above the level of the sea.

The bearings of the light are as follows:

Point Devi bearing west in 6 fathoms, the light bears N. W. by N.

Point Nursipore bearing west in 7 fathoms, the light bears W. $\frac{1}{2}$ S. Sy.

In standing into the roads from Point Devi, it is advisable to shape a course $\frac{1}{2}$ or 1 point northerly to avoid the flat, which extends some distance off the western shore from Point Devi to the roadstead.

The light is clearly visible 15 miles from the deck of a 700-ton ship, and 20 or more from the topmast head.

By order of the Marine Board.

(signed) *John Robert Boyson,*
Acting Secretary.

(True copy.)

(signed) *J. J. Franklin,*
Secretary Marine Board.

VII.

Notice to Vessels bound for Paumbem.

Marine Board Office, Madras,
26 November 1841.

NOTICE is hereby given that a buoy has been placed in the Channel through the spit of sand running from Mootoopettah Point to the Island opposite Keelacuray, and is fixed there with 4 fathoms of chain cable.

The bearings taken at the buoy are as follows:

Keelacuray	-	N. 82° W.	W. $\frac{1}{2}$ north.
Shera Moodelly two	-	S. 18° W.	S. by W. $\frac{1}{2}$ west.
Tiroopany Coil	-	N. 6° W.	N. $\frac{1}{2}$ west.
Mootoopettah Point	-	N. 64° E.	N. E. by E. $\frac{1}{2}$ east.

Two beacons have been erected, one on each side of the channel on the banks opposite Ramasawmy's Choultry, from which they bear nearly south $\frac{1}{2}$ east; another beacon has been placed on the clump of rocks off Mundapum and a perch on the Coral reef near the Horse-shoe Bank.

Vessels can now sail with safety the inner channel even without the aid of the Keelacuray pilots, by attending strictly to the underwritten instructions.

By Order of the Marine Board.

(signed) *J. R. Boyson,*
Acting Secretary.

SAILING INSTRUCTIONS for Vessels bound for *Paumbem* from *Keelacuray*, by the Channel inside the Islands.

FROM Keelacuray steer for the Bungalow at Mootoopettah, east north east $\frac{1}{2}$ east till you bring the buoy to bear S. E. (when Tiroopany Coil will bear north, north north west $\frac{1}{2}$ west) then steer for the buoy, passing it close (on either hand), continue your course till in three fathoms, then steer in the direction of Ramasawmy's Choultry, east by north, when off Mootoopettah, east for the beacons, on the flats off Ramasawmy's Choultry. There are three channels through them; the deepest is that passing north of the northernmost beacon, but not much frequented, it being intricate and winding. When you bring the northernmost beacon to bear, east by north $\frac{1}{2}$ north steer for it passing it to the northward at the distance of 50 fathoms, when you get the two beacons in one steer east $\frac{1}{2}$ south till you sight the perch erected on a clump of rocks off Mundapum; sailing again from Paumbem for Mootoopettah with the wind at south, keep your luff, till you bring the southernmost beacon to bear east; then steer for it passing it to the northward, and continue your course for Mootoopettah. From Keelacuray with the same wind you can keep your luff till you bring the southernmost beacon to bear east, and Ramasawmy's Choultry north by east, then bear away in the direction of Vādāly, passing between the beacons, leaving the northernmost one above 50 fathoms to your left; when you have brought that beacon to bear south of west, luff again, and steer as before directed; now it must be explained, that the beacons are erected on banks, and that due west of the northernmost one $\frac{1}{4}$ of a mile distant, is a bank with 9 feet water, the channel north of that beacon is a quarter of a mile wide, and to the eastward of the centre between the beacons, there is another bank; when on it, the beacons bear respectively north-west and south-west (on this bank a beacon will eventually be erected), there are channels on each side, about 300 yards wide, between it and the beacons, when you sight the perch off Mundapum, steer for it, passing to the northward, giving it a tolerable wide berth, thence east north east $\frac{1}{2}$ east, for the perch on the coral reef, and anchor for a pilot off the mouth of the channel in the Horse-shoe Bank, Tonatory Point bearing north-west $\frac{1}{4}$ north (or should you wish to sail through without waiting for a pilot), when you bring the two perches, on the island opposite Goovistakal Point, in one, steer north-west, keeping them in line; on the point near Tonatory, is also a perch, which can be kept a little open to the southward, of a beacon on the bank, this will take you through the Sandbank Channel, when you open a sandy hill of the tope near the Backwater, and are near to the beacon, on the bank: bear up, leaving it about 40 fathoms to the westward, and steer for the beacons in the large channel, and pass between them, keeping in the centre of the channel.

(signed) *T. A. Jenkins*, Lieutenant,
Deputy Assistant Quartermaster-general
of the Army, Supporting Operations
at Paumbem.

Paumbem, 10 November 1841.

பாம்பனுக்குப்போகிற உருவுகளுக்கு விளம்பரம். 537

சென்னைப்பட்டணம் மாரின்போர்ட்டு ஆகி,
தே. அ. ச. ச. நவம்பர் 10 1841.

இதிலே விளம்பரம்பண்ணுவது என்னவென்றால், முத்துப்பேட்டை முயற்சி
கொண்டு கேழக்கரைக்குள் திரையிருக்கிற நீவுபரிசுத்தம் போய்க்கொண்டிருக்கிற மணல்களே
நீ உருவியிருக்கிற ஆற்றுவாயிலே ஒருபோயாக்கட்டைவைத்து, அங்கே நாலுபாகம் சங்கிலி
அமராமலே நீவுக்கப்பாந்திருக்கிறது. அந்தப்போயாக்கட்டை வைத்திருக்கிற இடத்தில்
பிடிக்கப்பட்ட மார்க்கங்கள் இதிலேயேயிருக்கிற பிறகாயிருக்கிறது.

கேழக்கரை	-	-	-	வட	-	அ	-	மே	மே	-	-	-	-	த	வடக்கு.
சேரமுதலித்தேயு	-	-	-	தெ	-	ம	-	மே	தென்னண்டைமே	-	-	-	-	த	மேற்கு.
திருப்பாணிக்கோயில்	-	-	-	வட	-	சு	-	மே	வட	-	-	-	-	த	மேற்கு.
முத்துப்பேட்டைமுனை	-	-	-	வட	-	சு	-	மே	வடகீழண்டை	-	-	-	-	த	கிழக்கு.

இராமசாமிசத்திரத்திற்குள் திரையிருக்கிற மணற்களையின்போரிலே, அந்த ஆற்றுவா
யின் ஒவ்வொருபக்கத்திலுள்ளவெள்ளை, இரண்டுபக்கங்கள் என்பதற்கொருபக்கங்கட்டையிரு
க்கிறதுகள். அந்தசத்திரத்திற்கு அந்தப்பிச்சுக்கொடியங்கள் கொஞ்சம் குறைய தெற்கே
அனாமேழக்காரிருக்கிறதுகள். மற்றொருபிச்சுக்கொடியம்மண்டபத்துக்குள் திரையகப்பா
றையின்போரில்கட்டப்பட்டிருக்கிற தூண்டலாமல் குதிக்கிற நீவுக்குக்கிட்ட உரிசையாயிரு
க்கிறபவளப்பாறையின்போரிலே பெச்சுஎன்ற ஒருகட்டையும் வைக்கப்பட்டிருக்கிறது.

இதிலேயே எழுதி இருக்கிற போகடிக்களை தவறாமல் கவனித்தால், கேழக்கரை ஆறுகா
ட்டிகளுடைய ஒத்தாசை இல்லாமலும், இந்த உள் ஆற்றுவாயிலேசெமாய் இப்போது உரு
வுகள் ஒட்டக்கூடும்.

மாரின்போர்ட்டார் உத்தரப்பிறகாரம்,
ஐ. ஆர். பாய்சன்,
ஆக்டிவ் செகிரட்டேரி.

(A true translation.)

A. ROBERTSON,

Tamil Translator to Government.

நீவுகளுக்கு உள்புறத்திலே இருக்கிற ஆற்றுவாயிலே கேழக்கரைபண்டையிலிருந்
து பாம்பனாக்கப்போகிற உருவுகளை ஒட்டித்தெற்குப் போகடிக்கள்.

கேழக்கரையிலிருந்து, முத்துப்பேட்டைபக்கங்களாக, அந்தப்போயாக்கட்டை உள்
க்குத்தென்மேற்கு ஆற்றுவாய்க்கும் கீழ்வடகீழ்க்கின் அனாமேழக்கரை உள்உருவைஒட்டி. (அப்
போதைக்குத்திருப்பாணிக்கோயில் உனக்குவடக்கேவடக்குவட மேற்க்கின் அனாமேற்க்கா
கும்.) அப்பால் அந்தப்போயாக்கட்டைக்காக ஒட்டி. (அந்தப்பக்கத்திலேயாவது) அதுக்கு
தெருக்கி, முன்னுபாகம் ஆறுமுள்ளத்தண்ணீர்வனாக்கும் உன்மார்க்கத்தைவிடாதேபோ. பி
றகுழிண்டைவடக்கே, ராமசாமிசத்திரத்துக்குநேராகஒட்டி, முத்துப்பேட்டைக்குள் திரையி
ருக்கும்போது, ராமசாமிசத்திரத்துக்குள் திரையிருக்கிறபவளத்திலங்கிலே கட்டிவைத்திரு
க்கிறபிச்சுக்கொடியங்களுக்காக கீழ்க்கேபோ. அங்கே அந்தப்பாவல்லில் உருவப்போகிற மு
ன்னு ஆற்றுவாய்கள் இருக்கிறதுகள். அதுகளிலேயேயும் ஆழமான ஆற்றுவாய் எதுவென்
றால், வடகோடியிலேயிருக்கிற பிச்சுக்கொடியத்துக்கு வடக்கேபோகிறதான். ஆனால் அ
துவருத்தமும் திருப்பமும் ஆயிருக்கிறபடியிலே, அதில் அதிகப்போக்கு வரத்து இல்லை.
வடகோடி பிச்சுக்கொடியம், உனக்கு, கீழண்டைவடக்கின் அனாமேற்க்குமேற்போகும்போ
து, அதுக்காகஒட்டி வடக்கேஐம்பதுபாகம் தூரத்திலேயே அதைவிட்டுவிட்டு வேறும், இந்த
இரண்டு பிச்சுக்கள் கொடியங்களுக்கும் உனக்கு ஒன்றாகத் தோற்றமும் போது, மண்டபத்துக்கு
எதிரான கல்ப்பாறைக்கட்டையின்போரிலே கட்டி இருக்கிறபெச்சுஎன்றகட்டையை நீபா
ர்க்கிறவனாக்கும் கீழ்க்கே அனாத்தெற்கு ஒட்டி தெற்கத்திகாற்றிலே முத்துப்பேட்டைக்
காகபாம்பனிலிருந்து திரும்ப பாய்விடத்தொடிகொடி பிச்சுக்கொடியம் உனக்குகீழ்க்
கு ஆற்றுவனாக்கும் காற்றுக்குதெருக்கப்படி. அப்பால் அதுக்காக ஒட்டி வடக்கே அதை
த்தாண்டி முத்துப்பேட்டைக்காக உன்மார்க்கத்தை விடாதேபோ. தென்கோடி பிச்சுக்க
ொடியம் உனக்குக்கீழ்க்காகவும், இராமசாமிசத்திரம் உனக்கு வடவண்டைகீழ்க்காகவும், வ
ருவிறவனாக்கும் கேழக்கரையிலிருந்து ஒரோகாற்றிலேதானே அந்தகாற்றைவிடாதே தெ
ருக்கிப் பிடிக்கத்தக்கது. அதற்குமேல் அந்த பிச்சுக்கள் கொடியங்களுக்கு நடுகிலே போய்,
உள் இட தபக்கத்துக்கு ஐம்பதுபாகத்துக்குமேலே வடகோடியிலிருக்கிற பிச்சுக்கொடி
ரத்தைவிட்டுவிட்டு உடலிமார்க்கத்தையிடித்துக்கொள்ளு. அந்தபிச்சுக்கொடியம் உனக்
குமேற்க்கின் தெற்குஆனபோது மறுபடியும் உன்உருவைகாற்றுக்குதெருக்கப்பிடித்துரு
க்கே நியமித்தபடியேஒட்டி. இப்போது விளக்கவேண்டிய தென்னவென்றால், மணல்க

VIII.—Instructions for Tuticoreen Roadstead.

SHIPS making the land about Tuticoreen must be careful not to get too far to the northward, as some spits, with only (17) seventeen feet on them, lie at a distance of (5) five miles off Vypar, having from (4) four to (6) six fathoms on each side. To avoid these, keep some large conspicuous trees at Putnurmurdoor (seen ten miles off, and when no other object on shore is perceptible) to the northward of west; these are seven miles north of Tuticoreen.

The best anchorage in the roadstead is in from (5½) five and a half to (6½) six and a half fathoms, sand, with the obelisk on Hare Island from W. N. W. to W. by S., distant about one mile and three-quarters; during the months of August and September, when strong winds are invariably from the land, vessels may anchor in (5) five fathoms, but should not approach closer, as a ledge extends from north to south, at a distance of one-half to one mile outside the islands, with uneven soundings, from 10 to 20 feet, on it.

The N. E. monsoon sets in about the latter end of October, with heavy rain, but is light and variable till the middle of November; it then blows steadily and strong. The S. W. monsoon commences about the middle of May, blowing with great violence till the end of July. Few vessels anchor on the coast during this time, all communication with the shore being cut off. The currents set with the wind to the S. W. in the N. E. monsoon, and *vice versa*, at an average of about a knot per hour, but an interval of a month or six weeks occurs between the monsoons, when they, as well as the winds, are very uncertain.

Latitude of obelisk on Hare Island - - - - 8° 46' 35" N.

Longitude ditto - ditto - - - - 78° 14' 29" E.

(Allowing Point de Galle in 80° 16'.)

High water at full and change - - - - 1 h. 15 m. p.m.

(signed) John J. Franklin,

In charge of the Manaar Survey.

31 December 1841.

The position of the obelisk was afterwards taken from Colonel Lambton's Point.

(True copy.)

(signed)

John J. Franklin,

Secretary Marine Board.

IX.—Notice—Danger off Manuckpatam.

Marine Board Office, Madras,

14 October 1842.

NOTICE is hereby given that Mr. H. C. Hamilton, Collector and Magistrate at Cuttack, has brought to the notice of the Marine Board at Fort William, that three vessels have been within a few years wrecked on the sand-bank off Manuckpatam, the last being the "Putty Salam," on the 9th of September last, the vessel having gone to pieces immediately on striking, full one mile from the shore. The attention of parties navigating the coast is therefore hereby drawn to the notice of this bank, as extracted from Horsburgh's Directory, volume 1, page 511. From this place (Manuckpatam) a sand-bank is said to project two miles, on which the water shoals suddenly from 10 to 4 fathoms; a ship ought therefore to avoid it in passing, by not coming under 11 or 12 fathoms.

By order,

(signed)

John Robert Boyson,

Acting Secretary.

(True copy.)

(signed)

John J. Franklin,

Secretary Marine Board.

X.—*Light on the Flagstaff at Mangalore.*

Marine Board Office, Madras,
29 October 1842.

NOTICE is hereby given that a light is now and will in future be exhibited on the flagstaff at Mangalore, at an elevation of about 200 feet above the level of the sea.

The height of the mast to the top is 99 feet, and to the yard-arm 50½ feet.

The attention of mariners is particularly directed to the annexed instructions for anchoring with safety in the Mangalore roadstead, and in which the leading land-marks, with their various bearings, are accurately described and laid down.

By order of the Marine Board.

(signed) *J. R. Boyson,*
Acting Secretary.

(True copy.)

(signed) *John J. Franklin,*
Secretary Marine Board.

XI.—*Instructions for Mangalore Roadstead.*

29 October 1842.

THE best anchorage in the Mangalore Roads is with the flagstaff bearing from E. by N. N. to E. N. E. in from 5 to 6 fathoms muddy bottom.

In approaching Mangalore from the northward, caution is necessary to avoid the St. Mary Isles and a dangerous ledge of rocks called the Peimeira Rocks, which do not appear to be very accurately laid down; the latter are mostly above water, and extend seven or eight miles from the coast, and to the southward of the St. Mary Isle. Fifteen or sixteen fathoms is a good depth of soundings to keep in the parallel of these dangers; and when certain of having passed them, ships or vessels may haul in for the Mangalore Roadstead to 7, 6, and 5 fathoms; and from the excellent light now exhibited on the flagstaff, a proper position for anchorage can be taken up by night, whilst the conspicuous buildings on Flagstaff Hill render that situation sufficiently discernible by day. A few miles to the northward of Mangalore there is a remarkable hill near the coast having a peak at each extremity; this hill, called the Ass's Ears, is a good landmark. Coming from the southward ships or vessels should haul close round Mount Delhie, which bold headland may be approached within one mile, and is 16 leagues south of Mangalore: they may safely coast along until the flagstaff is seen by night, or the buildings about the flagstaff are visible by day, when they can anchor according to the above directions. Attention to the lead and a good look-out are always requisite. It is necessary to observe that the promontory of Mount Delhie extends to the southward of that point about two miles in a direction S. W. by W. from the coast, but this remarkable headland does not project above 200 yards from the coast on its northern side. It forms a deep bay to the southward, affording shelter from north-westers, and a good anchorage in from 4 to 5½ fathoms mud; but there is no light or bay to the northward of Mount Delhie.

By order of the Marine Board.

(signed) *J. R. Boyson,*
Acting Secretary.

(True copy.)

(signed) *John J. Franklin,*
Secretary Marine Board.

XII.—*Notice.*

Marine Board Office, Madras,
9 October 1843.

NOTICE is hereby given, that on and after the 1st day of January 1844 a light will be exhibited on the new lighthouse erected at Madras immediately to the northward of the walls of Fort St. George; and that on and after the said 1st day of January 1844, the light heretofore and now exhibited on the old lighthouse within the walls of Fort St. George will be discontinued. The new light (to be exhibited) will be elevated 128 feet above the mean level of the sea, and may be seen from the deck of a ship at the distance of 20 miles. The light is of the flashing description, and the duration of the flashes to that of the eclipses or dark periods is in the ratio of two to three; but as the nature of the motion is reciprocating instead of rotatory, the above ratio merely expresses the average proportion of the light and dark intervals, which are themselves variable according to the position of the spectator. The rapidity of movement is so adjusted that the duration of the flashes will vary from 0" to 48", and that of the eclipses from 0" to 72", the sums of the duration of light and darkness bearing, however, in every position the constant ratio of two to three. From the south-eastern extremity of the Pulicat Shoal the new lighthouse bears S. 23° W., and is distant 13 miles; but no ship or vessel when hauling in from the northward for the Madras roadstead should bring the light to bear to the southward of S. 28. W., or S. S. W. ½ W., unless her position is well ascertained. Commanders of vessels are hereby warned of the serious risk they incur by incautiously approaching the dangerous vicinity of the Pulicat Shoal, as hazy weather or other causes may obscure the light; true soundings, therefore, and a vigilant look-out are imperatively called for. The limits of the Madras roadstead in (8 or 9 fathoms) are comprised within the following bearings, viz., from the northward the lighthouse will bear S. 56° W., and from the southward N. 81° W., or from S. W. by W., to W. ¼ N.

The new lighthouse at Madras is in latitude 13° 5' 10" north, and in longitude 80° 20' east of Greenwich.

Published by order of the Marine Board at Fort St. George.

(signed) *J. R. Boyson,*
Acting Secretary.

(True copy.)

(signed) *John J. Franklin,*
Secretary Marine Board.

XIII.

Marine Board Office, Madras,
5 February 1844.

NOTICE is hereby given, that a light is exhibited from the flagstaff at Cochin from sunset to sunrise. The height of the light when exhibited from the mast-head is 114 feet above the level of the sea; but when the topmast is struck (during the south-west monsoon), the light is then 62 feet above the level of the sea. Vessels coming to an anchor at night should bring the light to bear E. by N. Good anchorage is found in from 5 to 4½ fathoms water; but during the south-west monsoon vessels should not anchor in less than 6 fathoms, as there is then a heavy sea rolling in on the coast.

By order of the Marine Board.

(signed) *J. R. Boyson,*
Acting Secretary.

(True copy.)

(signed) *John J. Franklin,*
Secretary Marine Board.

XIV.—NOTICE.

Sailing Directions between Tuticoreen and Cape Comorin.

1. DIRECTIONS for anchorage in the roadstead of Tuticoreen were published in the Fort St. George Gazette, under date the 7th January 1842. With reference to those instructions, and assuming that the observatory at Madras is

In longitude	-	-	-	-	-	80° 17' 21" E.
The obelisk on Hare Island is in latitude	-	-	-	-	-	8 47 17 N.
					longitude	- 78 14 1 E.
Variation of the compass	-	-	-	-	-	0 51 1 Easterly,

the following instructions are for the guidance of mariners navigating between Tuticoreen and Cape Comorin.

2. From Devil's Point, at the southern extreme of Tuticoreen Harbour, the coast extends in a southerly direction to Trechendore about 17 miles, and the only prominent land which intervenes is the point at Coilnapatam. About a mile to the southward of the point is situated the town of Coilnapatam, and one mile and a half to the northward of Coilnapatam is the small fishing village of Pinnacoil, which is easily distinguished by the ruin of an old square-built church, with a scanty tope of palmyras on the beach to the southward of that building.

3. Trechendore Point in latitude 8° 29' 55" N. and longitude 78° 9' 51" E. is a low rocky bluff headland covered with sand, and having a remarkable high dark pagoda situated on its extremity, and is seen in ordinary weather at 12 to 15 miles distance, and sometimes even at 18 miles. From this to Manapaud the coast runs about S. S. W. eight miles and a half, and thence to Cape Comorin about W. S. W. 36 miles.

4. There is a rocky ledge connecting several small islands, which either terminates or is covered with sand and mud, about three miles south of the island named Mooravechelly-tevoo, and from this to abreast of Pinnacoil tope there are occasional patches of rock, but the anchorage is in general good one mile and a half to two miles and a half off shore in 3½ to 4½ fathoms mud, and with the tope bearing west and the wind at south to S. W., vessels will be protected by the Coilnapatam reef. Mooravechelly-tevoo is the southernmost island in the Gulf of Manaar on the coast of India.

5. Due east, and two miles and a half from the Pinnacoil tope, is a natural basin in the rocks, which is four miles and a half in length, east and west, and averages one mile and a quarter in breadth; the bottom is fine sand and mud, in 7 fathoms on the western, and 18 to 20 fathoms on the eastern extreme, from which it suddenly shoals from 9, 8, and 7½ fathoms, on a pearl bank. In standing up the coast during the night with a scant wind this is good ground for ascertaining a vessel's position, as there is no spot like it between Paumben and Cape Comorin, and from the outer part of the bank the anchorage off Tuticoreen bears N. by E. nine miles and a half.

6. Two miles and a half N. E. by N. from Coilnapatam commences a dangerous reef, with 10 feet on its northern extremity, extending, with the exception of a break off the little Parawa village of Allendalle, as far as Manapaud Point. The outer edge lies from one mile and three-quarters to two miles and three-quarters off shore, and has in heavy weather a high surf rolling over it in 2½ to 3 fathoms, but ordinarily the sea only breaks on an inner ledge in from 2 to 12 feet, one-eighth to half a mile inside the former. Many small channels exist between the rocks composing the reef, of which the dhoneyes take advantage, but the anchorage inside is not good. The mark for the largest channel is the Periamalia Hill (the highest of the two most conspicuous, and often the only hills visible inland), anywhere between the two large trees at the town of Coilnapatam. The town of Trechendore is situated at the back of the pagoda, and about one mile and a half to the northward in the bight of the bay is the Parawa town of Viran-duapatam, second only to Tuticoreen for size and importance, and is inhabited by fishermen.

7. From

7. From Trechendore the foul ground extends to abreast of Allendalle, where a small patch of good anchorage is met with, the church bearing W. N. W. two miles, in 3½ to 4 fathoms mud, protected during the south and south-westerly winds by the southern part of the reef, which here stretches to more than three miles from the shore. It has, like that portion already described, many small channels used by the native craft, but the anchorage inside is very insecure, and subject to a heavy breaking sea during the prevalence of easterly and north-easterly winds.

8. The principal town in the bight, which this reef partly protects, is Coilsin-nipatnam, and another town, "Manapaud," may be known by the ruins of a large church half buried in the sand, and the mouth of a small river too shallow for internal navigation. Manapaud Point is a high sandy promontory, based on rock jutting boldly into the sea, and having a small whitewashed church on its summit, visible in clear weather at 12 to 13 miles distance; between it and Cape Comorin the reef continues unbroken, but is seldom more than half a mile distant from the shore.

9. The coast, which has hitherto been low, now rises to the height of 100 or 200 feet in undulating sandy hills, and the tops of tall palmyra trees are apparent as emerging from them; the background is mostly of a reddish soil, covered with palmyra trees and bushes, rising gradually to the foot of the Ghauts, which at the Cape approach to within two miles of the shore. Numerous fishermen's villages and small whitewashed churches line the coast, but there are no prominent points to afford shelter, and landing in ship's boats is at all times a difficult and dangerous operation.

10. Cape Comorin, which rises in a gradual slope, is covered on the eastern ridge with palmyra trees, and may easily be distinguished by the reddish appearance of the soil, and a large white choultry situated near the beach; there are two large rocks, with a small one outside, on which the sea at all times breaks with much violence, stretching to the distance of a quarter of a mile from the shore; they are steep to and may with a fair wind be approached within a quarter of a mile in 8 or 8½ fathoms, but with a scant wind caution is necessary, as the current sets rapidly round the point, and may drift a vessel too near and in danger.

11. There is a dangerous reef off Manapaud having from 4 to 10 fathoms on it; the inner extremity of this shoal bears about S. E. by E. five miles from the point, and it extends E. N. E. and W. S. W. ten miles, having an average breadth of one mile. One extreme of the reef projects in a northerly direction from its centre, the apex of which constitutes the inner danger, and the following are the bearings of the two shoalest parts:—

Inner shoal part	- {	Manapaud church, N. 54° W. 5'—4½ fathoms sand.
	- {	Trechendore pagoda, N. 1° W. 10½.
Centre shoal part	- {	Manapaud church, N. 54° W. 8 miles, 4 fathoms sand.
	- {	Trechendore pagoda, N. 12° W. 12½.

There are many other patches with 5½ and 6 fathoms, over which a vessel might pass, yet the safest plan, when sailing between the reef and the point, is not to bring Manapaud church to the westward of north till within two or three miles of the point, and then a course E. N. E. will take a vessel clear.

12. After rounding the Cape in from 12 to 14 fathoms, a vessel proceeding by this passage should keep off shore about three miles in 12, 11 and 10 fathoms, shoaling gradually as she approaches Manapaud; there is excellent holding ground to be found from two miles west of the point to a little below Paracathully, which is west of Manapaud from one to two miles and a half off shore; the soundings are from 6½ to 8½ fathoms, sand and mud; but if the outer channel is preferred, a vessel ought not to come under 14 fathoms (which will be 11 or 12 miles off shore), until she has passed Manapaud, when with that church and the Trechendore pagoda in sight, her position cannot be mistaken. This anchorage is only available during the N. E. monsoon. In June, July and August the heavy sea which rolls in on that part of the coast precludes the possibility of any vessel anchoring there; therefore during those months, when the S. W. monsoon is

strong, vessels should anchor off either Allendallee or Pinnacoil, where the coast trending more to the northward becomes a weather shore.

13. In navigating the Gulf of Manaar care and attention must be paid to the lead and soundings, and unless vessels have a good pilot on board, they should never shoal their water to less than 12 fathoms above, and 18 to 20 fathoms below Manapaud. Currents are so irregular in their direction and velocity, that no reliance can be placed as to their true set.

Published by order of the Marine Board.

J. R. Boyson, Acting Secretary.

Madras, Marine Board Office,
29 March 1844.

XV.—Sailing Directions for Palk's Bay.

THERE are two good entrances into Palk's Bay from the eastward; one between Point Calimere and the northern end of the Middle Banks, having 19 to 24 feet, the other between the southern end of the same banks and the north coast of Ceylon, with $5\frac{1}{2}$ to 8 fathoms. Sailing directions were published some years back for the northern passage, but I would strongly recommend all commanders with a vessel drawing 12 feet to make use of that to the southward, except with a leading wind, or with the aid of steam.

Paumben bears from Point Calimere S. 31. W. 73 miles; and after rounding the spit that stretches off to rather more than a mile east of the latter place in about $3\frac{1}{2}$ fathoms, three miles off shore, a vessel may stand S. W. $\frac{1}{2}$ S. keeping in $3\frac{1}{2}$ to 4 fathoms, till two tall detached palmyra trees to the westward bear about north. She is then clear of the banks.

This channel, through the centre of which the above directions lead, is three miles wide, having a small sandy knoll, with only $2\frac{1}{2}$ fathoms on, about a mile inside its southern boundary, and 4 miles S. S. E. of the point. The depths on each side vary from 2 to 3 fathoms, with a bottom of hard sand, while that of the channel itself is mostly mud.

The Middle Banks from this stretch in a southerly direction, to within eight miles of the Ceylon coast, having an average breadth of 3, with uneven soundings from 2 to $3\frac{1}{2}$ fathoms; and in one place only 9 feet. This is situated eight miles and a half S. 20° E. from Point Calimere, and nine miles and a half S. 44° E. from the two remarkable trees already noticed. It is composed of hard fine sand, and should be carefully avoided. There is always what is called a swash over these banks, which renders it hazardous to be on them in an open boat during a breeze.

In beating into the bay against the S. W. monsoon, a vessel should stand over to the north coast of Ceylon, and work down to the island of Delft, or Nedocenteevo; whence a stretch may be made across the bay to its western side, where land and sea breezes will be met with, accompanied by smooth water. In the N. E. monsoon a vessel, bound against it, should also work upon the Ceylon side as far as Kayts; when she may stand over to the coast of India and creep to windward in smooth water. With the strong currents ever attendant on the monsoons in the middle of the bay, it is impossible to contend against them without thus taking advantage of smooth water and weather shores.

A well-known shoal extends from about 17 miles S. S. E. of Point Pedro to about six or seven miles N. W. of it, having a good channel of two and a half to three miles wide, with 7, 8, and 9 fathoms mud between it and the shore. The most dangerous part on its northern end bears from the point due east, four miles and a half off shore, to E. 28° S. four miles off shore. It has in some parts as little as $2\frac{1}{2}$ fathoms, and a vessel in passing it ought not to shoal her water on the bank to less than 6 fathoms, when she will be about three miles off shore with deep water inside.

To clear the north end of this bank, having $3\frac{1}{2}$ fathoms on, the break in the trees at Tondimanoor, which is plainly perceptible some few miles at sea, ought not to bear west of S. S. W. till within four or five miles of the land. Inside this, a vessel working to the westward may approach the shore with safety to within

within half a mile, carrying from 6 to 8 fathoms, sand and mud, till abreast of Kangesenthoray, which may be known from its two bungalows, each built on a rocky platform washed by the sea. To avoid some foul ground which, diverging from the beach at this place, reaches to a distance of two miles from the shore a little farther west, she must now be careful not to shoal her water to less than 6 fathoms on her inshore tack; or to less than 5 on her seaboard; as the southern end of the Middle Banks, with $2\frac{1}{2}$ and 3 fathoms over it, lies to the north. The channel is six miles broad from the foul ground to the end of the banks, with $5\frac{1}{2}$ to 8 fathoms, sand and mud in it. When the opening between Karateevo (Amsterdam Island) and the main leads due south, the foul ground is passed; and when Fort Hommonhiel is well open of the N. W. point of Karateevo, the banks are to the eastward. A vessel can then shape a course to any part of the bay, having good anchorage in 4 to 5 fathoms, half to three-quarters of a mile outside any of the islands. If bound to Jaffna, she should, after passing Kayts, stand southerly, rounding Elewateevo, Anellateevo and Nainateevo, at a distance of one to two miles, till within two or three miles of Nedaenteevo (Delft), which she will make ahead. She may then steer easterly, keeping about a mile off Toongreteevo, and taking care not to haul to the north of east till that island has been left four or five miles behind; and anchor according to the directions about to be given. Following out these instructions, a vessel from Point Pedro ought not to shoal her water to less than $4\frac{1}{2}$ fathoms; but more generally have a depth of 5 to 6 fathoms.

Directions for Kayts.

No vessel drawing more than 8 feet should attempt to enter the harbour of Kayts; for although there are $7\frac{1}{2}$ feet in the channel at low-water springs, the greatest rise is not more than 15 inches. To avoid the foul ground extending one mile and a half to the westward of the N. W. end of Karateevo, a vessel ought to keep in 5 fathoms till Elewateevo bears S. by W. She may then stand for that island, shoaling her water to 3 fathoms, till Fort Hammonhiel, built on a rock at the north side of the entrance, bears S. E. by S., when she can steer for it, keeping the custom-house point, on which is a large clumpy tree, over the low sandy point of Karateevo till within a quarter of a mile. She will now be in 9 feet smooth water, and keeping more to the south, may round the fort at a distance of from 200 to 700 yards according to circumstances; care being taken when inside to borrow over on the north side of the harbour till past an old bungalow on that side. Any anchorage may then be selected, but the best is off the custom-house in 11 or 12 feet mud.

Outside, good anchorage is obtained in either monsoon in 13 or 14 feet smooth water, with the fort bearing S. E. one mile and a half; the north end of Elewateevo S. W. one mile and a quarter; and the N. W. end of Amsterdam Island N. E. In the S. W. monsoon, the bank off Elewateevo may be approached a little closer; and in the N. E., the foul ground off Amsterdam, which will give a vessel a little more room for weighing. Large vessels should, of course, anchor further out.

Directions for Jaffna.

A rock was supposed to exist in the approach to Jaffna from the westward, but after a careful examination, no such danger could be discovered; and, although some pilots declare that it is still there, they are unable to point out the precise spot. This added to the testimony of some divers, who declare that they never met with it, although employed in the neighbourhood from childhood, may lead us safely to infer that the pilots are in error, and that no impediment is offered to the safe navigation of this part of the coast. A small vessel having Calmaene Point E. by N. to N. E. may steer for it till she opens Jaffna Fort Church clear of the island of Mandetevo; when she can stand freely for the opening, carrying from 4 to $2\frac{1}{2}$ fathoms over a rocky ledge to $2\frac{1}{2}$ and 3 fathoms inside on sand; and anchor with the following bearings:

Calmaene Point	-	-	-	East.
Fort Church	-	-	-	N. $\frac{1}{2}$ W. to N. by W. $\frac{1}{2}$ W.

But care must be taken not to approach Calmaene Point within 600 or 700 yards, as there are some rocky heads some distance from it.

The best anchorage for a large vessel is outside the rocky ledge with the Fort Church bearing N. by E., over the centre of a small island called "Small Pox Island," just clear of the small cocoanut tope on Mandeteveo, and Calmaene Point N. E. by E. She would then be in $4\frac{1}{2}$ fathoms sand, about two miles off the island. It must be borne in mind, however, that this anchorage ought not to be used from the middle of May to the middle of August, when the S. W. monsoon, from which there is no shelter, blows with great violence.

Dangers in Palk's Bay.

1. The Middle Banks, already described.

2. A long sandy spit with from 1 to 2 fathoms over it, stretching E. by S., 13 miles from a low point above Kotipatnam, on the coast of India. It has generally a heavy swash of a sea over it, and should not be approached from the eastward nearer than 6 fathoms. Captain Powell places its eastern extremity in $10^{\circ} 2' 30''$ north latitude; and $79^{\circ} 19' 30''$ east longitude, allowing Galle to be in $80^{\circ} 16'$ east. Its bearing from Paumben is N. 22° E. 45 miles; and from Point Calimere S. 50° W. 29 miles.

3. The foul ground off the N. W. end of Ceylon to the eastward of the opening between that and Karateevo, where the coast ought not to be approached nearer than two miles, for although at present there are 12 to 15 feet over the knolls, the depths may decrease, as they are composed of coral.

4. A detached rock about the size of a ship's boat, with only two feet water over it, between Pooleteevo and the Devil's Point, having the following bearings:

Devil's Point—South, three miles.

South end of Pooleteevo, E. S. E. two miles and a half.

Lastly.—Some rocks awash which lie about one mile and a half off the N. E. end of Ramisseram Island, where the soundings ought not to be shoaled to less than 5 fathoms. Care should be taken in the N. E. monsoon not to get into the bay to the east of this island, as it becomes a difficult matter to work out again.

John J. Franklin,
In charge of the Manaar Survey.

XVI.

Madras, Marine Board Office,
8 January 1845.

NOTICE is hereby given, that a light is exhibited from the flagstaff at Cannanore from sunset till sunrise. The height of the light when exhibited from the masthead is 100 feet above the level of the sea, but when the topmast is struck (during the south-west monsoon) the light is then 85 feet above the level of the sea. When exhibited from the masthead, the light may be seen at a distance of from 12 to 15 miles, but when the topmast is struck, it is only visible at a distance of from 8 to 12 miles. Vessels running for the anchorage at night, between the 15th of May and the end of September, ought not to come under six fathoms, with the light bearing north-east by north to north-east by east; this will place them in a very good berth, about two miles and a half off shore. From the end of September to the 15th of May, vessels may safely anchor in five fathoms water with the above bearing, but it is not advisable for vessels of 600 tons burthen and upwards to come under that depth; care should be taken not to mistake any of the lights in the cantonment of Cannanore for that shown at the flagstaff.

By order of the Marine Board.

(signed) *J. R. Boyson,*
Acting Secretary.

(True copy.)

(signed) *John J. Franklin,*
Secretary Marine Board.

XVII.—Notice to Mariners.

A FIXED light has been placed on the Dutch obelisk at Hare Island, off Tuticoreen, having the following bearings: the large Catholic church, W. by N. $\frac{1}{2}$ N. $2\frac{1}{2}$ miles. The small church on Vonteevo (the next island to the north) N. by E. $\frac{1}{4}$ E. $2\frac{1}{4}$ miles. North end of the Coilnapatnam reef S. by W. $10\frac{1}{2}$ miles; Trichendore pagoda S. by W. westerly 18 miles. It may be seen in ordinary weather at the distance of 8 to 10 miles from the deck of a vessel of about 300 tons.

A vessel making the port at night may anchor with it bearing from W. N. W. to W. by S. about one mile and three quarters to two miles off shore, where good holding-ground will be found in 6 to $6\frac{1}{2}$ fathoms. At three and a half miles' distance, with the same bearings, the ground is foul on pearl banks.

In approaching from the south the light may be kept about N. N. W. till within three or four miles, when the above anchorage may be selected; but, should a vessel suddenly deepen her water from 7 or 8 fathoms to 12, 15, or 20, she should immediately steer north till she makes the light, taking care to keep farther to seaward if it bears north of N. N. W. The outer part of this deep water lies a little to the north of the head of the Coilnapatnam Reef, and bears S. by E. 10 miles from the Tuticoreen light.

From the north a vessel may keep the light about S. W. till within three or four miles, when she must steer more out for the anchorage; but in no instance ought the water to be shoaled under $6\frac{1}{2}$ fathoms, excepting with the bearings on for the anchorage, and then not under 6.

In the N. E. monsoon vessels should lie with a good scope of cable out; as, although the seas are not heavy, they are sharp, and occasion a chain to jerk. The sea breeze at this time blows on the reef, and a second anchor with chain ranged ought always to be kept ready for letting go.

In the S. W. monsoon, which usually lasts from the middle of May to the middle of August, the port may be made without fear, for although the winds are very violent, they are invariably off shore from W. to S. W., accompanied by smooth water. At this time vessels may approach the reef to 5 fathoms, but should always have a stream anchor to seaward, as occasionally, during the lulls of the monsoon, a light air comes in from the eastward.

Longitude of the obelisk, assuming

Madras Observatory to be in $80^{\circ} 17' 20''$ E.	-	$78^{\circ} 14' 1''$ E.
Latitude	-	$8^{\circ} 47' 17''$ N.
Variation of the compass, 1842	-	$51'$ easterly.

Jaffna, 1 August 1845.

(signed) *John J. Franklin,*
In charge of the Manaar Survey.

XVIII.—Notice to Mariners.

Madras, Marine Board Office,
15 December 1845.

NOTICE is hereby given, that in order to distinguish the three lights, viz. the one at Cannanore, at Tellicherry, and at Calicut* from each other, two perpendicular lights will be exhibited from the Tellicherry flagstaff from sunset till sunrise, on and after the 1st of January 1846. The upper one on the topmast-head, at an elevation of 140 feet above the level of the sea, and the other on the lower mast-head at an elevation of 104 feet.

By order of the Marine Board.

(signed) *Cecil P. Wortham,*
Acting Secretary.

(True copy.)

(signed) *John J. Franklin,*
Secretary Marine Board.

* The light at Calicut will be exhibited hereafter.

XIX.

Madras, Marine Board Office,
29 April 1846.

NOTICE is hereby given that a fixed light is now exhibited at Paumben, with the following bearings and distances:—

Paumben flagstaff	- - - - -	S. W. by W. 1,300 yards.
Entrance to north channel	- - - - -	West - - 1,500 "
Tonitory Point	- - - - -	W. by S. $\frac{1}{2}$ S. 3,500 "
North Point of Ramisseram Island	- - - - -	E. 21° N. - 6 miles.
Eastern part of the reef off the Shingle Islets	- - - - -	S. 24° E. - $3\frac{1}{2}$ "
Two fathoms rock	- - - - -	S. 14 E. - 7 "

The light is placed on a column erected on a hill to the eastward of the town of Paumben, is 84 feet above the level of the sea, and in ordinary weather should be seen from the deck of a small craft, such as usually navigate the Gulf of Manaar and Palk's Bay, from 11 to 12 miles off.

In making Paumben from the north during the night, vessels may run for the light, bearing S. W. to E. S. E., keeping rather out in coming from the eastward if under 6 fathoms, as the water shoals suddenly after that depth is obtained off the coast of Ramisseram.

The best anchorage is with the light bearing from S. E. $\frac{1}{2}$ E. to E. S. E. 1,200 to 2,000 yards off, in $3\frac{1}{2}$ to 4 fathoms, sand and mud, good holding-ground. The northern entrance to the channel will then be from 600 to 1,200 yards off.

In approaching during the night from the south, care must be taken to avoid the Two-fathom Rock, which has $3\frac{1}{2}$ to 5 fathoms in its immediate neighbourhood. If from the westward, a vessel ought to bring the light north and run with that bearing till about five miles off, which after taking her over a rocky ledge having $3\frac{1}{2}$ to $5\frac{1}{2}$ fathoms on will place her in $5\frac{1}{2}$ to $6\frac{1}{2}$ fathoms mud and sand, about one mile and a half from the reef extending westward from the Shingle Islets. She may then steer N. E. by E. $\frac{1}{2}$ E. till the light bears N. W. by W., when she can run for it till in smooth water and anchor in 4 to 5 fathoms sand and mud, between the land and Shingle Islets before mentioned.

If the light is made from the eastward, a vessel ought to keep it N. N. W. $\frac{1}{2}$ W., edging out a little as she shoals her water to 4 fathoms to avoid the Shingle Islets, and anchor as before. This course would take her very near a patch of rock with 3 fathoms on, but as the craft using the channel are of light draught, no fear need be entertained of striking on it.

These instructions for the south entrance are intended for the use of vessels nearing the port during the S. W. monsoon. In the N. E. monsoon the Island of Ramisseram, which may be approached on this side to within a cable's length, becoming a weather shore, the water is sufficiently smooth to allow of vessels anchoring anywhere, and the bearings above given clearly show the dangers to be avoided.

The least water in the Paumben Channel at the lowest spring tide is $7\frac{1}{2}$ feet, but as the average rise on this is 26 to 28 inches, and in October, November and December 30 to 36, and at times even 42 inches, vessels drawing 9 feet can safely make use of it. Native pilots are always ready to carry vessels through; and to obviate any inconvenience which might be felt by commanders unable to speak their language, a Hindoo Briton as an assistant to the head pilot has lately been employed, whose services will be always available.

By order of the Marine Board.

(signed) John J. Franklin, Secretary.

XX.—Instructions for Navigating the Gulf of Manaar.

SOME few years since it was considered a hazardous undertaking for a vessel of any size to proceed far up into the Gulf of Manaar, the more particularly during the S. W. monsoon, when it was supposed to be impossible to beat out again. Later experience, however, has shown that no dangers exist that may not be avoided by ordinary care and attention; and that as regards working to windward against the monsoons no difficulty will be experienced if the following instructions be attended to.

In the N. E. monsoon, that is from November to March inclusive, fine weather with land and sea breezes will be found to prevail on the Ceylon side of the Gulf, where good anchorage may always be selected between Colombo and Chilaw at one and a half to three miles off shore in 6 to 9 fathoms sand. Vessels wishing to beat up during the first three months ought therefore to keep over on that side till they have advanced sufficiently far to make certain of their port if bound to the Indian coast, as the breezes there may be expected to blow steadily and strong from N. N. E. with a strong lee current. In rounding Cape Comorin at this time the Indian shore may be kept on board till abreast of Manapaud Point, a high promontory with a small white church erected on its summit. A vessel may then stretch across with advantage, and probably in the next tack fetch Tuticoreen, the only port on the Indian coast frequented by large vessels.

Small vessels of light draught will also find this the easiest method of working up; and if bound to Paumben had better keep the Ceylon shore till abreast of Calpentyn, which they may know by the three long hills of Kodramallai, the only ones near the coast. They can then stand across and make Paumben either by the Eastern Channel between the island of Ramisseram and the reef and islands south of that port; or by the Western Channel between Fresh-water and Anapaar Islands at Valinookum Point.

In the S. W. monsoon a ship ought to keep over on the Indian side till near Manapaud Point, when she will generally be able to fetch to windward of Colombo and be clear of all dangers. The only safe place for vessels of size to anchor in on the Ceylon coast during this monsoon is at Colombo, where the current from the Kalany Gange or Mutwall River running to windward takes much of the strain off the cables of vessels riding there. Should one nevertheless part or find it necessary to slip, she may seek safety by standing across the gulf to Tuticoreen, which being situated on the weather side affords good shelter and anchorage. A fixed light, seen 8 or 10 miles off, was erected on Hare Island at this port last year with a view to facilitate the approach to the anchorage during the night; and the instructions relative to it are herewith republished.

Small craft working down from Paumben will do well to keep inside the islands till they reach the western entrance of the inland navigation at Valinookum Point. They can now work down near the coast as far as Manapaud Point, when their fetching Colombo on the starboard tack may be considered certain.

Colombo flagstaff, which is close to the lighthouse, is in $6^{\circ} 56' 6''$ north latitude, and $79^{\circ} 53' 42''$ east longitude. The anchorage, as given by Captain Steuart, the master-attendant, is in 7 to $8\frac{1}{2}$ fathoms during the S. W. monsoon, with the lighthouse S. S. E. easterly, and the Dutch church, a large building in the bottom of the bay, the upper part of which having a thatched belfry, may be seen over the houses of the town bearing E. by S. In the N. E. monsoon vessels may anchor farther in with the light S. $\frac{1}{2}$ E., and the same church E. S. E. in $6\frac{1}{2}$ to 7 fathoms sand and mud in each position. The Drunken Sailor, a patch of rocks about 100 yards long and 20 broad, with only six feet over it in some parts, is situated 1,150 yards S. W. by W. $\frac{1}{2}$ W. of the flagstaff, and 1,000 yards off the nearest shore. It has from 6 to 9 fathoms close round it.

The harbour, which is only used by small craft, is well protected during the S. W. monsoon by the Custom-house Point, behind which they anchor in $2\frac{1}{2}$ to $3\frac{1}{2}$ fathoms sand, with it bearing from S. W. to W. S. W., and Mutwal Point N. by E. to N. N. E. A sandy spit extends from the first-named point in a northerly direction with $1\frac{1}{2}$ to $2\frac{1}{2}$ fathoms over it, and 5 to 6 fathoms close outside. To avoid this the Dutch church ought to be kept E. by S. $\frac{1}{2}$ S. till the Custom-house bears S. by W.

Negombo Fort, off which vessels may shortly have to anchor for the purpose of shipping sugar, the produce of estates lately brought under cultivation in its

vicinity, is in $7^{\circ} 12' 9''$ north latitude, and $79^{\circ} 53'$ east longitude. The best anchorage is a mile off shore with the fort about east northerly, just clear of Negombo rocky Point, in $6\frac{1}{2}$ to 7 fathoms sand; but as this sand is not deep, and the stream of the Negombo lake, which empties itself here, sets to the north, I would decidedly warn vessels from anchoring here during the S. W., monsoon, or from May to August inclusive. Rocks awash extend from the point N. by W. $\frac{1}{2}$ W. for 400 yards, and the ledge may be then traced in the same direction with 3, 4, and 5 fathoms over it for two miles and three-quarters further till it terminates in a coral patch having 9 to 12 feet over it, two miles and a half off shore. Small craft can cross this ledge and anchor in 2 to 3 fathoms with Negombo Point S. W. $\frac{1}{2}$ W. and the fort S. E. by E., from a quarter to half a mile off shore.

Chilaw bungalow, in $7^{\circ} 34'$ north latitude and $79^{\circ} 51' 29''$ east longitude, may be known by its high red-tiled roof, seen eight or nine miles off in clear weather. On the charts now extant some rocks are placed near this at some distance from the shore, but they were found to be not more than three-quarters of a mile off, and consequently cannot be considered as forming any obstacle to general navigation. They are situated five miles due north of the bungalow, and are in a line between it and the next point. Twenty-one miles north of the bungalow uneven soundings on rock to as little as $3\frac{1}{2}$ fathoms are found from three to four miles off shore with 6 and 8 fathoms immediately outside. Vessels of size, therefore, ought to be careful not to come within this distance of the land hereabouts, although small craft can at all times go over the shoal.

Dutch Bay, in $8^{\circ} 19'$ north latitude and $79^{\circ} 50'$ east longitude, is well sheltered from all winds, but more particularly from the S. W., which are the strongest on the coast. Vessels can anchor here in $2\frac{1}{2}$ to 3 fathoms stiff mud, close inside the neck of sand that forms the western side of the bay, with a coconut tope and house called Paringethoray bearing S. S. W. The only dangers in the approach to it are a rocky patch with $2\frac{1}{2}$ over it at low water, two miles W. S. W. of the north end of the neck of sand before mentioned; and some shoal water three miles N. N. W. of the same point, and two miles and a half west of some palmyra trees, a few of which are leafless, on the island of Karateevo. This last extends north and south about two miles, with an average breadth of one, having over it from 3 feet to 3 fathoms, with a small patch of sand, generally dry, due west of the above trees. There are 4 to 5 fathoms to the eastward of this reef, but no person without being well acquainted with the coast ought to attempt the passage inside. From seaward the north end of the neck of sand ought to be brought to bear S. E. $\frac{1}{2}$ E., when it can be steered for and passed within 50 yards, carrying 3 to 4 fathoms sand.

Very good anchorage in the S. W. monsoon may also be found under the lee of Kodramallai Point in $8^{\circ} 32'$ north latitude and $79^{\circ} 56'$ east longitude, which may be known by the three long hills seen over the low land of Karateevo. In steering for this anchorage the north end of the hills ought to be kept about E. by S. till well past the island, when the anchor may be let go in $2\frac{1}{2}$ to $3\frac{1}{2}$ fathoms sand, with the rocky promontory bearing S. S. W. to S. W. one-half to one mile and a half off.

No vessels ought to proceed on the Ceylon side further towards the head of the gulf than this, as there are many shoal places at some distance from the shore, and no good holding ground. In the S. W. monsoon a strong current is found setting to the northward over Adam's Bridge, which abates as the Indian coast is approached; and a confused sea is generally found to prevail near Manaar.

The eastern entrance to Paumben is in $9^{\circ} 15' 30''$ north latitude and $79^{\circ} 17'$ east longitude. Some small islets are situated at the east end of the reef, between which and the island of Ramisseram the channel leads. A pole has lately been erected on the northern limit of the shoal water inside these islets, between which and Ramisseram deep water is to be found. The south end of the cut through the Horse-shoe Bank, by which vessels have to pass in going through the Paumben channel, bears from this pole E. by N.

A fixed light has lately been exhibited at Paumben, seen 11 to 12 miles off in clear weather, respecting which directions have been separately published, and which are recommended to the notice of mariners frequenting the port.

The western entrance to Paumben is situated in $9^{\circ} 9'$ north latitude and $78^{\circ} 40'$ east longitude, leading between Valinookum Point on the main coast of India and the small island of Anapaar, which last must not be approached nearer than a mile till the south end bears south of east.

The passage will then be entered, when a straight course for Keelakarry at N. E. by E. may be kept, care being taken to avoid some reefs nearly awash which lie off Erawaddy Point, the easternmost limit of the deep bay opposite the entrance just described. Five and six fathoms will be found at this entrance shoaling to 3 farther in, with an occasional cast of $2\frac{1}{2}$ sand. The best anchorage at Keelakarry is in $2\frac{1}{2}$ to 3 fathoms stiff mud, with a detached ruin east of the town bearing north, and some large terraced houses N. W. Pilots here come on board to take vessels to Paumben, which lies 26 miles farther to the eastward; but should a vessel proceed without such assistance, the following directions must be followed:

Steer for a little outside the next point (Naagimundel) till a small tope between a hillock at the mouth of a rivulet and an old ruined temple bears north; then stand across about S. E. $\frac{1}{2}$ E. for a little outside the west end of the next island (Talliari.) This leads over the deepest part of a spit in $2\frac{1}{2}$ fathoms, with 7 feet on each side, where a buoy will shortly be moored to indicate the channel. Two bungalows at the next point on the main will now be seen, and when they bear N. E. $\frac{1}{2}$ E., steer E. N. E. till they are passed, when due east will take a vessel to the buoys on each side of the passage at Ramasawmy's Choultry. To avoid a sandy knoll with only 7 feet over it, the southern of these buoys ought to bear E. by N. when about a quarter of a mile off; and after passing between them, steer about east for a high beacon erected on a patch of rocks. Leaving this 50 to 100 yards to the southward, stand on for the north end of the next island, Pulleteevo, and round it at about a quarter of a mile off, keeping E. N. E. till the opening between Pulleteevo and the next island bears south, then steer east and anchor near the Sand-bank Channel, which has a buoy to mark its position. No vessel drawing more than $8\frac{1}{2}$ feet ought to attempt this navigation without a Keelakarry pilot.

Tuticoreen light is in $8^{\circ} 47' 17''$ north latitude, and $78^{\circ} 14' 1''$ east longitude. The following are the directions respecting it before adverted to:

A vessel making the port at night may anchor with it bearing from W. N. W. to W. by S. about one mile and three-quarters to two miles off shore, where good holding-ground will be found in 6 to $6\frac{1}{2}$ fathoms. At three miles and a half distance, with the same bearings, the ground is foul on pearl banks.

In approaching from the south the light may be kept about N. N. W. till within three or four miles, when the above anchorage may be selected; but should a vessel suddenly deepen her water from 7 or 8 fathoms to 12, 15, or 20, she should immediately steer north till she makes the light, taking care to keep farther to seaward if it bears north of N. N. W. The outer part of this deep water lies a little to the north of the head of the Coilnapatnam Reef, and bears S. by E. 10 miles from the Tuticoreen light.

From the north a vessel may keep the light about S. W. till within three or four miles, when she must steer more out for the anchorage; but in no instance ought the water to be shoaled under $6\frac{1}{2}$ fathoms, excepting with the bearings on for the anchorage, and then not under 6.

In the N. E. monsoon vessels should lie with a good scope of cable out; as, although the seas are not heavy, they are sharp, and occasion a chain to jerk. The sea breeze at this time blows on the reef, and a second anchor with chain ranged ought always to be kept ready for letting go.

In the S. W. monsoon, which usually lasts from the middle of May to the middle of August, the port may be made without fear, for although the winds are very violent, they are invariably off shore from W. to S. W., accompanied by smooth water. At this time vessels may approach the reef to 5 fathoms, but should always have a stream anchor to seaward, as occasionally, during the lulls of the monsoon, a light air comes in from the eastward.

As a rule, vessels of size ought not to approach the land above Tuticoreen nearer than six or seven miles, as $2\frac{1}{2}$ or 3 fathoms are found 5 miles off in some places. When some large clumpy trees at Putnurmadoor, seen 10 miles off, and when no other object on shore is visible, bear north of west, the shoal water is to the northward.

There are two channels for small craft into Tuticoreen Harbour, but that to the north is so intricate as to be seldom used. The southern one leads between the southernmost island and the mainland, the reef connecting them being crossed in 12 to 14 feet at a distance of half to one mile and a half of the island. This being passed, a course may be steered for Devil's Point on the main, after closely

closely rounding which, a small vessel may stand direct for the town of Tuticoreen carrying 11 to 9 feet. Before passing Devil's Point $2\frac{1}{2}$ fathoms are found, sand and mud.

At the distance of two miles and a half due east of the Pennacoi tope, a scanty tope to the south of a large ruined building nine miles from Devil's Point, is situated the inner edge of an extraordinary natural basin in the rocks four miles and a half east and west, and averaging one mile and a quarter in breadth; the outer part being the broadest and deepest. The bottom is composed of fine sand and mud, in 7 fathoms on the western to 18 and 20 fathoms on the eastern extreme, from which it suddenly shoals to 9, 8, and $7\frac{1}{2}$ fathoms on a pearl bank. In standing up the coast during the night with a scant wind, this is good ground for ascertaining a vessel's position, as no similar spot exists from Paumben to Comorin. From the outer part in 15 to 20 fathoms, the anchorage off Tuticoreen bears N. by E. nine miles and a half.

Good anchorage in 3 to 4 fathoms mud, with this tope bearing west one mile to one mile and a half, is to be found here during the southerly winds under the lee of a reef, which commences two miles and a half N. E. by N. of the next point (Coilnapatnam) and continues with little exception to Cape Comorin. As far as Manapaud Point this reef varies in its distance from the land from one mile to two miles and three quarters, but thence to Comorin it seldom exceeds half a mile. The head of this reef lies S. by W. $10\frac{1}{2}$ miles from Tuticoreen light.

Trichendore Point, in $8^{\circ} 29' 55''$ north latitude and $78^{\circ} 9' 51''$ east longitude, is 18 miles S. by W. westerly of Tuticoreen light, and may be known by its having a high dark pagoda on its extremity, seen in ordinary weather 12 to 18 miles off.

Manapaud Point, situated eight miles and a half S. S. W. $\frac{1}{4}$ W. of the Trichendore Pagoda, is a high sandy promontory jutting out boldly into the sea. It has a small whitewashed church on its summit, visible in clear weather 12 to 13 miles off, which appears at first like a ship under sail. Some foul ground in 4 to 10 fathoms is situated off this point, extending E. N. E. and W. S. W. 10 miles, with an average breadth of one mile. The following are the bearings of the two shoalest parts.

Inner shoal part	{	Manapaud Church N. 54° W. 5 miles	} $4\frac{1}{2}$ fathoms sand.
	{	Trichendore Pagoda N. 1° W. $10\frac{1}{4}$ "	
Centre shoal part	{	Manapaud Church N. 54° W. 8 "	} 4 fathoms sand.
	{	Trichendore Pagoda N. 12° W. $12\frac{1}{4}$ "	

There are many other patches with $5\frac{1}{2}$ and 6 fathoms over which a vessel might pass, yet the safest plan when going between the reef and the point, is not to bring the church to the west of north till within two or three miles of it. An E. N. E. course will then take a vessel out clear.

Cape Comorin, which is placed by Colonel Lambton in his trigonometrical survey in $8^{\circ} 4' 35''$ north latitude and $77^{\circ} 34' 46''$ east longitude, rises in a gradual slope, is covered on the east side with palmyra trees, and may be easily distinguished by the reddish appearance of the soil, and a large white choultry situated near the beach. Two large rocks with a small one outside, on which the sea at all times breaks with much violence, stretch to the distance of a quarter of a mile from the shore. They are steep to, and may with a fair wind be approached within a quarter of a mile in 8 or $8\frac{1}{2}$ fathoms, but with a scant wind, caution is necessary, as the current sets rapidly round the point, and may drift a vessel into danger.

The breezes in the Gulf of Manaar are generally stronger than on the adjacent coasts, the only moderate months being April and October; yet if the instructions already given be attended to, no difficulty will be found in working up or down against them. The N. E. monsoon sets in with force about the middle of November, and lasts till the end of January, bringing with it a current of from 20 to 30 miles a day to the S. W. It blows steadily from N. N. E. along the Indian shore, but on the opposite side is modified into land and sea breezes, with very fine weather. In February, land and sea breezes commence on the Indian side; and by April, the general set of the wind in the gulf will be found to have drawn round to the southward, the sea breezes being from S. E. to S. W., according to the coast on which they prevail. These now increase in force till about the middle of May, when the regular S. W. monsoon sets in, blowing

blowing with great violence from W. S. W. on the Indian coast, and S. W. on the Ceylon coast, where it commences rather earlier, and is attended with heavy falls of rain, thunder and lightening. In August the strength of the monsoon abates, but strong southerly winds are still experienced in this and the next month, becoming lighter as the season advances. Variable and gentle breezes with smooth water may usually be expected in October, lasting till the setting in of the N. E. monsoon, which is ushered in on the Indian side by 15 or 20 days of heavy rain.

The current will generally be found to set with the wind in the strength of the monsoons; but this is not invariably the case. Care and attention must therefore be paid to the soundings, and unless a good pilot be on board, a vessel ought not to shoal her water during the night to less than 12 fathoms above, or 18 or 20 fathoms below Manapaud on the Indian coast; or to less than 10 fathoms above and 20 below Colombo, increasing the depth to 40 till abreast of Point de Galle on the Ceylon coast; excepting of course her position be ascertained by the bearing of the light at Tuticoreen or Colombo.

Average high water occurs at 1 P.M. on full and change: ordinary rise and fall 18 to 24 inches—at springs 30 to 36 inches. The flood sets in about E. N. E., and the ebb about S. W., but their direction is greatly influenced by the wind.

The variation of the compass may be stated at about 1° easterly.

All the above longitudes are calculated on the assumption of the Galle flag-staff being in $80^{\circ} 6'$ east.

(signed) John J. Franklin,

Late in charge of the Manaar Survey.

Madras, 21 May 1846.

XXI.—Port of Negapatam.

Tanjore, Kodikaray, 20 July 1846.

A FIXED light will be exhibited from the flagstaff at Negapatam from the 1st August 1846, at the height of 100 feet above the level of the sea.

The bearings of the flagstaff and other principal objects from the roadstead are as follows:—

Distance from the shore, 3,000 yards.

Soundings, $4\frac{1}{2}$ fathoms, muddy bottom.

Flagstaff bearing W. S. W.

Black Pagoda, W. by N.

Village of Numbiancoopum, N. W. by W.

Five Mosques at Nagore, N. W. by N.

(signed) H. C. Montgomery,
Collector.

(True copy.)

(signed) John J. Franklin,
Secretary Marine Board.

XXII.—*Notice to Mariners.*

Revised, and amended Instructions, touching the Navigation of the Coast of *Coromandel*; and Sailing Directions for the Guidance of Ships and Vessels when bound to the Port of *Coringa*, in either Monsoon.

1. WHEREAS the bank of soundings which lines the coast of *Coromandel* is steep to, and does not extend beyond 12 or 14 miles, and off some positions where the coast is very low, and void of all distinct land-marks, the outer edge of this bank is not beyond from 8 to 10 miles, it is obvious that the utmost care and vigilance are at all times essentially necessary to ascertain when a ship or vessel is within the limits of the bank; for which purpose the deep-sea lead should be carefully attended to, especially when, with a beating wind, a ship or vessel may be standing in for the land.

2. And as many instances have recently occurred which prove that there is frequently a strong set or indraught towards the north-western limit of the *Pulicat*, and the *Armegon Shoals*, commanders of ships and vessels are warned against an incautious approach towards the coast in the vicinity of those dangers, which are steep to, and soundings of 14 and 12 fathoms are within three miles of those banks, decreasing suddenly to 8 and 7 fathoms, which are close to each of the shoals; and although breakers may be seen or heard occasionally, yet such an indication of approach, either to the *Pulicat* or the *Armegon Shoal*, cannot be relied on.

3. And whereas a recent survey of the *Mootapillay Shoal* by Lieutenant *Fell*, I.N., proves the necessity of approaching the coast in the vicinity of that danger with great caution, the attention of commanders of all ships and vessels is directed to the following instructions: *Mootapillay Shoal* is in lat. $15^{\circ} 23' 15''$ N.; two fathoms and a half hard sand is the shoalest part, and that shoal patch bears E. 2° S. from the two conical hills at *Pellore*, and E. 20° S. from the southern brow of a high mountain, and is distant from the shore ten miles; but as those land-marks may frequently be obscured, and only discernible in clear weather, and as there are soundings of 7 and 8 fathoms close to the shoal, ships and vessels should not approach the coast when off the *Mootapillay Bank*, during the night, in less than 20 or 25 fathoms, nor during the day in less than 12 or 15 fathoms.

4. Ships or vessels getting ahead of their reckoning, and overcasting their lead, are not uncommon occurrences on this coast, and should be most cautiously guarded against. When soundings are gained on the edge of the bank in 45, 40, or 30 fathoms, every preparation should be made to tack or wear, as the distance may not be more than from six to nine miles from dangerous patches and reefs, which are accurately described in *Horsburgh's Sailing Directions*; and to guard on the safe side, every officer and seaman should bear in mind the possibility of those shoals having extended to seaward since those directions were published, also the mutability of currents, and the liability of strong indraughts towards the several bights and bays which indent the *Coromandel* coast; and after a heavy gale, or a severe hurricane, the storm wave and the sudden change of current may set ships and vessels much nearer to the shore than reckoned upon. Under all these circumstances, it is absolutely necessary that unremitting attention should be observed in the navigation of this low and dangerous coast, which is very often partially obscure by thick or hazy weather, and sometimes the land cannot be seen when within a few miles; therefore the responsibility of command, and due consideration, will call into constant requisition those anxious duties which are comprised under the well known maxim of—Latitude, Lead, and Look-out.

5. Ships and vessels when bound to *Coringa* from the northward during the S. W. monsoon, should haul in towards the coast to the southward of the *Dolphin's Nose*, and beat to windward close along shore. From the *Dolphin's Nose* until near the low shore of *Golconda*, the coast is high, bold, and rocky, and

free from all danger, but should not be approached under 12 or 14 fathoms, as those soundings are not above one mile and a half or two miles off shore; there is a high rock close to the beach, near the village of *Poondamacka*, situated five or six leagues S. W. of the *Dolphin's Nose* and *Wattara*, marked by a bungalow on the summit of a hill, bears about S. W. $\frac{1}{2}$ W. 10 leagues from that promontory. *Pentacotta*, known by a detached conical or sugar-loaf hill, bears S. W. seven or eight leagues from *Wattara*, and a few miles to the southward of that position, the bold and rocky coast gradually terminates, and may be approached to within 8 or 9 fathoms, and when off the village of *Oopadah*, 20 leagues S. W. of the *Dolphin's Nose*, and four leagues N. E. of *Jauggeronautpooram*, ships and vessels may stand in shore to $4\frac{1}{2}$ and 5 fathoms, where a soft muddy bottom commences; when thus far to windward, care should be taken, by making short tacks, to hug the coast, as the freshes from the several mouths of the *Godavery* in June, July, and August, set with such rapidity, that ships and vessels may, without precaution, experience much difficulty and delay in beating up to the anchorage. Having sighted the lighthouse by day, or the light by night, it may be brought to bear from S. by E. to S. by E. $\frac{1}{2}$ E., and with the flagstaff (which stands a little to the eastward of the *Jauggeronautpooram Pagodas*) bearing from W. $\frac{1}{2}$ S. to W. by S. $\frac{1}{2}$ S., ships and vessels may anchor off *Jauggeronautpooram* or *Coconadah*, in 4 or 5 fathoms soft mud, and off shore one mile and a half or two miles. As the lead and light will be the only guide at night, soundings must then be carefully attended to.

6. All ships and vessels from the northward, and bound to *Coringa*, during the N. E. monsoon, should guard against a southerly current, and make the coast between the *Dolphin's Nose* and *Wattara*, when they may direct their course for the bay; but in this monsoon, large ships should anchor in 6 fathoms, with the lighthouse bearing S. by E., and the flagstaff W. S. W., where they will find good holding ground.

7. All ships and vessels from the southward, when bound to *Coringa*, in the S. W. monsoon, should, in the day time, make the land about *Narsipoor Point*, and not come under 8 or 9 fathoms. This point is low and woody, and the coast presents the same appearance until past the large fishing village of *Bundamalunka*, which is seven or eight leagues N. E. $\frac{1}{2}$ E. from the point; thence to the reef, off *Point Gordeware*, the coast is intersected with low shrubs and sand-hills, except about half way between that village and the reef off *Point Gordeware*, where there is a remarkable tope of apparently isolated palmyra trees; when this tope bears about S. W., the lighthouse, on one of the *Hope Islets*, may be seen, if the weather is clear. As several ships have been lost in the vicinity of this part of the coast, and as erroneous impressions prevail respecting the soundings and extent of the bank, the Master-attendant on H. C. steamer "*Hugh Lindsay*," on the 10th ultimo, hauled within two miles of the coast in 7 fathoms, abreast the site where the ship "*Active*" was wrecked in July last, and from that position the steamer edged away S. E. four or five miles, and carried regular soundings from 7 to 19 fathoms: the same experiment was made between that position and *Narsipoor Point*, and with a corresponding result. Having passed the tope and sighted the lighthouse, ships and vessels should keep off in 12 or 14 fathoms, until the lighthouse bears about N. W. by N., when they may edge away or haul up to the northward, and attending well to the lead, bring the light to bear N. W., when they will be abreast the southeastern entrance of the *Gordeware Reef*, which bounds the *Hope Islets*, and the southern limits of *Coringa Bay*; with a working breeze, this reef may be approached to 8 or 9 fathoms; it is steep to, and 6 and 7 fathoms are within a quarter of a mile of the ridge or breakers, which are more or less visible according to the force and direction of the wind. Still holding on a northerly course, and having passed *Point Gordeware*, a low sandy ridge almost level with the sea, and intersected by several knolls or knobs of hard sand which appear above water, and having brought the lighthouse to bear S. W., or S. W. $\frac{1}{2}$ S., ships or vessels may haul up for the bay to N. N. W., and gradually to W. N. W., and when it bears south, with soundings of 6 or 7 fathoms soft mud, they should prepare to anchor, under bearings as indicated in section 5 of these instructions. These directions apply to both day and night, but during the night, when neither *Narsipoor Point* nor the shore can be seen, the coast should not be approached under 12 or 14 fathoms, and the greatest caution is at all times

necessary when hauling in to make the Coringa light; true soundings, a good look-out, and full preparation to tack or wear or haul off shore at a moment's warning, must be attended to; thick or hazy weather may obscure the light, and it may be prudent to stand off to the southward, until day light.

8. All ships and vessels from the southward and bound to Coringa Bay, in the N. E. monsoon, must endeavour to work up well to the northward of their port, but if they are driven to leeward, they must avoid the danger of being embayed, and should not bring Narsipoor Point to bear to the eastward of north, but stand out to sea until they have gained sufficiently to windward of Point Gordeware, when they must attend to the sailing directions and anchor in a windward position, as already noticed.

9. Hope Island (so designated) has the appearance of one island, and is covered with jungle or brushwood; but it is intersected by several channels, and is therefore a group of islets, and on the south-west end of one of those islets stands the Coringa lighthouse. It is elevated about 80 feet above the level of the sea, and the light is discernible from a ship's masthead in clear weather 15 or 16 miles. It bears from Point Gordeware about W. S. W. In thick weather this light may not be visible beyond 10 or 12 miles, and as the outer edge of the reef is at least six miles from the lighthouse, a ship or vessel may, during such weather, be within four miles of the reef before the light or the lighthouse has been discovered; therefore soundings always require the most prompt and careful attention, especially as there is a possibility of such accident or negligence befalling a light as may entirely put it out. Point Gordeware has extended to the northward since the first publication of Horsburgh's Directions, and the reef has also extended its limits as therein described, both to the northward and eastward; and these changes are attributed to the awful inundation of the sea during the hurricane of November 16th, 1839, and the reaction consequent on that disastrous event; but this apparent change has merely shifted the anchorage off Cocanadah, or in Coringa Bay, farther to the northward, and is not in any way detrimental to the safety of that anchorage.

10. The Bay of Coringa is well sheltered, and is only open from N. E. by E. to S. E. by E. The anchorage is on good holding-ground, deepening to the N. E., and a ship or vessel driving on the mud-bank would not sustain any material injury. The mouth of Coringa River is about S. W. by S. seven or eight miles from the anchorage, and the bar, on which is a ledge of hard sand, with soft mud on either side of it, is distant from the river's mouth about two or three miles; 9 feet 6 inches is about the average height of water over the bar at the full and change of the moon, when it is high water at 9 o'clock; and the rise and fall of tide over the bar is from 5 to 6 feet during the springs.

11. Commanders of ships or vessels cannot commit any error of consequence if they attend with care and attention to Horsburgh's invaluable Directory, and at the same time exercise their own judgment and discretion when certain changes of wind and weather, which cannot always be foreseen, call into aid that practical skill so essential to the safety of navigation.

(signed) *Chris. Biden,*
Master-Attendant.

Master-Attendant's Office, Madras,
13 October 1846.

Notice to Mariners.

SAILING INSTRUCTIONS, as a Guide when Ships or Vessels are on the Coast of *Oriza*, or off the *Santapillay* Rocks, with Sketches of Remarkable Landmarks denoting the true Position of those Rocks.

1. WHEREAS a recent survey of the Santapillay Rocks under the direction of Lieutenant Fell, I.N., and a further inspection thereof by the Master-attendant, on the 6th instant, clearly prove that those rocks comprise one of the most dangerous shoals in the Indian Seas, and as no well-defined landmark has hitherto been notified for the purpose of indicating their locality, and warning commanders of ships and vessels of their near approach to those rocks, it is therefore expedient to publish the following remarks for the guidance of all mariners who may navigate the coast of Oriza and the Bay of Bengal.

2. The Santapillay Rocks are in

Latitude $17^{\circ} 59' 25''$ N.

Longitude $83^{\circ} 47' 37''$ E.

and are distant from the coast between five and six miles. They are about 10 feet under water, steep to on all sides, and their extent is not beyond 200 yards in length. When there is but little wind and a smooth sea this shoal presents no indication by broken or discoloured water, as Lieutenant Fell, when in search of it during very fine weather, brought the surveying brig "*Kristna*" to anchor within 100 yards of the rocks before he could observe the slightest appearance of a shoal. He then proceeded in one of that vessel's boats over the rocks, and found $10\frac{1}{2}$ feet on the shoalest part; on the eastern side 7 and 10 fathoms, and on the western limit $10\frac{1}{2}$ fathoms, rocky bottom.

3. The Master-attendant surveyed the Santapillay Rocks in the Honourable Company's steam vessel "*Hugh Lindsay*," on the 6th instant, during fine weather; and with a moderate breeze from S. W. and a ground swell, the breakers were clearly discerned from the masthead at the distance of six or seven miles, bearing due south, and Santapillay Peak bearing W. by N. in 7 fathoms, off shore about two miles. The breakers were soon after seen from the deck; and at 11 h. 45 m. A. M., when the reef, which broke with considerable force, bore from S. 56° E. to S. 57° E., and Santapillay Peak was bearing N. 43° W., the "*Hugh Lindsay*" was anchored in $9\frac{1}{2}$ fathoms, coarse sand and shells, distant from the reef two miles, and from the coast three miles and a half; latitude by an indifferent observation $18^{\circ} 1' N.$

4. Two boats were sent under Captain Crawford to examine the reef, and they carried regular soundings from the steamer of 9, and $9\frac{1}{2}$ fathoms, until within a quarter of a mile, and in less than 100 yards of the breakers, where they found $10\frac{1}{2}$ and $10\frac{1}{2}$ fathoms, rocky bottom. The breakers were too high to admit of the boats crossing over the reef, but Captain Crawford pulled round it, and gave as his opinion that the shoal, which lies N. N. W. and S. S. E. is in circumference about a quarter of a mile, with 10 fathoms all round very close to the rocks. From the "*Hugh Lindsay*" the breakers seemed to extend the length of 200 yards.

5. The inner channel is safe for ships and vessels of every class, as soundings of 5 fathoms within a mile of the coast, and $9\frac{1}{2}$ fathoms within a quarter of a mile of the rocks, afford a clear space of nearly four miles in breadth.

6. In fair weather, and when the Peak of Santapillay is visible, that lofty and remarkable landmark affords an infallible guide to the true position of the Santapillay Rocks. This peak is at least 2,000 feet above the level of the sea, and presents a striking contrast to all the hills in its vicinity; it bears N. 45° W. from the rocks, and the base of the mountain is not more than seven or eight miles from the coast. In the event of cloudy weather, when the peak may be obscured, there are two remarkable hillocks close to the beach, which the Master-attendant has named the Great and Little Conara Hill; and when the "*Hugh Lindsay*" had steamed to the S. W. about three miles beyond the position where she had anchored, those hills presented a remarkable change of form, having the appearance of a saddle hill. The northernmost or Little Conara Hill, marked

L.H. in Sketch No. 2, is well situated for a light or obelisk, being not more than half a mile from the beach, and 150 feet above the level of the sea; it bore N. $\frac{1}{4}$ W., and the Santapillay Reef was then plainly visible from the deck bearing E. $\frac{1}{4}$ N. distant four miles, and at the same time Santapillay Peak bore N. 29° W. in 8 fathoms, and off shore about two miles.

7. But in thick weather when no well-defined landmark is discernible, then it becomes absolutely necessary to approach the coast between Ganjam and Vizagapatam with great care and caution. Change of current, and the absence of all means, by night or day, of obtaining a single observation, may, without strict and unremitting attention to soundings, place a ship or vessel in imminent peril close to, or upon the Santapillay Rocks, which should not be approached from the eastward, by day or night, under 17 fathoms.

8. Horsburgh's description of the rocks and their position is denoted with his usual accuracy, but as his directions afford no information about the leading marks on shore, the subjoined * sketches of Santapillay Peak and the Conara Hills, and the bearings therein specified, cannot fail to be serviceable to commanders of ships and vessels when they make the land in the vicinity of the Santapillay Rocks.

Master-Attendant's Office,
21 September 1846. }

(signed) *Chris. Biden,*
Master-Attendant.

(True copy.)
(signed) *John J. Franklin,*
Secretary Marine Board.

XXIII.

Calicut, 1 February 1847.

NOTICE is hereby given, that a fixed single light will be exhibited at Calicut from the 15th instant, on a column of masonry 105 feet above the level of the sea.

The column, which is white, may be seen from the deck of a ship at a distance of about 14 or 15 miles during the day time, and the light (which is a small one) may be distinguished at a distance of about 9 or 10 miles during the night.

The Calicut Shoal bears from the lighthouse N. N. E., distance about one mile and a quarter.

The best anchorage for shipping is in 5 fathoms, with the lighthouse bearing from E. to E. N. E.

There is 3 $\frac{1}{2}$ fathoms near the western edge of the Calicut Shoal, but vessels passing the port, either by day or by night, should not come under 5 fathoms; this depth will carry them well clear of the shoal.

The light will not be exhibited from the 20th of May to the 10th of August of each year.

(signed) *H. V. Conolly,* Collector.

(True copy.)
(signed) *John J. Franklin,*
Secretary Marine Board.

XXIV.—Instructions for Vessels making the Port of Cuddalore.

Madras, Marine Board Office,
19 October 1847.

A VESSEL should anchor in 5 $\frac{1}{2}$ or 6 fathoms, mud and sand, with small shell, with the flagstaff bearing N. W. by N. to N. W. $\frac{1}{2}$ N., and the first tuft of trees to the north of the bar N. W. by W., when the Backwater or river will be distinctly seen. The flagstaff will appear between two high sandy hillocks, but rather nearer the southern one, and the white building and church in the centre between the southern sandy hillock and the tuft of trees at the bar.

By order of the Marine Board.

(signed) *John J. Franklin,* Secretary.

(True copy.)
(signed) *John J. Franklin,*
Secretary Marine Board.

XXV.—Notice.

Madras, Marine Board Office,
11 February 1848.

NOTICE is hereby given, that two buoys have been placed to mark the entrance into the Backwater at Cochin, the northern one about one mile and a half from the northern or Vypeen shore; the southern one about a mile and a quarter from the south or Cochin shore. They are in 3 fathoms at low water, and indicate the width of the channel at its entrance, the least water between them in November last being 15 feet at low water on a patch.

High water, full and change, one hour; rise and fall 3 feet 6 inches.

In standing in, keep the middle of the three churches on Arnaculum Island in one with, or a little open of Vypeen inner point; a vessel will then be in the centre of the channel, and midway between the buoys, one or other of which, as may be most convenient, should be approached in order to avoid the patch of 15 feet, on either side of which 3 fathoms will be found; with the above marks on, the water will deepen to 5 and 6 fathoms till abreast the outer Vypeen point, when the shoals will have been passed, and the shores be found bold to approach.

In thick or foggy weather, when the churches cannot be discerned, the buoys will sufficiently point out the channel to enable ships to enter it without danger. After passing between them, they should be steered for a little to the right of Vypeen inner point, care being taken that the current does not set them over to the banks on either side.

These buoys will be removed at the commencement of the S. W. monsoon in May, and replaced on the return of fine weather about September.

By order of the Marine Board.

(signed) *John J. Franklin,* Secretary.

(True copy.)
(signed) *John J. Franklin,*
Secretary Marine Board.

XXVI.—Important Notice to Mariners.

EXTRACT from a Letter from *G. L. Bradley*, Esq., Master of Her Majesty's Ship "Fox," to Captain *C. Biden*, dated Trincomalee, 20 March 1848.

"Well knowing the great interest you take in nautical affairs, I have great pleasure in forwarding an account of several important errors in the Admiralty Sheet Chart, No. 12 (by Lieutenant Blair and Captain Moorsom), 1789-1790."

Erroneous Position of several Places in *Duncan's Passage* and South-Eastern Part of the *Southern Andaman*, as determined by the Chronometers on board Her Majesty's Ship "Fox," Commodore *Sir Henry M. Blackwood*, Bart., on her Passage from *Maulmein* to *Trincomalee*, during the Month of March, 1848.

Her Majesty's ship "Fox" sailed from Amherst on the morning of the 22d February 1848, bound to Trincomalee.

It was the intention at first to have passed through the *Preparis South Channel*, but owing to the very light winds and southerly set, this object was relinquished, and a course shaped for *Barren Island*; *Duncan's Passage*, under these circumstances, being considered preferable.

At noon, 29th February, *Barren Island* in sight, bearing S. $\frac{1}{2}$ E. 15 miles (being the difference of latitude by meridian altitude). Our chronometers gave the longitude $93^{\circ} 52' 15''$ E., which places this island in longitude $93^{\circ} 53' 45''$ E., agreeing with Captain Hall's account as given in *Horsburgh's Directory*, and also with the Sheet Chart, No. 12, of the Gulf of Bengal by Lieutenant Blair and Captain Moorsom.

At 3 P.M. 1st March, *Barren Island* N. E. $\frac{1}{2}$ E. 40 miles, and the southern of the *Andaman Archipelago* W. by S. seven miles. Our chronometers gave the longitude $93^{\circ} 16'$ E., which placed the ship by the chart within a mile of the land last named, although to appearance it was at least seven miles, as before stated.

At 9 A.M. 2d of March, our longitude was $92^{\circ} 55' 30''$ E., which again put us within a mile of the land (*Rutland Island*), showing about the same difference as before.

At 9 A.M. 3d of March, when the Two Sisters bore west two miles, the chronometers gave the longitude $92^{\circ} 46' 45''$ E., and by another set of sights, when these islands bore north two miles, $92^{\circ} 44' 30''$ E., which may be considered their correct longitude, and places them 12 miles to the westward of the chart, $11^{\circ} 30' 30''$ E. of Fort Frederick (*Trincomalee*), and $12^{\circ} 30' 30''$ E. of Madras Observatory. Observations were obtained again in the afternoon of this day, when near the South Centinel, with similar result to those in the morning.

Immediately on the arrival of the "Fox" at Trincomalee (11 days), observations were taken on shore by artificial horizon, the result of which proved the correctness of the chronometers.

The incorrectness of the places mentioned being considered established, renders the approach to this land, from the westward, a matter of great consideration, as by reference to the chart it will be seen the dangers on the western part of this coast are many and of very great importance, particularly in thick weather, which often happens.

It is also reasonable to suppose the invisible bank, and the rock laid down on it on the chart, are incorrectly placed, but considering it (the rock) to be 14 leagues

MADE BY THE EAST INDIA COMPANY, SINCE 1820. 6695

leagues to the eastward of the Two Sisters, as stated in *Horsburgh's Directory*, its position by our chronometers will be in longitude $93^{\circ} 26' 30''$ E.; Captain Owen calls it in $93^{\circ} 29'$ E., and the chart places it in $93^{\circ} 40'$ E. There can be little doubt that the position of this very dangerous rock is but imperfectly known, and the fact of *Barren Island* being correctly laid down, and the Two Sisters 12 miles out, will tend much to bewilder the navigator.

Her Majesty's Ship "Fox," (signed) *G. L. Bradley*, Master.
Trincomalee, 17 March 1848.

(True copies.)

(signed) *Chris. Biden*,
Master-Attendant.

(No. 33.)

From *Sir T. V. Stonhouse*, Bart., Accountant-General, to *J. F. Thomas*, Esq.,
Chief Secretary to Government.

Fort St. George, Accountant-General's Office,
6 February 1849.

Sir,

WITH reference to your letter of yesterday's date, I have the honour to report, for the information of the Right Honourable the Governor in Council, that this office has been engaged, since the receipt of the orders of Government of the 4th May last, No. 183, in collecting the information, therein called for, in regard to the expenditure in the Hydrographic Departments of the East India Company under this Presidency for all the maritime surveys carried on under their authority since the year 1820; a duty which must occupy considerable time and labour, seeing that its performance involves the careful examination of the public accounts of this Presidency, month after month, for a period of 28 years, while in the absence of information of the heads of account under which similar charges were formerly exhibited, it has become necessary to trace these charges through the several heads of account under which they may possibly have been carried; besides which, as part of the information called for is not contained in the accounts furnished to this office, the civil auditor was applied to for a statement containing such information, in detail, as the records of his office furnished in regard to the expenditure, and the other points adverted to in the Honourable Court's despatch, and after communicating with him on the 29th May, 4th September, and 21st December last, a reply has only lately been received, dated the 23d ultimo, stating that considerable difficulty is experienced in obtaining the information required, and that the progress already made in the work is but inconsiderable, and calling upon me to furnish an extract from the ledgers of this office, in which he states the charges will all appear under one head, with the dates and amounts debited, to enable him to furnish the required information. As already remarked, the charges were probably formerly exhibited under more than the one appropriate head of "Marine Charges," but in order to give the civil auditor every assistance in my power in collecting the information in question, I have directed the preparation of extracts from the ledgers of the heads under which these charges may have been possibly carried, and these, which have only just been commenced, will, when completed, be transmitted to the civil auditor. Under this circumstance, I apprehend it will be some time before the statement called for by the order of Government of the 4th May last could be completed and furnished to Government for transmission to the Honourable the Court of Directors, but the Government may rest assured that no unavoidable delay on the part of this office shall take place.

I have, &c.
(signed) *T. V. Stonhouse*,
Accountant-General.

(True copies.)

(signed) *J. F. Thomas*,
Chief Secretary.

No. 1.

A STATEMENT containing Information in detail, as collected from the Records of the Revenue and Presidency *Manaar Gulf*; and for Lighthouses, Beacons, Buoys, and Flagstuffs, exhibited on the Eastern and

Nature of the Charges, with the Names of the Districts in which they were incurred.	From May to April 1830-31.	1831-32.	1832-33.	1833-34.	1834-35.	1835-36.	1836-37.	1837-38.
	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>
RAJAHMUNDRY:								
Wages of the servants employed at the lighthouse on Hope Island, at Coringa	432 - -	432 - -	432 - -	432 - -	432 - -	834 8 4	894 - -	894 - -
Articles supplied for the lighthouse on Hope Island, at Coringa	213 10 8	214 4 4	228 8 4	306 15 9	95 8 -	913 11 5	620 1 9	1,335 4 7
For repairing the lighthouse on Hope Island, at Coringa	- - -	- - -	- - -	429 - -	- - -	- - -	- - -	- - -
For fixing a new lantern in the lighthouse on Hope Island, at Coringa	- - -	- - -	- - -	- - -	190 - -	- - -	- - -	- - -
For erecting a house for the superintendent of the lighthouse to live in	- - -	- - -	- - -	- - -	- - -	221 5 -	- - -	- - -
For supplying a new copper roof and light apparatus for the lighthouse	- - -	- - -	- - -	- - -	- - -	- - -	226 - 4	- - -
For furnishing a metallic top for the lighthouse	- - -	- - -	- - -	- - -	- - -	- - -	- - -	636 14 -
For supplying 40 panes of plate-glass for the lighthouse	- - -	- - -	- - -	- - -	- - -	- - -	- - -	240 - -
For enlarging the lantern and putting up new light apparatus in the lighthouse at Coringa	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For constructing new illuminating apparatus for the lighthouse	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For repairing the lamps of the lighthouse at Coringa	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For erecting a new flagstaff at Coringa	- - -	- - -	- - -	- - -	- - -	- - -	370 - -	- - -
For repairing the flagstaff at Coringa	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Ropes purchased for flagstaff at Coringa	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For constructing a flagstaff at Jaggeraipooram	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
MASULIPATAM:								
For constructing a double flagstaff light for the harbour of Masulipatam	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Salaries of the servants employed to attend the flagstaff light	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Incurred for advertising the Masulipatam flagstaff light in the Bengal newspapers	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Boat-hire for landing a signal lantern	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
NELLORE:								
For repairing the flagstaff at Eskapully	- - -	34 9 6	2 8 7	7 12 9	- - -	- - -	- - -	- - -
CHINGLEPUT:								
Wages of the establishment connected with the flagstaff	153 - -	153 - -	153 - -	153 - -	114 12 -	- - -	- - -	- - -
For erecting a new flagstaff at Sadras	- - -	50 - -	- - -	- - -	- - -	- - -	- - -	- - -
Value of a spar or flagstaff sent to Sadras	- - -	200 - -	- - -	- - -	- - -	- - -	- - -	- - -
For lightening the rigging of the flagstaff at Sadras	- - -	- - -	10 15 -	- - -	- - -	- - -	- - -	- - -
For repairing the flagstaff at Sadras	- - -	- - -	- - -	- - -	18 6 11	4 13 10	- - -	- - -
For carrying the flagstaff from Sadras and fixing it at Cove-long	- - -	- - -	- - -	- - -	- - -	172 13 -	- - -	- - -
Cove-long flagstaff, lascar's pay, at rupees four a month	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Boatman's hire for saving a buoy discovered off Sadras	- - -	- - -	- - -	- - -	- - -	48 - -	8 - -	- - -
Boatmen's hire for conveying a Hoogly buoy and chain from Sadras to Madras	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -

No. 1.

Accounts, relative to the EXPENDITURE incurred in the CIVIL DEPARTMENT, on Account of the late Survey of the Western Coasts of the *Madras* Presidency; from the Official Year 1830-31 to the Official Year 1846-47.

1838-39.	1839-40.	1840-41.	1841-42.	1842-43.	1843-44.	1844-45.	1845-46.	1846-47.	GRAND TOTAL.
<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>
894 - -	921 - -	972 - -	972 - -	972 - -	972 - -	972 - -	972 - -	972 - -	13,401 8 4
1,630 10 9	1,125 5 8	553 1 7	571 9 6	582 14 9	634 10 2	566 11 1	601 3 11	649 5 4	10,843 9 7
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7 12 1	101 15 6	- - -	- - -	12 8 -	1 2 6 -	- - -	7 8 -	3 14 6	179 11 5
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- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	<i>Rs.</i>	1,261 12 9

Nature of the Charges, with the Names of the Districts in which they were incurred.	From May to April 1830-31.	1831-32.	1832-33.	1833-34.	1834-35.	1835-36.	1836-37.	1837-38.
	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>
NORTH ARCOT:								
Lascar's pay for attending at the flagstaff at Pulicat, at four rupees a month -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	5 2 7
For tarring and rigging the flagstaff at Pulicat -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For refitting the flagstaff at Pulicat, and repairing the masonry around its base -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
SOUTH ARCOT:								
Pay of two lascars attached to the flagstaff at Cuddalore, at seven rupees each per month, up to the end of February 1833, when the salary was reduced to four rupees a month, and the services of but one lascar continued, till the end of May 1837 -	168 - -	168 - -	168 - -	168 - -	148 - -	48 - -	48 - -	4 - -
Flagstaff scrag's pay at Porto Novo, at seven rupees a month till the end of Fe- bruary 1835, and then at the rate of four rupees a month, as above -	84 - -	84 - -	84 - -	84 - -	78 - -	48 - -	48 - -	4 - -
Lascar's hire for striking the topmast of the flagstaff at Porto Novo -	2 15 -	1 - -	8 - -	1 - -	- - -	- - -	- - -	- - -
For repairing and refitting, &c. the flagstaff at Cuddalore	18 7 11	69 12 -	21 8 -	- - -	31 - 10 1/2	29 14 6	144 12 4	- - -
For repairing, refitting, &c., the flagstaff at Porto Novo	10 8 -	141 9 11	23 10 -	- - -	14 4 5	86 12 9	83 9 -	- - -
For making a new (union jack) flag for the flagstaff at Cuddalore -	21 3 6	21 3 6	21 3 6	- - -	- - -	- - -	- - -	- - -
For making a new (union jack) flag for the flagstaff at Porto Novo -	21 3 6	21 3 6	21 3 6	- - -	- - -	- - -	- - -	- - -
For making a new quarantine flag for the flagstaff at Cud- dalore -	- - -	4 8 -	- - -	- - -	- - -	- - -	- - -	- - -
For making a new quarantine flag for the flagstaff at Porto Novo -	- - -	4 8 -	- - -	- - -	- - -	- - -	- - -	- - -
For repairing the flagstaff, building, &c., at Porto Novo	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For refitting the flagstaff, re- pairing its ramparts, and constructing a new flag- house thereon, at Cuddalore	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
TANJORE:								
Pay of the flagstaff establish- ment at Nagore -	147 - -	147 - -	147 - -	147 - -	112 7 -	- - -	- - -	- - -
Pay of the flagstaff establish- ment at Negapatam -	273 - -	273 - -	273 - -	273 - -	220 1 7	48 - -	48 - -	48 - -
Articles furnished from Ma- dras for use at the Nega- patam flagstaff -	326 - 9	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Articles furnished from Ma- dras for use at the Nagore flagstaff -	- - -	48 4 -	- - -	- - -	- - -	- - -	- - -	- - -
Boat-hire for conveying the articles from Madras for the Negapatam flagstaff -	11 3 -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Boat-hire for conveying the articles from Madras for the Nagore flagstaff -	- - -	4 12 6	- - -	- - -	- - -	- - -	- - -	- - -
For refitting the lower rigging of the Nagore flagstaff -	- - -	- - -	13 4 -	- - -	- - -	- - -	- - -	- - -
For a new flag for Nagore -	- - -	- - -	- - -	4 6 11	- - -	- - -	- - -	- - -
For repairing the flagstaff at Negapatam -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For a new flag for Negapatam	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Pay of men in charge of the light at Negapatam -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Pay of lascars attached to the flagstaff at Tranquebar -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Incurrd for oil for the light at Negapatam -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -

1838-39.	1839-40.	1840-41.	1841-42.	1842-43.	1843-44.	1844-45.	1845-46.	1846-47.	GRAND TOTAL.
<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>
48 - -	48 - -	48 - -	48 - -	48 - -	48 - -	48 - -	48 - -	48 - -	437 2 7
- - -	- - -	- - -	- - -	6 - -	- - -	- - -	5 1 6	- - -	11 1 6
- - -	- - -	- - -	- - -	- - -	- - -	76 2 6	- - -	- - -	76 2 6
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35 14 6	- - -	- - -	- - -	- - -	271 9 9	- - -	- - -	22 - -	644 15 10
35 14 6	89 2 -	- - -	- - -	- - -	119 9 -	- - -	- - -	14 11 -	619 10 7
10 8 -	- - -	10 8 -	- - -	- - -	- - -	- - -	- - -	- - -	84 10 6
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- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	169 4 2	169 4 2
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	<i>Rs.</i>	3,506 3 11

Nature of the Charges, with the Names of the Districts in which they were incurred.	From May to April 1830-31.	1831-32.	1832-33.	1833-34.	1834-35.	1834-35.	1836-37.	1837-38.
	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>
MADURA:								
Wages of the pilot establish- ment engaged at the Paum- bem Pass -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Wages of the lighthouse esta- blishment at Paumbem -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Contingent expenses on ac- count of the lighthouse, in- cluding oil, &c. -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Charges for preparing buoys, and meeting them in the Paumbem Channel -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
TINNEVELLY:								
For erecting a new flagstaff at Tutacurin -	269 8 -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Salary of the man on attend- ance at the flagstaff -	168 - -	168 - -	168 - -	168 - -	140 - -	- - -	- - -	- - -
For erecting a wooden beacon on the small tract to the north of Hare Island -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Cost of canoes, for keeping up the communication with the main land -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Cost of a lantern, &c. -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Cost of a house built for the use of the person entrusted with the light on Hare Island -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Pay of two massaljees attach- ed to the beacon on Hare Island at Tutacurin -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Contingent expenses (includ- ing oil) on account of the lighthouse at Tutacurin -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For repairing the lighthouse at Tutacurin -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
EXPENSES INCURRED IN MADURA AND TINNEVELLY IN CONNEXION WITH THE SURVEY OF THE GULF OF MANAAR:								
Salaries of the gentlemen in charge of the Manaar sur- vey, and the operations at Paumbem -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Mess money -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Hire of vessels employed in the Manaar survey -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Wages of the crew engaged for the Manaar survey -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Incidental expenses on account of the Manaar survey, in- cluding stationery, &c. -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Incurred on account of jour- nies made by the chief engineer to and from Paum- bem -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	314 9 8
For erecting a bungalow for the accommodation of the officers at Paumbem, and for repairs subsequently made -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Pay of establishment and hire of guard boats, &c., for the Manaar survey -	- - -	- - -	- - -	- - -	- - -	152 - -	- - -	- - -
Paid for the loss sustained in the swamping of the cutter -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Value of a boat for the survey -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Price of a sextant purchased on account of the survey -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Supplied the superintendent of the Manaar survey, to enable him to meet emer- gencies -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Incurred on account of a ma- chine for the Manaar sur- vey -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Value of stores purchased on account of the Manaar sur- vey -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Allowance of an apothecary for medical attendance on the Manaar survey esta- blishment -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -

1838-39.	1839-40.	1840-41.	1841-42.	1842-43.	1843-44.	1844-45.	1845-46.	1846-47.	GRAND TOTAL.
<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>
- - -	- - -	2,429 10 8	2,342 10 8	1,476 - -	2,421 - -	2,436 - -	2,601 6 4	3,121 9 8	16,831 5 4
- - -	- - -	- - -	- - -	- - -	- - -	- - -	6 6 4	144 - -	150 6 4
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	195 12 4	195 12 4
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	97 10 6	97 10 6
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	<i>Rs.</i>	17,275 2 6
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	269 8 -
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	812 - -
- - -	- - -	- - -	- - -	- - -	- - -	- - -	12 - -	- - -	12 - -
- - -	- - -	- - -	- - -	- - -	- - -	- - -	45 - -	17 - -	62 - -
- - -	- - -	- - -	- - -	- - -	- - -	- - -	17 - -	- - -	17 - -
- - -	- - -	- - -	- - -	- - -	- - -	- - -	25 - -	- - -	25 - -
- - -	- - -	- - -	- - -	- - -	- - -	- - -	144 - -	144 - -	288 - -
- - -	- - -	- - -	- - -	- - -	- - -	- - -	187 9 8	213 11 9	401 5 5
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	291 13 7	291 13 7
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	<i>Rs.</i>	2,178 11 -
1,800 - -	5,400 - -	7,599 15 11	10,358 - 10	10,828 3 6	10,485 - -	9,750 - -	8,000 - -	2,400 - -	66,621 4 3
- - -	- - -	- - -	431 2 1	495 - -	495 - -	450 - -	360 - -	- - -	2,231 2 1
254 3 6	1,700 - -	2,000 - -	3,000 - -	3,000 - -	2,750 - -	2,500 - -	1,985 8 -	- - -	17,189 11 6
- - -	1,020 - -	1,836 - -	2,985 13 11	3,296 - -	3,300 - -	3,000 - -	2,400 - -	- - -	17,837 13 11
- - -	517 14 5	822 1 5	1,754 6 6	2,448 6 4	918 7 4	1,574 - -	2,879 6 8	In arrears. 511 5 8	11,426 - 4
220 3 6	578 8 6	440 - 6	- - -	- - -	- - -	- - -	- - -	- - -	1,553 6 2
12 4 -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	164 4 -
- - -	- - -	- - -	2,528 2 8	- - -	- - -	- - -	- - -	- - -	2,528 2 8
- - -	300 - -	- - -	500 - -	80 12 -	- - -	- - -	- - -	- - -	80 12 -
- - -	- - -	- - -	150 - -	- - -	- - -	- - -	- - -	- - -	800 - -
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	150 - -
- - -	- - -	- - -	- - -	1,000 - -	- - -	- - -	- - -	- - -	1,000 - -
- - -	- - -	- - -	- - -	- - -	139 7 10	- - -	- - -	- - -	139 7 10
- - -	- - -	- - -	- - -	- - -	157 12 -	- - -	- - -	- - -	157 12 -
- - -	- - -	- - -	- - -	- - -	636 - -	1,452 - -	1,308 8 -	In arrears. 1,086 - -	4,482 8 -

Nature of the Charges, with the Names of the Districts in which they were incurred.	From May to April 1830-31.	1831-32.	1832-33.	1833-34.	1834-35.	1835-36.	1836-37.	1837-38.
	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.
EXPENSES INCURRED IN MADURA AND TINNEVELLY, IN CONNEXION WITH THE SURVEY OF THE GULF OF MANAAR*—continued.								
Paid for two boat compasses, &c., for the Manaar survey	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For erecting four beacons to point out the course of the channel at Paumbem	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Cost of a barge of 20 tons burthen, constructed for the operations at Paumbem	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For the construction of a lighthouse at Paumbem	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For repairing the convicts' gaol at Paumbem	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Cost of a pilot boat and canoes for the establishment at Paumbem	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Expenses incurred by the government agent at Ceylon on account of the operations at Paumbem	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Amount of freight paid at different times, for stores, &c., conveyed to and from Paumbem	- - -	- - -	- - -	- - -	- - -	- - -	- - -	1,035 9 2½
Cost of buoys for the Paumbem Channel	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For erecting a shed for the accommodation of the convicts at work at the Paumbem Pass	- - -	- - -	- - -	- - -	- - -	- - -	137 - -	- - -
Cost of articles furnished on account of the operations at Paumbem	- - -	- - -	- - -	- - -	- - -	- - -	- - -	916 6 1½
Wages, &c., paid a European mariner connected with the Paumbem operations	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
CANARA:								
For erecting a new flagstaff at Mangalore	758 11 10	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Value of a spy-glass for ditto	30 - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For striking the topmast of ditto	3 - -	6 2 -	5 11 9	7 14 -	6 8 -	6 - -	3 8 -	- - -
For rehoisting the flagstaff	6 - -	3 8 -	3 8 -	3 8 -	7 4 -	4 14 -	5 8 -	- - -
Cost of articles furnished for the flagstaff at Mangalore	76 10 -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For repairing, retarring, refitting, supplying new ropes, repairing the flags, &c. of the flagstaff at Mangalore	17 3 1	96 12 8	48 11 10	60 - -	42 - -	160 12 1	- - -	1 - -
Cost of a chest for securing the flags	- - -	- - -	- - -	- - -	7 8 -	- - -	- - -	- - -
For erecting a thatched roof to protect the steps of the flagstaff during the monsoons, and for repairs subsequently made	- - -	- - -	- - -	- - -	- - -	- - -	18 8 8	5 8 -
For purchasing and fitting up a new topmast with rigging for the flagstaff at Mangalore	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Cost of a lantern for the flagstaff light at Mangalore	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Value of three reflectors for ditto	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Hire of men employed in putting up the lantern on the flagstaff, with landing charges and portage	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Charges for oil, &c. on account of the flagstaff light	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Wages of two men attached to the flagstaff at Mangalore	132 - -	132 - -	132 - -	132 - -	132 - -	132 - -	132 - -	44 - -
MALABAR:								
Pay of two men in charge of the light at Tellicherry	- - -	- - -	- - -	- - -	- - -	52 - -	120 - -	120 - -
For making two iron cages to preserve the lanterns of the light at ditto	- - -	- - -	- - -	- - -	- - -	6 - -	- - -	- - -
Oil, &c. for the light at ditto	- - -	- - -	- - -	- - -	- - -	37 4 10	53 13 4	49 8 3
For striking the flagstaff at Tellicherry	29 13 4	- - -	8 8 10	30 - 1	- - -	10 6 -	8 11 2	7 8 11
For rehoisting the flagstaff, overhauling the rigging, &c. at ditto	8 10 5	8 1 2	- - -	9 4 -	7 13 1	8 8 10	9 10 8	7 8 11

* For further charges connected with the Gulf of Manaar, see under the head of Madras.

1838-39.	1839-40.	1840-41.	1841-42.	1842-43.	1843-44.	1844-45.	1845-46.	1846-47.	GRAND TOTAL.
Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.
- - -	- - -	- - -	- - -	- - -	- - -	187 6 -	- - -	- - -	187 6 -
- - -	200 - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	200 - -
- - -	- - -	- - -	1,716 7 7	- - -	- - -	- - -	- - -	- - -	1,716 7 7
- - -	- - -	- - -	- - -	- - -	500 - -	- - -	- - -	- - -	500 - -
67 14 -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	67 14 -
- - -	160 - -	- - -	- - -	- - -	150 - -	70 - -	- - -	- - -	380 - -
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	1,035 9 2½
933 7 2	170 14 4	- - -	4 12 -	- - -	2 1 11	3 - -	- - -	- - -	1,114 3 5
- - -	- - -	- - -	- - -	200 - -	66 3 7	- - -	- - -	- - -	266 3 7
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	137 - -
- - -	- - -	- - -	1,362 13 -	- - -	- - -	- - -	- - -	- - -	2,279 3 1½
809 - 6	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	809 - 6
Rs. 1,35,055 4 2									
- - -	- - -	- - -	- - -	555 6 -	- - -	- - -	- - -	- - -	1,314 1 10
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	30 - -
- - -	4 - -	3 8 -	3 8 -	- - -	5 10 -	4 8 -	4 4 -	4 - -	68 1 9
- - -	4 5 11	6 14 -	8 - -	6 8 -	5 - 2	- - -	3 7 4	9 4 4	77 9 9
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	76 10 -
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
- - -	129 14 11	- - -	6 12 2	- - -	6 4 -	- - -	2 - -	- - -	571 6 9
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	7 8 -
- - -	- - -	9 13 -	4 4 -	- - -	- - -	- - -	- - -	- - -	38 1 8
- - -	- - -	- - -	33 9 -	- - -	- - -	- - -	109 5 6	- - -	142 14 6
- - -	- - -	- - -	31 5 6	- - -	- - -	- - -	- - -	- - -	31 5 6
- - -	- - -	- - -	210 - -	- - -	- - -	- - -	- - -	- - -	210 - -
- - -	- - -	- - -	3 - 7	23 3 4	- - -	- - -	- - -	3 1 -	29 4 11
- - -	- - -	- - -	- - -	100 9 11	104 8 -	87 8 5	120 9 -	142 13 11	556 1 3
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	968 - -
Rs. 4,121 1 11									
120 - -	120 - -	120 - -	120 - -	120 - -	120 - -	118 1 -	120 - -	120 - -	1,370 1 -
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	6 - -
72 11 3	58 12 1	63 1 4	65 8 4	60 14 4	131 4 -	119 - 1	58 - 2	85 15 6	855 13 7
12 10 -	10 7 2	10 5 1	10 14 4	11 4 -	9 12 10	18 5 8	- - -	8 6 6	187 1 11
5 10 11	11 1 6	- - -	6 11 9	4 3 7	5 7 7	5 8 8	4 13 6	9 1 7	112 4 2

Nature of the Charges, with the Names of the Districts in which they were incurred.	From May to April 1830-31.	1831-32.	1832-33.	1833-34.	1834-35.	1835-36.	1836-37.	1837-38.
	Rs. as p.	Rs. as p.	Rs. as p.	Rs. as p.	Rs. as p.	Rs. as p.	Rs. as p.	Rs. as p.
MALABAR—continued.								
For repairing the flagstaff, the masonry around it, flags, &c. at ditto	2 1 7	8 7	85 15	285 7 10	2 - 11	- - -	- - -	21 14 -
Cost of a chest for securing the flags at ditto	- - -	- - -	- - -	5 - -	- - -	- - -	- - -	- - -
For fixing buoys off ditto	- - -	- - -	- - -	- - -	- - -	- - -	3 3 2	- - -
Pay of two men in charge of the light at Calicut, for two months and a half	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Oil, &c. for the light at ditto	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Cost of signal flags for ditto	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For making three national flags for Tellicherry, Calicut, and Cochin	- - -	- - -	- - -	- - -	- - -	- - -	- - -	136 8 -
For making a complete set of Marryatt's signals for Calicut	- - -	- - -	- - -	- - -	138 7 2	- - -	- - -	- - -
Rent of a godown to hold the flag stores at Calicut	60 - -	45 - -	60 - -	30 - -	59 5 4	60 - -	10 - -	- - -
For striking the flagstaff at ditto	8 9 3	8 9 3	8 7 3	8 5 3	- - -	8 5 3	9 1 3	9 1 3
For rehoisting the flagstaff, overhauling the rigging, &c. at ditto	- - -	- - -	- - -	38 - -	- 2 -	2 7 -	41 9 -	49 2 -
For repairing the flagstaff, flags, &c. at ditto	92 15 7	108 4 1	184 11 1	34 1 -	48 9 8	360 3 11	25 8 -	203 15 -
Incurred for pulling down the flagstaff at Calicut	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Amount advanced for the erec- tion of a flagstaff at ditto	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Pay of two men in charge of the light at Cochin	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Oil, &c., for the light at ditto	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Incurred for advertising the Cochin light in the Calcutta Gazette	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Boat-hire for securing buoys, and recovering their an- chors, for the caulking, re- pairing, &c. of buoys off Cochin	58 4 -	204 1 3	56 6 4	376 10 -	- - -	134 10 5	129 15 3	60 5 -
Pay of a syrang in charge of the flagstaff at Cochin	105 - -	105 - -	105 - -	105 - -	80 - -	- - -	- - -	- - -
Cost of a chest for securing the flags at ditto	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For striking the flagstaff at ditto	5 14 8	5 12 10	5 8 -	5 8 -	5 8 -	6 5 5	6 5 -	6 5 -
For rehoisting the flagstaff, setting up the rigging, &c. at ditto	5 8 11	5 9 2	9 5 2	- - -	- - -	7 1 4	17 11 -	7 3 -
For repairing the flagstaff, flags, &c., and whitewashing the town, &c. &c. at Cochin	- - -	21 6 5	- - -	79 13 6	95 5 4	- - -	20 12 -	- - -
Pay of two men in charge of the light at Cannanore	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Oil, &c. for the light at ditto	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Value of a spy-glass for the flagstaff at Calicut	- - -	- - -	30 - -	- - -	- - -	- - -	- - -	- - -
MADRAS:								
(Particulars of marine dis- bursements as given in the accounts of the boat paymas- ter, the late marine accountant, and the sub-treasurer of Fort St. George.)								
Wages of the men attached to the flagstaff at Pulicat	240 - -	240 - -	240 - -	240 - -	186 13 6	- - -	- - -	- - -
Pay of the servants in charge of the marine lighthouse	378 - -	378 - -	378 - -	378 - -	378 - -	378 - -	373 - -	376 - -
Contingent charges, including oil, &c. for the Madras lighthouse	1,179 11 11	1,054 5 9	882 7 3	1,761 11 -	1,195 9 -	- - -	- - -	- - -
Cost of articles purchased and supplied for the flagstaff at Negapatam	63 8 -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For sewing a union jack for the flagstaff at Pulicat	- - -	3 - -	- - -	- - -	- - -	- - -	- - -	- - -
Hire for conveying a barrel of tar and the union jack to Pulicat	- - -	11 8 -	- - -	- - -	- - -	- - -	- - -	- - -
Cost of a new set of signals for the Madras Port	- - -	- - -	31 8 -	- - -	- - -	- - -	- - -	- - -
Cost of a new set of Honour- able Company's transport signals for the Madras Port	- - -	- - -	17 - -	- - -	- - -	- - -	- - -	- - -
Cost of four sets of Marryatt's signals for transmission to Masulipatam, Cuddalore, Cochin, and Mangalore	- - -	- - -	- - -	100 8 -	- - -	- - -	- - -	- - -

1838-39.	1839-40.	1840-41.	1841-42.	1842-43.	1843-44.	1844-45.	1845-46.	1846-47.	GRAND TOTAL.
Rs. as p.	Rs. as p.	Rs. as p.	Rs. as p.	Rs. as p.	Rs. as p.	Rs. as p.	Rs. as p.	Rs. as p.	Rs. as p.
- - -	- 9 9	- 12 -	- - -	- - -	- - -	52 8 -	16 8 8	- - -	476 7 4
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	5 - -
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14 8 -	- - -	- - -	- - -	- - -	- - -	- - -	16 3 5	- - -	16 3 5
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	14 8 -
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	136 8 -
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	138 7 2
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	324 5 4
21 13 3	12 12 -	12 8 -	12 8 -	12 8 -	12 8 -	5 - -	- - -	- - -	150 - -
2 12 -	27 4 -	3 4 -	2 12 -	2 12 -	2 12 -	2 6 4	- - -	- - -	175 2 4
83 2 -	86 10 -	66 4 -	41 8 -	129 6 -	66 6 -	82 5 8	37 8 -	- 12 10	1,652 2 10
- - -	- - -	- - -	- - -	- - -	- - -	- - -	238 12 -	- - -	238 12 -
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10 - -	120 - -	120 - -	120 - -	120 - -	120 - -	120 - -	120 - -	120 - -	970 - -
10 5 11	61 - -	62 13 11	60 - -	60 - -	60 - -	61 - -	60 - -	60 - -	495 3 10
- - -	- - -	- - -	- - -	- - -	- - -	31 4 9	- - -	- - -	31 4 9
38 10 -	- - -	- - -	- - -	- - -	- - -	- - -	12 11 4	- - -	1,071 9 7
- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	500 - -
- - -	6 - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	6 - -
18 10 -	- - -	8 15 10	8 5 -	17 5 4	8 3 -	7 11 -	7 11 -	11 11 -	135 11 1
10 6 -	12 1 9	10 3 -	11 2 8	8 2 -	24 12 6	8 2 -	8 11 -	8 11 -	154 10 6
379 - -	6 4 -	22 8 -	26 15 11	- - -	93 10 5	8 9 8	51 10 6	99 12 -	905 11 9
- - -	- - -	- - -	- - -	- - -	64 13 5	120 - -	120 - -	120 - -	424 13 5
- - -	- - -	- - -	- - -	- - -	28 6 8	80 6 -	125 3 6	119 7 -	353 7 2
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- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	100 8 -

(continued)

Nature of the Charges, with the Names of the Districts in which they were incurred.	From May to April 1830-31.	1831-32.	1832-33.	1833-34.	1834-35.	1835-36.	1836-37.	1837-38.
	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.
MADRAS—continued.								
Expense incurred for packing up the above	- - -	- - -	- - -	3 12 -	- - -	- - -	- - -	- - -
Cost of a union jack and surf flag for Madras	- - -	- - -	- - -	15 12 -	- - -	- - -	- - -	- - -
Incurred for repairing the lighthouse at Madras	- - -	- - -	- - -	13 10 8	- - -	- - -	- - -	- - -
Cost of three flags for the beach flagstaff	- - -	- - -	- - -	- - -	11 12 -	- - -	- - -	- - -
For repairs at sundry times to the flags of the port	- - -	- - -	- - -	- - -	3 8 -	- - -	- - -	- - -
Boat-hire for conveying ma- rine stores for the flagstaff at Covelong	- - -	- - -	- - -	- - -	11 - 10	- - -	- - -	- - -
Value of a spar for the Madras flagstaff	- - -	- - -	- - -	- - -	- - -	100 - -	- - -	- - -
Cost of articles supplied for the Mangalore flagstaff	- - -	- - -	- - -	- - -	- - -	7 12 9	- - -	- - -
Cost of two trussels and two crossstrees and coir rope for the Madras flagstaff	- - -	- - -	- - -	- - -	- - -	- - -	79 10 -	- - -
Cost of coir rope for the Eskapally flagstaff at Nellore, and hire for its conveyance thither	- - -	- - -	- - -	- - -	- - -	- - -	40 13 2	- - -
Cost of warm clothing for the men at the Madras light- house	- - -	- - -	- - -	- - -	- - -	- - -	11 4 -	11 4 -
For the erection of a new flag- staff at Pulicat	- - -	- - -	- - -	- - -	- - -	- - -	248 1 -	- - -
Incurred for repairing the Madras flagstaff	- - -	- - -	- - -	- - -	- - -	- - -	105 10 11	- - -
Incurred for tarring the rigging of the Madras flagstaff	- - -	- - -	- - -	- - -	- - -	- - -	- - -	9 14 -
Hire of men employed for lash- ing a buoy at Madras	- - -	- - -	- - -	- - -	- - -	- - -	- - -	15 1 6
Cooly hire for conveying Ma- dras lighthouse apparatus	- - -	- - -	- - -	- - -	- - -	- - -	- - -	1 14 -
Cost of a set of Marryatt's signals for the Mangalore flagstaff, and hire for its conveyance thither	- - -	- - -	- - -	- - -	- - -	- - -	- - -	71 11 2
For making a union jack, &c. for the Madras flagstaff	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For constructing a base of masonry, and for planting eight old guns for the sup- port of the new beach flag- staff (Madras)	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For repairing the damage sustained by the lighthouse in Fort St. George during the storm	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Cost of a plated metal reflec- tor, 50 rupees, and 50 yards of cotton wick, Rs. 18. 12 -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Incurred for painting a buoy	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Cost of new lamps and reflec- tors for the Madras light- house	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Incurred for tarring and paint- ing the lighthouse in Fort St. George	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Cost of a water-tub for use at the Madras lighthouse	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Incurred for refitting and rig- ging, and making a new maintop-mast for the Ma- dras flagstaff	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
For building a base of ma- sonry, &c., around the Ma- dras flagstaff	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Freight for a case containing a lantern for Cannanore	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Wages of the establishment in charge of the Madras lighthouse	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Salvage paid for a buoy, pick- ed up at sea, being one- fourth of its value	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Paid for advertising the Ma- dras lighthouse in the Cal- cutta "Star"	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Paid for advertising the Ma- dras lighthouse in the Ma- dras papers	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Lamp oil for the Madras lighthouse	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Freight for a set of Marryatt's signals sent to Negapatam	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -

1838-39.	1839-40.	1840-41.	1841-42.	1842-43.	1843-44.	1844-45.	1845-46.	1846-47.	GRAND TOTAL.
Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.	Rs. as. p.
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11 4 -	11 4 -	11 4 -	18 14 4	2 3 7	- - -	- - -	- - -	- - -	77 5 11
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78 11 -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	78 11 -
68 12 -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	68 12 -
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- - -	214 15 3	- - -	- - -	- - -	- - -	- - -	- - -	- - -	214 15 3
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(continued)

Nature of the Charges, with the Names of the Districts in which they were incurred.	From May to April 1830-31.	1831-32.	1832-33.	1833-34.	1834-35.	1835-36.	1836-37.	1837-38.
MADRAS—continued.	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>
For shipping a lantern on a dhoney for Negapatam	-	-	-	-	-	-	-	-
Freight for four bundles of rope sent to Coringa for the flagstaff	-	-	-	-	-	-	-	-
Freight for three cases of lan- terns sent to Tellicherry	-	-	-	-	-	-	-	-
Freight for three lanterns sent to Malabar	-	-	-	-	-	-	-	-
Salary of the light-keeper at Negapatam for one month and five days	-	-	-	-	-	-	-	-
Freight for a signal lantern sent to Masulipatam	-	-	-	-	-	-	-	-
Freight for two cases of lan- tern stores sent to Manga- lore	-	-	-	-	-	-	-	-
Paid for observations made of the run of the sea and set of the tides in the north- east monsoon at Madras	-	-	-	-	-	-	-	-
Survey of the Gulf of Ma- naar. (Items given in the sub-treasurer's accounts.)	-	-	-	-	-	-	-	-
Abstract of Lieutenant F. T. Powell and R. E. Bentlam, esq., of the Honourable Com- pany's surveying schooner "Royal Tiger," on account of pay issued to the officers of the surveying vessels, and for other expenses, from September 1837 to July 1838	-	-	-	-	-	-	-	-
Amount of bills of sundry ex- penses incurred at Bombay on account of the Honour- able Company's surveying tender "Royal Tiger," and other vessels engaged in the Manaar survey during 1837- 38 and 1838-39, and ad- justed in the civil charges	-	-	-	-	-	-	-	-
Bill of the Colombo Commis- sariat for provisions sup- plied to the crew at Manaar	-	-	-	-	-	-	-	-
Account current of Lieutenant Ethersey, of the Honour- able Company's surveying schooner "Shannon," for sundry expenses incurred in 1837-38 and 1838-39	-	-	-	-	-	-	-	-
Abstract signed by Lieutenant Powell and Lieutenant Ethersey, of sundry expenses connected with the Honour- able Company's surveying vessels in 1838-39, and ad- justed in the civil charges, 1841-42	-	-	-	-	-	-	-	-
Salaries of the gentlemen in charge of the Manaar survey	-	-	-	-	-	-	-	-
Mess money	-	-	-	-	-	-	-	-
Hire of vessels employed in the Manaar survey	-	-	-	-	-	-	-	-
Wages of the crew engaged for ditto	-	-	-	-	-	-	-	-
Freight for two buoys and two anchors sent to Paumbeim	-	-	-	-	-	-	-	-
Paid at Madras for incidental expenses of the Manaar sur- vey	-	-	-	-	-	-	-	-
Paid on account of an apothec- ary and an ordnance arti- ficer attached to the survey	-	-	-	-	-	-	-	-
Freight, &c., for lantern stores and grapnels sent to Paum- beim	-	-	-	-	-	-	-	-

Fort St. George, Accountant-General's Office,
27 March 1850.

1838-39.	1839-40.	1840-41.	1841-42.	1842-43.	1843-44.	1844-45.	1845-46.	1846-47.	GRAND TOTAL.
<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>
-	-	-	-	-	-	-	6 4 -	-	6 4 -
-	-	-	-	-	-	-	9 6 5	-	9 6 5
-	-	-	-	-	-	-	20 11 4	-	20 11 4
-	-	-	-	-	-	-	29 - 7	-	29 - 7
-	-	-	-	-	-	-	11 9 9	-	11 9 9
-	-	-	-	-	-	-	-	4 12 10	4 12 10
-	-	-	-	-	-	-	-	98 - -	98 - -
-	460 6 6	-	-	-	-	-	-	-	460 6 6
34,898 6 1	-	-	-	-	-	-	-	-	34,898 6 1
-	68,740 7 -	-	-	-	-	-	-	-	68,740 7 -
-	-	6,212 3 9	-	-	-	-	-	-	6,212 3 9
-	-	11,305 10 5	-	-	-	-	-	-	11,305 10 5
-	-	-	401 11 2	-	-	-	-	-	401 11 2
340 - -	235 6 11	-	-	-	-	1,470 90 -	735 11 5	-	2,781 2 4
-	-	-	-	-	-	500 - -	51 9 9	-	551 9 9
-	-	-	-	-	-	600 - -	77 6 8	-	677 6 8
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-	-	-	-	-	-	101 12 6	958 4 2	-	1,060 - 8
-	-	-	-	-	-	54 - -	29 7 10	-	83 7 10
-	-	-	-	-	-	2 8 -	77 11 10	-	80 3 10
-	-	-	-	-	-	-	-	-	Rs. 1,45,139 8 3

(signed) T. V. Stonhouse, Accountant-General.

ABSTRACT.

	GRAND TOTAL.
	<i>Rs. as. p.</i>
Rajahmundry - - - - -	28,491 13 5
Masulipatam - - - - -	2,749 5 3
Nellore - - - - -	179 11 5
Chingleput - - - - -	1,261 12 9
North Arcot - - - - -	524 6 7
South Arcot - - - - -	3,432 15 1
Tanjore - - - - -	3,506 3 11
Madura - - - - -	17,275 2 6
Tinnevelly - - - - -	2,178 11 -
Madura and Tinnevelly, in connexion with the Survey of the Gulf of Manaar	1,35,055 4 2
Canara - - - - -	4,121 1 11
Malabar - - - - -	11,027 8 4
Madras - - - - -	1,45,139 8 3
GRAND TOTAL - - - £.	3,54,943 8 7

(signed) *T. V. Stonhouse,*
Accountant-General.

Fort St. George, Accountant-General's Office,
27 March 1850.

(A true copy.)

(signed) *H. C. Montgomery,*
Chief Secretary.

No. 2.

STATEMENT showing the Cost of Construction, and the Average Annual Charges of Maintenance of the several LIGHTHOUSES, LIGHT-VESSELS, BEACONS and BUOYS, under the *Bombay* Presidency.

	Cost of Construction.	CHARGES OF MAINTENANCE.			REMARKS.
		Pay and Provisions.	Stores and Repairs, &c.	Total Amount of Average Annual Charges.	
LIGHTS:	<i>Rs.</i>	<i>Rs.</i>	<i>Rs.</i>	<i>Rs.</i>	
One lighthouse at Colaba -	45,523	4,527	2,123	6,650	This includes the val of ground, outhouse and its appurtenance &c., of the Colaba lighthouse.
One lighthouse at Taptee River	7,635	1,326	-	1,326	The stores, &c., cannot be separated, the same having been shown lump in the Public Accounts.
One lighthouse at Peerum -	5,023				
One inner light-vessel (the schooner "Shannon"), stationed throughout the year on the Sunken Rock -	28,031	1,001	1,329	2,330	
One outer light-vessel (the "Colaba"), stationed throughout the year -	61,272	6,051	5,526	11,577	
BEACONS:					
One beacon on the Oyster Rock at Colaba -	1,416	-	249	249	
One beacon on the Sunken Rock -	2,069				
One beacon in the sea at Mazagon -	150				
One beacon (wooden) on the Dolphin Rock -	500				
BUOYS:					
One buoy fairway (wooden), at the entrance of the Bombay Harbour -	1,539	-	-	-	
One buoy (circular), for the Sunken Rock -	600				
Two can buoys for the Middle Ground Shoal -	196				
One can buoy for the Flag-staff Shoal -	583				
One can buoy for the Northern Patch -	-				
One buoy for the wreck of the ship "Tyne" -	-				
One buoy for the wreck of the barque "Meca" -	-				
One buoy for the wreck of the ship "Cornwallis" -	-				
One buoy for the wreck of the ship "Tauze" -	-				
	1,54,537	12,905	9,227	22,132	* The cost of construction cannot be distinguished, the same having been included with the General Marine Charge

(signed) *E. E. Elliot,*
Accountant-General.

Bombay Castle, Accountant-General's Office,
26 April 1849.

(True copy.)

(signed) *P. M. Melvill,* Lieutenant-Colonel,
Secretary to Government.

No. 3.

STATEMENT of the Pay, &c. of the Officer in Charge of the Indian Navy Draftsman's Department, and that of his Establishment, including Cost of Stores, &c. from the Year 1822-23 to 1846-47.

Y E A R.	Commander.	Lieutenant.	Native Draftsman.	Purrovoe.	Amount of Pay, &c.	Amount of Stores, &c.	Total of each Year.	REMARKS.
					<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	<i>Rs. as. p.</i>	
1822-23	-	1	-	-	912 - -	- - -	912 - -	There do not appear to have been any charges on this account in the years 1820-21 and 1821-22.
1823-24	-	1	-	-	4,380 - -	153 12 7	4,533 12 7	
1824-25	-	1	-	-	4,680 - -	82 5 4	4,762 5 4	
1825-26	-	1	2	-	4,830 - -	192 11 11	5,022 11 11	
1826-27	-	1	2	-	5,400 - -	- - -	5,400 - -	
1827-28	-	1	2	-	5,400 - -	84 - -	5,484 - -	
1828-29	-	1	2	-	5,400 - -	83 15 -	5,443 15 -	
1829-30	-	1	2	-	5,400 - -	30 3 8	5,430 3 8	
1830-31	-	1	2	-	5,400 - -	8 2 4	5,408 2 4	
1831-32	-	1	2	-	7,044 - -	711 - -	7,755 - -	
1832-33	-	1	2	-	7,404 - -	17 5 -	7,421 5 -	
1833-34	1	-	2	-	7,920 - -	6 12 -	7,926 12 -	
1834-35	-	1	2	-	12,264 - -	77 9 -	12,341 9 -	
1835-36	-	1	2	-	12,264 - -	93 6 -	12,357 6 -	
1836-37	-	1	2	-	5,760 - -	- - -	5,760 - -	
1837-38	1	-	2	-	5,760 - -	356 15 -	6,116 15 -	
1838-39	-	1	2	1	6,120 - -	64 5 -	6,184 5 -	
1839-40	-	1	2	1	5,040 - -	25 15 -	5,065 15 -	
1840-41	-	1	2	1	5,040 - -	143 4 -	5,183 4 -	
1841-42	-	1	2	1	5,040 - -	374 11 -	5,414 11 -	
1842-43	-	1	2	-	4,680 - -	964 2 -	5,644 2 -	
1843-44	-	1	2	-	4,680 - -	391 14 -	5,071 14 -	
1844-45	-	1	2	-	4,680 - -	517 5 -	5,197 5 -	
1845-46	-	1	2	-	4,680 - -	491 8 -	5,171 8 -	
1846-47	1	-	2	-	4,680 - -	696 4 -	5,376 4 -	
TOTAL - -	3	22	44	4	1,44,858 - -	5,527 5 10	1,50,385 5 10	

Bombay Castle, Accountant-General's Office,
26 April 1849.

(signed) *E. E. Elliot*,
Accountant-General.

(True copy.)

(signed) *P. M. Melvill*, Lieutenant-Colonel,
Secretary to Government.

No. 4.

LIST of LIGHTHOUSES, FLOATING LIGHTS, BEACONS, BUOYS, or other Land or Sea Marks, under the Presidency of *Bombay*.

Works, and where situated.	No.	Original Cost.	DESCRIPTION.
LIGHTHOUSES:			
Colaba, Bombay - -	1	15,419 1 11	- - Round; diameter 17 $\frac{1}{2}$ feet, height 60 $\frac{1}{2}$ feet; walls of stone and choonam; winding stairs, gallery, and flagstaff of teakwood; has a light on the revolving principle, which exhibits its greatest light every two minutes.
Perim (near Surat) - -	1	unknown -	- - No information in the Board of Public Works.
BEACONS:			
Oyster Rock, Bombay Harbour.	1	1,530 15 6	- - Round; diameter 5 $\frac{1}{2}$ feet, height 27 $\frac{1}{2}$ feet; stone and choonam, plastered.
Dolphin Rock, Bombay Harbour.	1	2,391 14 3	- - A frame of teakwood, filled with stone; length 26 $\frac{1}{2}$ feet, diameter 26 $\frac{1}{2}$ feet, height 26 $\frac{1}{2}$ feet.
Near Mazagon Dock, Bombay Harbour.	1	150 - -	- - Round; diameter 6 feet, height 20 feet; brick and choonam, plastered.
Port of Vingorla - -	1	unknown -	- - No information in the Board of Public Works.
Munhora Point, Kurrachee	1	unknown -	- - No information in the Board of Public Works.
Vaux's Tomb, Surat - -	1	unknown -	- - No information in the Board of Public Works.
Floating Lights - - Buoys - - Land or Sea Marks - -	- - - - - -	- - - - - -	- - No information in the Board of Public Works.
Applications for erecting Lighthouses and Beacons.	- -	- -	- - The Board of Public Works are aware of none.

Note.—It is known that there are several creeks and harbours on the coast, where beacons, &c. exist, but no details connected with them are on record.

(signed) *N. H. Thornbury*, Captain,
Secretary Military Board.

Bombay, Military Board Office,
8 August 1848.

(True copy.)

(signed) *P. M. Melvill*, Lieut.-Colonel,
Secretary to Government.

No. 5.

(No. 24 of 1849.)

From Commander *C. W. Montriau*, I. N., Draftsman Indian Navy, in charge of Observatory, to Commodore *Stephen Lushington*, Commander-in-Chief Indian Navy.

Sir,

I HAVE the honour to acknowledge the receipt of a memorandum of your secretary, No. 1,336, dated 19th August 1848, forwarding for my information a letter from the Chief Secretary to Government, dated 16th August 1848, enclosing a copy of the Orders of the Honourable the House of Commons relating to the returns required of lighthouses, marine surveys, charts, &c., and directing me to report thereon.

I have also to acknowledge the receipt of a memorandum of your secretary, No. 260, dated 1st February 1849, enclosing a letter from Lieutenant-colonel Melvill, Secretary to Government, which is herewith returned, and have, with reference to it, to state, that the delay in furnishing the report required has been caused by the difficulty of procuring accurate official information for the earlier periods of inquiry.

I have now the honour to forward a report, which is as full and complete as I have, from the sources of information at my disposal, been able to make, and it will I trust meet in a great measure the objects for which the information has been called for.

The surveys executed by the officers of the Indian navy from the year 1820 to 1847, the period embraced in the Parliamentary inquiries, are shown in the skeleton map forwarded with this report in duplicate; they comprise, in the first place, those made under the orders of the Bombay Government, to the westward of Cape Comorin; that part of the east coast of Africa, from Ras Hafoon to Ras Sejeam, on the western side of the entrance to the Straits of Babelmandel; the Red Sea, with its numerous islands and shoals, including the Gulfs of Suez and Akabah; the Island of Socotra and adjacent islands; the S. E. coast of Arabia, from Cape Babelmandel, on the eastern side of the entrance to the Straits, to Cape Museldom, western side of the entrance to the Persian Gulf, the part shaded blue in the skeleton map, from Ras-el-Had to Muscat, being finished this year (1849); the Koria Moorla Islands, and the Island of Mazeira, laying off the S. E. coast of Arabia; the Persian Gulf, with its islands and shoals; the Tigris, Euphrates, and Kuran Rivers, with portions of the countries along their banks. In this survey, by a series of carefully conducted chronometric measurements, the shores of the Mediterranean Sea and those of the Persian Gulf have been connected. The coast from Cape Jask, eastern side of entrance to the Persian Gulf, to Kurrachee in Scinde; the greater part of the coast of Scinde, the remaining portion will be completed this year (1849); the Indus River, with its embouchures; portions of the Chenab, Ravee, Jhelum, and Sutlej Rivers; a partial survey of part of the Gulf of Cutch; the Kattiwar coast from Dwarka to Diu-head, from thence to Perim Island; the Gulf of Cambay, with portions of the Nerbudda and Taptee Rivers to Surat, together with the Malacca banks; coast of the Konkan from Dammoo to Arnol Island, and from Bombay to Algoada (Goa), with the rivers; detached portions of the Malabar coast; the Laccadive and Maldive Islands; Angria's Bank, the Basses de Pedro, and the various shoals in its vicinity, and a partial survey of the Saya de Malha Banks. Secondly, the surveys to the eastward of Cape Comorin—first, those executed under the orders of the Madras Government, comprise the coast of Ceylon from Colombo to Galle, part of the coast of Madura, western side of Palk's Straits to Point Calimere, Adam's Bridge, the Island of Ramisseram and Manaar, the Santipilly Rocks and Mootapilly Shoal on the Coromandel coast. Lastly, the surveys made under the orders of the Supreme Government, Bengal, comprising the Pulicat and Armegon Shoals, with part of the Coromandel coast, from Ennore to Armegon Hill; the coasts of India, from False Point, Orixa coast, Bay of Bengal to Cape Negrais, including in that line of coast the River Hooghly up to Calcutta, the Sand-heads, the coast line of the Sunderbunds of

Bengal

Bengal, with their numerous islands and creeks, forming the delta of the Ganges, and the shoals off them, carrying the soundings down to 20° 58' north; the coast of Chittagong and Arracan, with the islands of Kamree and Cheduba, together with the various small islands and shoals off those coasts, with part of the inland navigation of the Arracan province; the coast of Ava, from the Sitang River, in latitude 16° 36' north, to about 8° 40' north; the Rangoon, Tavoy, and other rivers; the Moscos Islands; the numerous islands, rocks and shoals forming the Mergui Archipelago; the east coast of Sumatra, from Diamond Point to Po. Panjore; the harbour of Singapore, and adjacent islands off it; the Straits of Durian, and the passages from Tanjong Bon and Pulo Barellah to the southern entrance of the Straits of Durian.

Several surveys of various localities have also been made from time to time by persons not belonging to the regular service, under the orders of the Bengal and Madras Governments, of which I have no details. The coast from Cape Comorin to Tutacorin was surveyed by a Mr. Franklin, by order of the Madras Government, the chart of which has been published by the hydrographer to the East India Company.

The extent of coast surveyed from 1820 to 1847 and 1848, not including the surveys of the groups of islands, &c., amounts to upwards of eleven thousand miles; during the above-mentioned period the surveys in progress were frequently interrupted by various causes, such as the Burmese and China wars, &c.; also during the prevalence of the south-west monsoon, in many instances, the surveying operations could not be carried on.

The following tabular statements will exhibit the number of officers of the various grades actually borne on the lists of the Indian navy, number absent, number employed on shore in staff situations, and on survey; the column marked number of officers employed on survey, includes, as well as those belonging to the regular surveying vessels, those officers of the Indian navy employed in Bengal on surveying duties under the orders of the Supreme Government, and those on detached surveys, likewise the number of each grade of officers thus employed; number of vessels marked as engaged on survey, were those actually belonging to the Indian navy; besides these, other vessels were employed on the same duties in Bengal not borne on the lists of the Indian navy; latterly, they were furnished from the Bengal pilot-service, as required by the officer of the Indian navy holding the situation of marine surveyor-general under the Supreme Government; they were principally officered from the pilot service; other officers from the merchant service were also engaged from time to time, the Bombay Government being unable to spare the requisite number of officers to the Bengal Government, to carry on the duties of the vessels. Having no returns of the surveying establishments under the marine surveyor-general, I am unable to furnish any statement as to the number of officers (other than those belonging to the Indian navy) employed on survey to the eastward under the orders of the Bengal Government.

The medical officers are not included in the following tabular statements, as that grade of officers when required for the service of the Indian navy afloat are lent from the army; those employed on board the surveying vessels have in repeated instances rendered the most valuable assistance in the subordinate subjects of scientific inquiry connected with the various surveys in progress.

The acting masters and second masters are not regularly appointed from home to the Indian navy, but are taken from the merchant service; they were first engaged by the local government, and brought on the lists as a class of supernumerary officers in 1840; they were principally employed in the packets and on board the steamers in the Indus flotilla; only two of the above class of officers have been employed on board the surveying vessels, but that only since the year 1844.

Table No. 2, with the exception of the columns marked number of officers and vessels employed on survey, which shows the number that were actually employed on that duty at various periods during each year, exhibits the general state of the service in the month of January of the respective years.

TABLE No. 1.

TABLE showing the Number of each Grade of OFFICERS of the Indian Navy employed on Surveying Duties during the following Years :

YEARS.	Captains.	Commanders.	Lieutenants.	Mates and Midshipmen.	Masters.	Pursers.	Clerks.	TOTAL.
1821	1	2	6	5	-	-	-	14
1822	-	1	6	6	-	-	-	13
1823	1	1	12	6	-	-	-	20
1824	1	1	6	7	-	-	-	15
1825	2	-	8	8	-	-	-	18
1826	2	-	3	3	-	-	-	8
1827	2	-	9	5	-	-	-	16
1828	1	-	8	12	-	1	-	22
1829	1	-	8	13	-	1	4	27
1830	1	1	4	13	-	2	3	24
1831	1	1	7	9	-	1	3	22
1832	1	1	10	10	-	2	2	26
1833	1	1	6	9	-	1	3	24
1834	-	2	6	11	-	2	2	26
1835	-	2	8	12	-	1	2	25
1836	-	2	11	11	-	1	1	26
1837	-	2	9	13	-	1	1	26
1838	-	2	8	16	-	2	-	28
1839	-	1	7	8	-	1	-	17
1840	-	2	2	1	-	-	-	5
1841	-	1	6	6	-	1	2	16
1842	1	1	7	4	-	2	-	15
1843	-	-	1	-	-	-	-	1
1844	-	1	2	15	2	-	3	23
1845	-	1	2	12	1	-	2	18
1846	-	1	4	21	1	-	3	30
1847	-	-	5	14	2	-	2	23
1848	-	-	4	11	1	-	2	18

* During the greater part of 1824, and in 1825 and 1826, the officers of the Indian navy employed in the surveying vessels in Bengal were engaged in the Burmese war, but although the regular surveys were suspended, several detached surveys were executed by them, which is the reason that I have not omitted them in those years.

TABLE No. 2.

TABLE showing the Number of each Grade of Officers borne on the Lists of the Indian Navy, Present, Absent, and Employed on Survey, during various Periods, from 1821 to 1848, together with the Number of Vessels, &c.

YEARS.	Commanders.	Junior Captains.	Senior Captains.	Midshipmen.	Pursers.	Captains' Clerks.	Ships' Clerks.	Acting Masters.	Second Masters.	Total borne of all Grades.	Employed on Shore in Staff Appointments.	Absent Sick, on Furlough, &c.	Available for Service Afloat.	Employed on Survey.	Number of Vessels.	Number of Vessels employed on Survey.
1821	1	2	2	24	1	1	1	1	1	122	21	18	83	14	17	12
1822	1	2	2	31	1	1	1	1	1	125	23	20	82	13	16	12
1823	1	2	2	35	1	1	1	1	1	124	23	14	87	20	15	12
1824	1	2	2	36	1	1	1	1	1	116	18	16	85	15	14	12
1825	1	2	2	30	1	1	1	1	1	112	13	14	85	18	15	12
1826	1	2	2	27	1	1	1	1	1	107	13	18	76	8	14	12
1827	1	2	2	23	1	1	1	1	1	103	13	24	69	16	12	12
1828	1	2	2	30	1	1	1	1	1	109	15	19	75	22	11	12
1829	1	2	2	58	9	8	1	1	1	140	7	21	112	27	11	12
1830	1	2	2	67	11	14	1	1	1	156	10	21	125	24	14	12
1831	1	2	2	68	11	14	1	1	1	160	4	30	125	23	13	12
1832	1	2	2	69	11	13	1	1	1	158	4	25	129	26	13	12
1833	1	2	2	69	11	14	1	1	1	159	7	29	123	24	13	12
1834	1	2	2	60	11	6	1	1	1	142	6	29	107	26	17	12
1835	1	2	2	57	12	6	5	1	1	145	7	20	118	25	17	12
1836	1	2	2	48	12	6	6	1	1	137	7	19	111	26	20	12
1837	1	2	2	43	12	7	7	1	1	134	9	23	102	26	19	12
1838	1	2	2	39	12	6	4	1	1	126	8	19	99	28	22	12
1839	1	2	2	50	12	6	4	1	1	116	8	16	89	17	24	12
1840	1	2	2	59	12	14	13	5	4	138	10	16	112	5	29	12
1841	1	2	2	68	12	6	12	15	9	168	10	16	142	16	30	12
1842	1	2	2	90	12	6	12	14	15	180	14	16	159	15	39	12
1843	1	2	2	92	12	6	14	12	21	214	9	32	173	1	38	12
1844	1	2	2	83	12	6	16	15	27	227	11	31	185	23	35	12
1845	1	2	2	88	12	6	16	18	30	231	13	33	185	18	34	12
1846	1	2	2	73	12	6	18	17	34	247	14	36	197	30	38	12
1847	1	2	2	77	12	6	16	16	28	234	13	31	190	23	37	12
1848	1	2	2	61	14	11	10	14	22	238	11	44	183	18	42	12

The column marked "Number of Vessels," includes the steamers, as well as those employed on the Indus and Euphrates, the sailing vessels in and out of commission, &c.

* The vessels marked as employed on survey these years, were only engaged for a short period on surveying duties, and were not commissioned for that purpose.

The following are the vessels belonging to the Indian navy which were employed on surveying duties at various periods, from 1820 to 1848:—

			Tons.
Discovery	-	ship	- of 289
Benares	-	ditto	- of 268
Psyche	-	brig	- of 180 ³⁶ ₇₄
Palinurus	-	ditto	- of 192 ⁴² ₉₄
Taptee	-	ditto	- of 189
Shannon	-	schooner	- of 87
Royal Tiger	-	ditto	- of 120
Nerbudda	-	cutter	- of 49 ⁸¹ ₉₄
Cardiva	-	ditto	- of 27
Maldiva	-	ditto	- of 23 ⁴² ₉₄

The "Psyche" was sold out of the service in July 1825, the "Discovery" in May 1828, and the "Benares" in 1838.

From April 1839 until February 1844, no vessels were employed on survey, with the exception of the "Euphrates," for a short period in 1841, on the Abyssinian coast; and the "Shannon" for one month in 1842, employed surveying the harbour of Soonmeanee, coast of Mekran. The steamers belonging to the Euphrates flotilla not being expressly employed on surveying duties, are not included in the number of the ships so engaged; but the officers of the Indian navy belonging to them are, as they were actively employed on such duties in addition to their other paramount ones. Since February 1844, the "Palinurus," "Taptee," "Nerbudda" and "Maldiva" have been employed (except during the strength of the south-west monsoon) up to the present time, as surveying vessels; the average number of officers and men employed on board of them during each year amounts to 180 in number.

With reference to the information required regarding the various hydrographic departments of the East India Company existing at present in England, and at the various Presidencies in India, it will of course be furnished by the various departments that may be classed under those heads, such as the Surveyor-general of India in Bengal, the hydrographer to the East India Company at home, &c.; but there is not, as I am aware, any hydrographic department expressly belonging to the marine, except that of the office of Indian Navy Draftsman, at Bombay, the situation of marine surveyor-general at Bengal having, I believe, been done away with, on the retirement of Captain Richard Lloyd, Indian navy.

The establishment of the Indian Navy Draftsman's Office, Bombay, consists of the following persons:—

One officer of the Indian navy, entitled Draftsman Indian Navy, in charge of the office, whose duties are, to have charge of all surveys, charts, astronomical and mathematical instruments and compasses belonging to the Indian navy, to keep accounts of the receipts and issues of charts, chronometers, &c. from and to the various vessels and departments under Government, and to be available for surveys; he is likewise required to cause copies of all the charts of the several surveys in progress to be made for transmission to the hydrographic department of the East India Company in England, and also of the various plans, charts, memoirs, &c. required by Government; one writer to assist in keeping the accounts, and in copying letters, &c.; and two native draftsmen for the purpose of copying charts and plans.

The pay of the establishment is as follows:—

One officer of the Indian Navy, in addition to the net pay of his rank	-	-	-	-	-	-	-	-	Rs.
One native writer	-	-	-	-	-	-	-	-	300
Two native draftsmen at 45 rupees each, per mensem, is	-	-	-	-	-	-	-	-	90
Total Pay of the Establishment per Mensem, is									420

Per mensem.

The office is placed under the orders of the Commodore, Commander-in-chief of the Indian navy, to whom all reports and applications relating to it are made.

The lighthouses, light-vessels, &c. on the coasts of India and in the Eastern Seas, are as follows:—

Lighthouses.

Colombo	-	-	Island of Ceylon	-	-	-	-	-	Her Majesty's Government.
Point de Galle	-	-	-	-	-	-	-	-	ditto.
Trincomallee	-	-	-	-	-	-	-	-	ditto.
Bombay	-	-	-	-	-	-	-	-	ditto.
Kurrachee	-	-	-	-	-	-	-	-	ditto.
Madras	-	-	-	-	-	-	-	-	ditto.
False Point	-	-	-	-	-	-	-	-	ditto.
Kedgerree	-	-	-	-	-	-	-	-	ditto.
Kootubdea Island	-	-	-	-	-	-	-	-	ditto.
Faqueer's Point	-	-	-	-	-	-	-	-	ditto.
Great Savage Rocks	-	-	-	-	-	-	-	-	ditto.
Malacca	-	-	-	-	-	-	-	-	ditto.
Pondicherry, Coromandel Coast, Bay of Bengal	-	-	-	-	-	-	-	-	French Government.
Algoada (Goa), Malabar Coast	-	-	-	-	-	-	-	-	Portuguese Government.
Mandavie, Gulf of Cutch	-	-	-	-	-	-	-	-	Rao of Cutch.

Lights placed on Flagstaffs.

Perim Island	-	-	-	-	-	-	-	-	East India Company.
Vaux's Tomb	-	-	-	-	-	-	-	-	East India Company.
Mangalore	-	-	-	-	-	-	-	-	East India Company.
Cannanore	-	-	-	-	-	-	-	-	East India Company.
Tellicherry	-	-	-	-	-	-	-	-	East India Company.
Alippee	-	-	-	-	-	-	-	-	East India Company.
Cochin	-	-	-	-	-	-	-	-	East India Company.
Quilon	-	-	-	-	-	-	-	-	East India Company.
Coringa	-	-	-	-	-	-	-	-	East India Company.
Aden	-	-	-	-	-	-	-	-	East India Company.

Lights placed on Beacons.

Calicut	-	-	-	-	-	-	-	-	East India Company.
Hare Island	-	-	-	-	-	-	-	-	East India Company.

There was a light until lately on a wooden tripod at Middleton Point, Saugor Island, entrance of the River Hooghly, at which place a regular establishment was kept up, but the sea having washed away the greater part of the point, the light has been removed; the tripod building is still standing; but in order to obviate the risk of accidents to the shipping frequenting the Port of Calcutta, a floating light has been placed by order of the Bengal Government as close to the point as possible.

Floating Lights.

Sand-heads, entrance to the River Hooghly, Bay of Bengal,	-	-	-	-	-	-	-	-	East India Company.
including the one at Middleton Point, three; Bombay Harbour,	-	-	-	-	-	-	-	-	East India Company.
Northern Konkan, two	-	-	-	-	-	-	-	-	East India Company.

At Vingorla, coast of Southern Konkan, there is a pyramidal beacon of masonry erected on the bluff point, on the northern side of the entrance to the small creek leading to the custom-house chokey; it is about 256 feet above the level of the sea.

With reference to the information required as to the cost of erection of the several lighthouses, expenses of maintenance of lights, number of buoys, beacons, &c. in the Eastern Seas, not having any returns available in the draftsman's office, I am unable to give it, but the various departments to which the above matters belong will of course have no difficulty in furnishing the requisite information.

The lighthouse at Bombay is situated on the extreme low rocky point forming the northern entrance point of the harbour; it is kept white; the walls are of rough masonry, with a winding wooden stair and wooden gallery; the frame of the lantern is of copper, glazed with plate-glass, 64 in number, and roofed with copper. The light until 1847 was a fixed one; the lamps, 15 in number, with oval concave reflectors, were Robinson's and Wilkins's patent self-feeding oil lamps. On the 1st of February 1847 the light was changed into a revolving one; it is now fitted with Wilkinson's patent lamps and reflectors, and revolves once in six minutes, showing three light and three dark faces.

The rocky point on which the lighthouse is erected is about 70 feet above the level of the sea (the level was taken at low-water spring tides; the mean rise and fall of the tide at Bombay on the springs is about 18 feet); the round tower of the lighthouse, including the polygonal pedestal on which it stands, which is 5 feet 3 inches high, is 65 feet 6 inches in height up to the floor of the lantern; the latter, including roof, is 18 feet 9 inches, and chimney 5 feet, making the total height of lighthouse from base to top of chimney 89 feet 3 inches; elevation above the sea about 159 feet.

The height of the lighthouse, Madras, from the ground to the vane is 125 feet, light above the ground 117 feet, and elevation of the light above the mean level of the sea about 130 feet; it is of the flashing description, and the duration of the flashes to that of the eclipses or dark periods is in the ratio of two to three; but as the nature of the motion is reciprocating instead of rotatory, the above ratio merely expresses the average proportion of the light and dark intervals, which are themselves variable according to the position of the spectator. The rapidity of movement is so adjusted that the duration of the flashes will vary from 0" to 48", and that of the eclipses from 0" to 72", the sums of the duration of light and darkness bearing however in every position the constant ratio of 2' to 3'. The above account of the Madras light is abridged from the notice published by the Marine Board, Madras, in October 1843.

The lighthouse on False Point, Bay of Bengal, "stands in latitude, north 20° 19' 25", and longitude 86° 48' 8" east, rising 120 feet above high-water mark, and is coloured dark red or reddish brown, with a large white star in the centre; the building may be seen in clear weather by day, and the light (formed of Argand lamps with reflectors) by night, from 18 to 20 miles, at a height of 12 or 15 feet from the level of the sea."—*Vide* notice published by the Bengal Government, 21st April 1840.

The light at Pondicherry is about 89 feet above the level of the sea, and is a fixed light, and may be seen in clear weather from a ship's poop from a distance of 16 or 17 miles; the light is, I believe, on the same principle as that adopted in the generality of the French lighthouses (the dioptric principle).

The light at Colombo is about 97 feet above the level of the sea, and is a brilliant fixed light. The lighthouse at Algoada is situated on the level headland which is of moderate height, forming the northern extremity of Goa Bay; it is built of masonry, kept white, and is about 240 feet above the level of the sea. The lighthouse on the northern side of the entrance to Arracan River, on Faqueer's Point, is a small building, with a fixed red light. All the lights before enumerated, whether placed in lighthouses, light-vessels, on beacons or flagstuffs, with the exception of Pondicherry and Mandavie, which latter place, as will be seen in the description hereinafter given, scarcely merits to be classed with them, are, I believe, on the catoptric principle; those at Madras, Cochin, and Coringa are constructed after the plans of Captain J. T. Smith of the Madras Engineers, full details of which are contained in the fifth volume of Professional Papers of the Corps of Royal Engineers; the same officer has also constructed a light for the Port of Masulipatam, but I have no account of its erection. Circulars having been sent from home to the Government of India, containing questions embracing every particular connected with the lighthouses and lights in India, full information will be furnished by the several departments under which the

lights are placed, which, as I have before mentioned, from my not having the necessary documents available, I am unable to give.

The light at Mandavie is placed on the S. W. bastion of the fort, 90 feet above the level of the sea, and according to the report of Lieutenant Greive, of the Indian Navy, cannot be seen more than six or seven miles under the most favourable circumstances; the lantern, which is glazed on all sides, containing only four glass tumblers with floating wicks, and without reflectors of any kind; it has been recommended, I believe, to the Rao of Cutch to substitute good lamps and reflectors for the above.

In the list of light-vessels previously given, I find I have omitted to mention that the Peninsular and Oriental Steam Navigation Company have a small light-vessel stationed at the anchorage off Suez, the light of which is shown whenever the mails are expected.

A lighthouse has been recommended to be placed on the small island of Kundaree, or Kenery, situated about 11 miles to the southward of the Bombay lighthouse; the light proposed to be shown is a brilliant red one, in order to obviate the danger of any mistake being made between the lights placed at so short a distance from each other; the plans regarding it are under the consideration of Government. Lighthouses have likewise been recommended to be erected on various localities, amongst which are the Great Basses, off Ceylon; also on a point of the Island of Ceylon, bearing N. 60°, 30' W. from the Little Basses, and about six miles to the westward of the Kombochan River; and on other points of Ceylon, in the vicinity of both the Great and Little Basses. It has also been proposed to place a lighthouse on the Pedra Branca, or White Rock, lying nearly in the centre of the eastern entrance to the Straits of Singapore. This, I believe, is intended to be erected as a monument to the memory of Horsburgh; and should the plan meet with encouragement, subscriptions will, I understand, be solicited from the mariners of all nations; but as to the steps that have been taken to carry out the above-mentioned plans I can give no information.

On every occasion when any change is made in any of the lights in use, the erection of new lighthouses, placing or removal of any lights, buoys, beacons, or other land and sea marks, due and prompt notice is invariably given to the local governments under which any of the above-mentioned measures take place, for the guidance and safety of those navigating the Eastern Seas.

SURVEYS Executed or in Progress during each Year:

First, those to the Eastward of Cape Comorin, made by the orders of the Supreme Government, Bengal.

1820. The marine surveyor-general had, I believe, two vessels attached to his establishment this year, but from the absence of any documents relative to the surveys executed by the above-mentioned department, I am unable to state to what extent they were carried on. The vessels, I believe, were principally employed in surveying in the vicinity of the Sandheads, Bay of Bengal, and the approaches to the Hooghly River, as well as on other detached surveys, of which, as before mentioned, I have no information available. One vessel was employed on the east coast of the Malay Peninsula for a short period.

1821. The vessels under the orders of the marine surveyor-general employed in search of the Bale of Cotton Rock, and also the London Banks, and on the coast of Coromandel, from the Pulicat Shoal to Armegon Hill.

1822. One vessel employed in surveying the Armegon Shoal and Blackwood's Harbour, on the Coromandel coast. As to the other surveys undertaken this year I am not able to give any account, but I understand that the vessels belonging to the surveying department, under the orders of the marine surveyor-general, were either sold or laid up at the end of the year.

1823. In January, Captain Daniel Ross, I. N., took charge of the office of marine surveyor-general, being appointed to that situation by the Honourable the Court of Directors of the East India Company, in consequence of the death of Captain Charles Court, I. N., the officer holding that berth. In April the "Investigator," a ship of about 450 tons, was purchased by the Supreme Government, and attached to the survey department, as the principal surveying vessel; in September the "Research," a vessel of 300 tons, was purchased on the stocks, launched on the 6th of the same month, and placed under Captain

Ross's orders, as assistant surveying vessel. The "Investigator" was employed in carrying treasure to various ports from May until December, when she proceeded to Point de Galle, Island of Ceylon, at which place the "Research" had received orders to join her, which that vessel did on the 17th of January 1824, having been employed carrying troops and military stores until the middle of December 1823; consequently no surveys were executed by the surveying ships in 1823; but the "Prince of Wales," H. C. cruiser on the Penang station, in addition to her other duties (that of protecting the Straits trade against the Malay pirates), was employed in surveying part of the east coast of Sumatra, from Diamond Point to Po. Panjore, the passages from Tanjong Bon and Pulo Barrellah to the southern entrance of the Straits of Durian, which Straits were surveyed by the same vessel during the year 1822.

1824. In the month of March the surveying ships "Investigator" and "Research" commenced the survey of the Mergui Archipelago; the positions of several of the small islands lying south of the Island of St. Mathew were fixed, and a small part of the adjacent coast was examined; in April the ships were recalled by the Supreme Government; in June they arrived at Calcutta, when they were placed at the disposal of the Commander-in-Chief, India, the late Sir Edward Paget, for the purpose of being employed in the war then commenced against the Burmese.

The officers attached to the marine surveyor-general's department were employed, together with the surveying vessels, from June 1824 until November 1826, in the war against Ava, and latterly the vessels were employed as troop ships.

The only trigonometrical marine surveys executed during the years 1825 and 1826 were the surveys of the Chittagong, Rangoon, and Tavoy Rivers, with the "James and Mary Sands" in the River Hooghly; various other detached surveys of creeks, rivers, &c., at the seat of war were likewise made, but they were for the most part only compass ones, or eye sketches. In November 1826 the "Investigator" was returned to the surveying department, but the "Research," assistant vessel, being given over to Captain Dillon, for the purpose of being employed on a voyage in search of La Perouse, the "Trusty" ketch was substituted in her room.

1827. In the early part of this year, and I believe the latter part of 1826, Captain Crawford, I. N., with two officers of the same service, while attached to the flotilla on the coast of Arracan, surveyed in an hired brig the coast of Ava, from the Vestal's Shoal in $18^{\circ} 01'$ north (named by mistake in the chart, Williams' Shoal), to Porian Point in $15^{\circ} 48'$ north.

On the 19th of January the surveying vessels "Investigator" and "Trusty" arrived at Amherst (Martaban coast, Ava), and commenced surveying operations; on the 21st of February the "Trusty" was made over to Sir Archibald Campbell, commanding in chief in the British possessions in Ava, at his particular request; on the 17th of March the "Freak" joined in the "Trusty's" place, as assistant vessel. A survey was made of the Martaban River from Amherst, situated at its entrance, up to the town of Moulmein, together with the anchorage off the former place, after which, owing to the hazy and foggy weather that after the month of January usually prevails on the coast of Martaban and Tenasserim, the labours of the surveying vessels were principally confined to the making of such observations as would be useful on their return to the coast after the south-west monsoon. In the middle of April, having examined the coast partially as low down as Mergui and the Western Canister, the approach of the monsoon compelled the vessels to quit the coast for Penang, Prince of Wales's Island, where they received their necessary refits. The "Freak" had to be hauled on shore to repair her copper.

During the greater part of the monsoon the vessels were employed in surveying the new harbour of Singapore and the islands in its vicinity, and on the 1st of October they sailed from Penang to resume the survey of the Mergui Archipelago and Tenasserim coast, which was continued to the close of the year.

1828. During the month of January the vessels were employed in surveying part of the Martaban and Mergui coasts and adjacent islands; on the 3d of February they left the coast for Calcutta, at which place they arrived in the month of March. The "Investigator" was employed for a short period in carrying treasure, on her return from which service, being examined, she was

found to be so much injured by white ants, as to be pronounced unseaworthy, and was ordered, after having been steamed, to be used as a hulk. The "Freak" was sold out of the Government service.

Lord William Bentinck, Governor-general, having ordered the surveying establishment to be broken up, the officers of the Indian navy attached to it, with the exception of the marine surveyor-general, and the draftsman to the survey, were ordered round to Bombay to rejoin their service. The latter end of this year, the marine surveyor-general proceeded in a pilot brig to survey and examine the various channels at the entrance of the River Hooghly.

1829. The first part of this year the survey of the channels leading into the River Hooghly was continued; in October, orders were issued that the marine surveys under the Supreme Government were to be resumed. Two brigs from the pilot service were placed under the command of the marine surveyor-general, and were employed during the remainder of the year on the survey of the Mergui Archipelago and Martaban and Tenasserim coasts, originally commenced in the early part of the year 1824.

1830. The survey of the Mergui Archipelago, with the adjacent coasts, was continued; the first part of the year two vessels were employed, but only one during the latter part.

1831. Two vessels were employed this year until 23d of March in the survey of the Mergui Archipelago; the survey of the Arracan and Chittagong coasts, with the adjacent islands, was commenced the latter part of the year.

1832. Two vessels were employed this year continuing the survey of the Arracan and Chittagong coasts.

1833. Continuation of the above survey, with the Islands of Ramree and Cheduba. The first part of the year two vessels were employed, but during the latter part, the Government not being able to spare any vessel from the pilot establishment, a small brig of about 120 tons burthen was hired for the purpose of being employed as a surveying vessel. In November, Captain Daniel Ross, I. N., resigned the situation of marine surveyor-general of India; Lieutenant R. Lloyd, I. N., was appointed, acting in his room.

1834. The hired brig was paid off in the latter part of February; one brig employed this year, assisted by two decked row-boats, from October to December.

Surveys—Continuation of the survey of the Arracan coast, with part of the inland navigation of that province. Commenced the survey of the River Hooghly and the Sandheads, Bay of Bengal, in the month of October.

1835. Surveys—River Hooghly, from Kedgeriee up to Calcutta, completed; False Point and its vicinity, and a small portion of the Sandheads. One brig with decked boats, two in number, employed during this year, excepting in the south-west monsoon, when the surveying operations were suspended.

1836. Channels leading to the River Hooghly and Sandheads, with part of Saugor Island, and survey of the coast line of the Sunderbunds commenced.

One brig, one small schooner, with two row-boats, were, I believe, employed on the above surveys at various periods during the year.

1837. Two brigs, two small schooners, and two row-boats were employed at various periods during this year, on the continuation of the survey of the coast line of the Sunderbunds, Bengal, and the several islands and creeks forming the delta of the Ganges, together with the Sandheads.

1838. Two brigs, one small schooner, and two row-boats were employed this year, on the survey of the coast line of the Sunderbunds, and the various creeks and islands forming the delta of the Ganges, and on the survey of the coast line, rivers, and the inner islands adjacent, of a portion of the Mergui Province, coast of Tenasserim, between the latitudes of $9^{\circ} 50'$ N. and $12^{\circ} 40'$ N. This latter part of the surveys executed during 1838 was made in the south-west monsoon, under very unfavourable circumstances.

1839. I have no information as to the number of vessels employed this year, but I believe there was no alteration made in the establishment. The survey of the

the coast line of the Sunderbunds, with its creeks and islands, and the shoals off them, was continued.

1840. The survey of the coast line of the Sunderbunds, Bengal, from Saugor Island entrance to the River Hooghly to Chittagong, together with the creeks and islands forming the delta of the Ganges, with the shoals off them, carrying the soundings as far as latitude $20^{\circ} 58'$ north, was completed. Of the number of vessels employed I have no account.

1841 to 1848. Several detached surveys have been carried on during the above years, but I have no documents regarding them, or of the number of vessels employed; but the following I believe have been executed by Lieutenant Fell, I. N., under the orders of the Bengal Government: The coast line between the Moulmein and Sitang Rivers; a re-survey of the former river; the Santipilly Rocks and Mootapilly Shoals, on the Coromandel coast, with a portion of that coast, and a part of the coast line between Cape Negrais and the Sitang River; the remainder I understand is to be completed this year, 1849; the coast of Tinnevely from Cape Comorin to Tuticorin. This last survey was made by Mr. Franklin, an officer employed under the orders of the Madras Government, not belonging to the Indian navy. In the skeleton map forwarded with this report this portion is shaded of a light green.

SURVEYS under the Orders of the Bombay Government:

1820. The Government having ordered the Persian Gulf, its coasts, islands, &c., to be surveyed, the "Discovery," a ship of about 289 tons burthen, was commissioned for that purpose, and the survey was commenced from Cape Muscledom; Muscat being considered a well fixed position, was the starting point of the gulf survey, the difference of longitude between it and Bombay flagstaff, then considered to be situated in $72^{\circ} 57' 40''$ east, having been most carefully measured.

The memoirs of the gulf survey available to me giving no dates, or mentioning the extent of coast line, &c., surveyed each year, renders it impossible for me to state its progress year by year as I could have wished.

1821. Continuation of the Persian Gulf survey; a partial survey was likewise made of the Gulf of Cutch by Lieutenant Middleton, I. N., in the "Sylph," whilst cruising there for the protection of the trade against the Guzerat pirates, extending on the northern side of the gulf, from Assêir Pagoda to Toona Creek, and from Jigat or Dwarka on the Cattivar coast, to Jooria, on the southern side of the gulf.

1822. Continuation of the Persian Gulf survey; harbours of Rajapore or Toolsunda, Viziadroog or Geriah, and Dewghurr, with the adjacent coast, and the Bhowlearee and Soonderye Creeks, Gulf of Cambay.

1823. Continuation of the Persian Gulf survey; coast of the Southern Konkun from Bancoot River to Boria Pagoda.

1824. Surveying vessels employed on the survey of the Persian Gulf, principally on the Arabian side.

1825. Continuation of the Persian Gulf survey; the Arabian side of the gulf was completed, and in addition to the chart of the coast surveyed this year, separate plans on a large scale were completed of the Island and Harbour of Bahrein, anchorage off El Katiff, and the Harbour of Grane or Quade.

1826. Surveying vessels in the Gulf of Persia employed in surveying the northern part of the gulf and the coast of Persia from Ras Tuloop to Bushire; harbour of Angenweel, coast of Southern Konkun.

1827. Surveys this year—In the Persian Gulf, the entrances to the rivers at the head of the gulf, with part of the coast of Persia and adjacent islands; coast of the Southern Konkun, from Boria Pagoda to the entrance of Rajaporee River, with the Bancoot River; and surveys of the entrance to the rivers of Nagotna, Penn, and Apta, in the Harbour of Bombay.

1828. Surveys—The survey of the Persian Gulf; coast from Bushire to Basadore, with the whole of the islands and shoals off it, together with the islands of Kishm, Ormuz and Larrack, completing the Persian Gulf; the coast of Arabia.

Arabia, from Ras Goberindee to Muscat; the coast of the Southern Konkun, from Bombay to Bancoot, with the Panwell River, and a survey of the Laccadive Islands.

1829. Surveys—Coast of Persia and Scinde, from Kooe Mubarrack to Kura-chee; the survey of the Red Sea commenced; Northern Konkun; Bombay Harbour.

1830. Continuation of the survey of the Red Sea.

1831. Surveying vessels employed on the survey of the Red Sea.

1832. Continuation of the Red Sea survey.

1833. Continuation of the Red Sea survey; coast of Kattiwar, from Dio or Diu to Jigat or Dwarka; entrance to the Gulf of Cutch, with the Island and Harbour of Bate. The survey of the S. E. coast of Arabia was commenced the latter part of this year.

1834. The survey of the Red Sea, including the Gulfs of Suez and Akabah, was completed this year; the survey of the Maldiva Islands was commenced, as also the survey of the Gulf of Cambay, the survey of the S. E. coast of Arabia from Cape Babelmandel continued, and a survey completed of the Island of Socotra, and the small islands called the Brothers, in its vicinity.

1835. Continuation of the surveys of the Maldiva Islands and S. E. coast of Arabia; survey of the Gulf of Cambay completed; survey of the Kattiwar coast from Goapnauth Pagoda to Diu Head commenced; and the River Indus from Hyderabad to the sea was examined, and a survey made of Cochin Harbour and Roads.

1836. Surveys—Cape Aden, with the several bays in its vicinity, and a portion of the S. E. coast of Arabia surveyed; the Maldiva Islands and the coast of Kattiwar, from Goapnauth Pagoda to Diu Head, completed; examination of the River Indus continued.

1837. Koria Moorla Islands and Bay on the S. E. coast of Arabia surveyed, with a portion of the coast; this survey, commenced in the latter part of 1833, was discontinued in May this year (1837); during the progress of the survey, Captain Haines, of the Indian navy, by whom it was executed, was employed with the vessel under his command for various periods, amounting in all to about thirteen months, on other duties unconnected with his surveying ones; the Chagos Archipelago, and a partial survey of the Saya de Malha Bank; the Malacca Banks, entrance of the Gulf of Cambay, and the coast of the Northern Konkun from Dunnoo to Arnol Island; the harbour of Kurrachee; the Kedywaree, a branch of the Indus; portions of the Indus River, with the Hujamree mouth of the same. In November the survey of the coast of Madura, in the Gulf of Manaar, was commenced. This last survey was at the request, and was carried on under the orders of the Madras Government, the officers and vessels of the Indian navy employed on it being lent for that purpose by the Bombay Government.

1838. Surveys—Coast of Scinde, Kurrachee and Soonmianee Bays; the mouths of the Indus; the Indus River from Mittun Kote to Attock; eastern coast of Africa completed from Ras Hafoon up to Ras Jerdafoon (Cape Guardafui), and from thence to the westward as far as Ras Gulwainee, a distance of about 350 miles; part of the coast of Madura; the western side of Palk's Straits, Ramisseram Island, Adam's Bridge, and the Paumben Pass.

1839. The surveying vessels were employed the first part of this year in surveying the coasts of the Island of Ceylon, which was completed from Colombo to Point de Galle; it was intended that the whole of the coasts of the island, together with the Basses, should be surveyed; but in April, the services of the officers employed being otherwise required, the vessels were recalled, and on their arrival in Bombay were paid off; and from this period until February 1844 no ships were commissioned for surveying purposes, or so employed, with the exception of the "Euphrates" gun brig and "Shannon" schooner for a short period in 1841 and 1842, as before mentioned at page 118 of this Report.

The survey of the Euphrates, Tigris, and Kuran or Karan Rivers, with part of the countries in their vicinity, was executed by the officers of the Indian navy serving in the Euphrates flotilla between the early part of the year 1837 and June 1842; the results of which survey have been forwarded home to the East India House.

In 1841 the "Euphrates," Honourable Company's cruiser, while employed on the Berbera coast, eastern coast of Africa, surveyed the coast from Jibul Jarne to Sayara, including Tedjura Bay, and the Mushah and other islands adjacent to the coast.

In 1842, the "Shannon" schooner was employed in surveying the harbour of Soomianee for a short period in January and February.

In the notice of the surveys carried on in the year 1839, I find that I have omitted to mention that the mouths of the Indus were re-surveyed, and in that of 1825, that the "Discovery," principal surveying vessel, was taken from the Persian Gulf survey in May, and did not return to it until the beginning of March 1826, having been employed on duties unconnected with the survey, round to the eastward.

1844. Two brigs and a cutter were commissioned this year as surveying vessels; one brig was employed on the coast of the Southern Konkan, and one brig and the cutter on the S. E. coast of Arabia, which survey, discontinued in May 1837, was resumed, recommencing it at Morbut, the bay of which place was surveyed and the coast for about four miles and a half to the eastward of it, after which the vessels proceeded to the westward.—Coast of Southern Konkan surveys: Rutnagheriah Roadstead, the harbours of Dhewghur, Viziadroog, and Rajpore, with the Rajpore River up to the town of the same name, and the coast from Dewghur to Malwan. The latter part of the year the vessel employed on this survey was engaged principally in the operations against the Sawunt Warree insurgents.

1845. Surveys—Continuation of the survey of the S. E. coast of Arabia, from Ras Morbat to Ras Seger, and between Ras Fartak and Messinah; Southern Konkan; Kariputtun or Viziadroog and Tiracole Rivers; Algoada Roads; coast from Malwan to Algoada, with the Burnt Islands or Vingorla Rocks. In the first part of this year the vessel employed on the coast of the Southern Konkan was principally engaged in carrying troops, prisoners, &c. and in other duties connected with the operations against the Sawunt Warree insurgents.

The same number of vessels employed this year as in the preceding one; the surveys were not carried on during the S. W. monsoon.

8846. The first part of the year the same number of vessels were employed, but in the latter part a small cutter was added to the surveying establishments.

Surveys—S. E. coast of Arabia, about 300 miles completed, with the Island of Mascira. On the coasts of Canara and Malabar, Carwar or Sudashaghur Bay and River; the anchorages off Merjee, with part of the River Onore, and Mangalore, with the coast line from Mount Delly to the Beypoor River; Anjadeeva Island and adjacent coast, with the entrances to the principal rivers from Algoada to the Beypoor River.—Surveys on the coast of Scinde: Kurrachee Harbour re-surveyed to ascertain if any changes had taken place since its survey by Captain Carless, with a portion of the coast line off the mouths of the Indus.

The surveying operations, as in the preceding years, were suspended during the S. W. monsoon.

1847. Two brigs and two cutters employed this year, excepting during the strength of the S. W. monsoon.

Surveys—On the eastern coast of Africa, about 200 miles of coast line, connecting the surveys of Captain Carless and Lieutenant Barker, from Berbera to Ras Gulwainee or Gulwait; on the N. E. coast of Arabia, the soundings in the Gulf of Mascira were completed, with about 360 miles of coast, comprising in the whole of the above surveys on the coasts of Africa and Arabia executed this year by Lieutenant Greive, about 3,500 square miles of close soundings.

On the coast of Scinde, the survey of the bank off the mouths of the Indus was completed, with a portion of the coast line from the Hujamree mouth of the Indus

Indus River to latitude $23^{\circ} 50' 30''$ N., and longitude $67^{\circ} 56' 30''$ E., with Mandavie Roadstead, and the shoals off it; also a survey of Angria's Bank was completed.

The late Lieutenant Christopher, Indian na vywho was killed at the siege of Mooltan, made a survey of the Chenab or Acesines River, from the hills to its confluence with the Sutlej, including an examination of the mouths of its tributaries, the Jhelum or Hydaspes, and the Ravee or Hydrastes.

1848. One brig and one cutter employed examining the shoals and islands off Socotra, and in making a careful examination of the bank to the northward of that island, reported by the commander of the Honourable Company's steam frigate "Semiramis," and named by him Sir Robert Oliver's Bank. This survey, which was completed by the 20th of May, comprised about 70 miles of coast, and 4,000 square miles were sounded over.

One brig and one cutter employed in surveying the islands and reefs at the northern part of the Laccadive Group, with the Padua and Sesostris Banks, which latter bank was discovered by the late Captain Carless, in the Honourable Company's steam frigate "Sesostris," on her return from Aden to Cananore with troops in April 1847. This survey was finished in May, when the whole of the surveying vessels returned to Bombay for the S. W. monsoon, and to refit, after which they resumed their surveying duties; one brig, the "Taptee," with her tender, the "Maldiva," being employed in surveying the various banks off Bombay. The limits of the ground to be sounded over and examined north and south was that comprised between the extreme northern edge of Angria's Bank up to the southern edge of the Malacca Banks, and east and west from the longitude of Bombay lighthouse, in $72^{\circ} 48' 56''$ east, out to $70^{\circ} 30'$ east. The object of this survey is to furnish ships, as far as possible, with a correct guide for approaching and making the harbour of Bombay, particularly during the thick and unsettled weather that prevails during the S. W. monsoon. This survey is not yet completed (July 1849).

The "Palinurus," with her tender, the "Nerbudda," was employed the latter part of the year on the coast of Scinde, completing the parts of the coast line left unsurveyed; the creek and anchorage off Porebunder, Kattiwar coast, was surveyed at the commencement of her operations in October.

1849. This year, in the fair season, from January to May, the "Taptee," with her tender, was employed surveying in the vicinity of Bombay, as before mentioned.

The "Palinurus" and tender, employed in January and February on the coast of Scinde, from the month of March until the 16th of April in search of the Challenger Bank, and on the Arabian coast from Ras-el-Had to Muscat, completing the survey of the S. E. coast of Arabia, after which, the "Palinurus," accompanied by her tender, proceeded to Cape Jask on the Persian coast, and closely sounded the coast from that point to Ras-el-Khore, in search of the shoal reported by Lieutenant, now Commander F. Jones, I. N.

The surveying vessels are now awaiting the close of the S. W. monsoon to resume their operations.

The survey of the tidal channels lying between Point Munora, Kurrachee Harbour, and the Keddewarry mouth of the Indus, commenced in 1848, were completed in the month of January this year by Mr. Acting Master Fenner.

The sailing directions published by order of the Honourable the Court of Directors of the East India Company since 1820, in a separate form, are as follows; viz., "Sailing Directions for the Maldiva Islands and the Chagos Archipelago, by Commander Moeresby, I. N., in 1840;" and "Sailing Directions for the Red Sea, by Commanders Moeresby and Elwon, I. N., in 1841," to accompany the charts of the surveys of those localities. The latter work has been transferred by permission to the fifth and last edition of Horsburgh's East India Directory, published in 1841, which invaluable work being compiled and published by the hydrographer to the East India Company, under their patronage, and the results of the various surveys by their officers in the eastern seas, with other information relative to their navigation from the records in the East India House being incorporated in it, it may be considered in the light of an official work, and renders it the less necessary for the East India Company to publish the sailing directions relative to the coasts of India up to 1841 in a separate form, as no ship properly found ever comes out to India unfurnished with Horsburgh. Every

vessel belonging to the Indian navy is provided with a copy by the Government, the Court of Directors sending out an ample supply for that purpose; and of the sailing directions before mentioned, there is a sufficiency in the Indian Navy Draftsman's Office fully to meet all demands of the Government or of other parties, but there has been but few applications for them, only two copies having been sold to the commanders of merchant vessels, and a few others to officers of the Indian navy.

In the Journals of the Royal Geographical Society will be found a number of valuable papers, given by the Court of Directors of the East India Company, relative to the navigation of the coasts of Arabia, the Rivers Indus, Euphrates, Tigris, &c. by Captains Haines, Carless, Sanders, and Lynch, and Commander F. Jones, of the Indian navy.

The Journals of the Bombay Geographical and Bengal Asiatic Societies likewise contain a great number of valuable memoirs connected with the surveys of the coasts of India and their inland navigation, by the officers of the Indian navy and others, fully attesting the anxiety of the local governments to disseminate every information, as far as lays in their power, tending to the safety of those navigating the eastern seas.

The results of the various surveys undertaken since the latest edition of Horsburgh was published in 1841, when completed, will doubtless be printed either as a supplement to it, or in a separate form, as the Court of Directors may deem most eligible for the interests of navigation.

There are no agents in India appointed by the East India Company for the sale of the charts published by or under their direction; in England, the agents are Messrs. Wm. H. Allen & Co., 7, Leadenhall-street, London. With reference as to what supply of charts is kept in India, as far as regards the Presidencies of Bengal and Madras I can give no information, but the Bombay Government are always furnished with copies of every chart published by the Hydrographical Office at the India House, generally 50 of each chart; any further supply, or any charts not published by the East India Company that may be required, are always forwarded on an application being made to the Court of Directors for them. The number of charts at present (August 1849) in the Indian Navy Draftsman's Office amounts to about 8,000, comprising about 840 different localities, principally in the eastern seas; these are for the use of the vessels of the Indian navy or Her Majesty's service when required, and the officer in charge of them has been directed on every occasion, when private persons have made applications for charts, to supply them whenever they could be spared; and in all cases when they could not, copies have been allowed to be taken of any particular chart required, with the exception of those in manuscript not published, and every information regarding the navigation of the eastern seas available in the Indian Navy Draftsman's Office has been given to any one applying for it. It may perhaps in connexion with the above not be improper in this place to mention, that owing to the liberality of Government, all commanders of merchant ships are allowed, on application, to lodge their chronometers in the observatory at Bombay, for the purpose of having them rated, free of expense; likewise on various occasions they have been assisted in the examination and testing of their compasses; the time is shown at the Observatory every day at 1 A. M. (mean time), and the time of evening gun-fire is taken, and published every day in the newspapers, and memorandums of the same are sent to the Master-attendant's Office and Chamber of Commerce, for the use of the shipping, and every information and assistance in the power of the Observatory is given.

The surveys required to be done in order to complete the coasts of India and the eastern seas, for the purpose of ensuring correct charts and sailing directions for their navigation, are as follows, commencing with the coast lines to the westward of Cape Comorin:

The East Coast of Africa.—The vessels of the Indian navy seldom proceed further to the southward on this coast than Zanzibar; but on the chart of the east coast of Africa, including the Island of Madagascar, sheet 4, by Captain Owen, R. N., and the officers of H. M. ships "Baracouta" and "Leven," there is a blank space of about 30 miles in extent to the southward of Monfera Island, which

which requires to be filled in, and it would be advisable that the coast line from Cape Delgado to Ras Hafoon, the point where the late Captain Carless, I. N., commenced his survey of the north-east coast of Africa, be carefully examined, of course omitting those portions already minutely surveyed by Captain Owen and his assistants. Several rivers having navigable openings to seaward are reported to exist along this coast, and are so marked in the old Portuguese maps. The Jubb or Govind River, according to the late Lieutenant Christopher, I. N., in his account of his visit to the east coast of Africa in the Honourable Company's gun-brig "Euphrates," published in the 14th volume of the Journal of the Royal Geographical Society, is open to British enterprise; the friendly chiefs of Bravah invited him to enter the river, offering every assistance. The Haines' River also, mentioned by the same officer, in the same paper, should, if possible, be examined as to whether it has an opening to seaward fit for the purposes of navigation. One great obstacle to all attempts to penetrate into the interior of Africa on this coast is the deadly nature of the climate to European constitutions, but I believe from Mombas to the northward it is considered healthy. As will be seen in the skeleton map accompanying this Report, the whole coast line from Ras Hafoon, including the Red Sea and Persian Gulf, until we reach the Gulf of Cutch, has been or will be completed this year; the part from Ras-el-Had to Muscat being already finished, and the small portion of the coast of Scind left unsurveyed, will be examined in the course of the next month (September.)

The Gulf of Cutch will require to be carefully surveyed, as there are no correct charts or maps embracing the whole gulf in existence, the only two published being partial surveys, principally about the entrance.

The surveying vessels employed completing the coast of Scind have been ordered to carry out lines of soundings along the Kattivar coast, further out to seaward than was done in the survey of that coast by the late Lieutenant White-locke, I. N., as several shoal spots are said to exist in the line from Dwarka to Diu-head not noticed in the charts. The next point that it will be necessary to examine, is the coast of the Northern Konkun, from the entrance of the Taptee or Surat River to Danoo, which will connect Commander Ethersey's survey of the Gulf of Cambay with that portion of the coast between Danoo and Arnol Island examined by him after completing the Malacca Banks, in 1837. From Arnol Island to Bombay will be the next portion of the coast line to be surveyed. The banks off Bombay, as already mentioned, are in the course of examination, and will be completed this year.

The coasts of Canara and Malabar will next require attention; the published charts are very incorrect as far as regards the coast line; the publication in 1827 and 1833 by the Honourable East India Company of that portion of the grand trigonometrical survey of India comprising the coast line from Cape Comorin to Goa, afforded an excellent opportunity for their correction, which has not been taken advantage of, as the errors still remain. The coast extending from Bombay to Goa has been surveyed, but no charts of it have as yet been published, with the exception of the Harbours of Bombay and Augenwell, as some portion of the work still remains to be transmitted to the Hydrographical Office of the East India Company in England. As will be seen by reference to the skeleton map accompanying this Report, some parts of the Malabar coast have been surveyed; those portions marked in yellow as partially surveyed, and from Calicut to Cape Comorin, will require to be filled in with soundings; the delineation of the coast line in the maps already published by the East India Company of the coast from Goa to Cape Comorin will much facilitate the work, the points fixed by the grand trigonometrical survey affording excellent bases of verification, and serving to connect the land and marine surveys of India together; it would likewise be most advisable that lines of soundings extending out to seaward as far as the banks and islands off the coast from Bombay to Cape Comorin, be taken, connecting the surveys of the different banks and the Laccadive and Maldive Islands with the coast; this would render the charts of this part of the eastern seas perfect.

ISLANDS and BANKS to the Westward of Cape Comorin:

The Chagos Archipelago.—Owen's Bank still remains unsurveyed, which requires to be done in order to complete the survey in this vicinity.

Saya de Malha Bank.—The southern part of this bank has been well sounded by Captain Moresby, I.N., and the survey of it completed as far as $9^{\circ} 30'$ south; from this point to the northern extremity, in about latitude $8^{\circ} 40'$, a space of about 90 miles requires to be surveyed; this to be properly done, according to Captain Moresby, would take a vessel about one month to complete.

Seychelle Islands.—A large extent of space, particularly on the north-western part of the bank off the islands, requires to be carefully explored; several shoal patches have been reported to exist on the outer edge, in the vicinity of Bird Island (to the westward of it). The vessel employed on this service, should likewise be directed to examine the positions assigned to the following vigias, marked in the chart of the Indian Ocean from the Cape of Good Hope to Calcutta, by Mr. Walker, the Geographer to the East India Company, published in 1842; viz., Swift's Bank, Rose Galley Rocks, the Bridgewater or Roquizez Rocks, and George Island, situated to the northward of the Saya de Malha Bank, in order to ascertain if they really exist.

SURVEYS required to the Eastward of Cape Comorin:

Island of Ceylon.—The only marine surveys completed of this island that I am aware of, are the coast from Colombo to Point de Galle, by Lieutenants Powell and Ethersey, I.N., and the harbour and bays of Trincomalee, by Lieutenants Cannon and H. Loring, R.N., and Penloos Bay and Batacalao Road, by Captain P. Heywood, R.N.; the remaining part, together with the Great and Little Basses, and the passages between them and Ceylon, will require to be carefully surveyed.

Bay of Bengal.—The coasts of Coromandel, Golconda, and Orixá, from Point Calymere to False Point, various portions of these coasts have been surveyed; the Coleroon Shoal, and from thence to Pondicherry has been, I understand, completed by the officers of the French Navy; the Pulicat and Arnegon Shoals, with the adjacent coast and Mootapilly Bay, by Captains Court and Maxfield, I.N.; and Lieutenant Fell, of the same service, has been employed in surveying the Mootapilly Bank and the Santapilly Rocks, but much remains to be done. From not having the details of the surveys lately executed before me, I am unable to state what extent of the above coasts remains to be examined. In the chart of the Bay of Bengal, published by the hydrographer to the East India Company, corrected up to 1844, between Pondicherry and Madras there are three banks, two of them said to be discovered in 1820, marked doubtful; the easternmost one, off Covelong, thirty-seven miles off shore, has only five fathoms marked on it; these of course will require carefully examining. The coast line from False Point to Cape Negrais has been carefully and minutely surveyed, and the results of the various surveys published.

Andaman Islands.—I believe there has been no regular survey of these islands since that of Lieutenant Blair's in 1793; it is highly necessary that a re-examination of the whole group, as well as that of the Nicobar Islands, with the several channels and shoals off them, should be made, carrying the soundings up to Cape Negrais. The coast line from Cape Negrais to the Sitang River is, I believe, being surveyed, and will be completed this year. From the latter place down to latitude $8^{\circ} 40'$, the coasts of Martaban and Tenasserim, with the islands forming the Mergui Archipelago, have been carefully examined, and the charts of the surveys published. From $8^{\circ} 40'$ to the Island of Penang, including the Island of Salanga or Junkseylon, and the numerous small islands between the Seyer Islands and Penang, will require to be examined, as that line of coast has never been accurately surveyed. Prince of Wales' Island or Penang, with the passage between it and the main, was surveyed by Lieutenant T. Doore, R.N., in 1832.

Much requires to be done in order to complete the Straits of Malacca, particularly on the Sumatra side; that island, both on its eastern and western shores, with the group of islands off the western side, require to be accurately and carefully surveyed, as only portions of Sumatra have been properly examined, the greater part of what has been published regarding that island being only the results of compass surveys, eye sketches, and casual observations made from time to time by intelligent seamen. The coast of the Malay Peninsula, from Point

Point Romania to Cape Patani, will next require the marine surveyor's attention. The coasts of the Gulf of Siam, both on the eastern and western side, from Cape Patani to Mui Sha Kaoe, the south-west point of the coast of Cambodia, bounding the Siamese Gulf on its eastern side, with the numerous islands in it, are very imperfectly known, and it is due to our increasing commerce that this locality should be accurately and carefully surveyed.

The delineation of the coast line of the Gulf of Siam, particularly that part on the Siam side contained between Tantalum (North Point) in latitude $8^{\circ} 25'$ to Cin Point in latitude 12° north, will be most interesting to geographers, as it will fix the exact breadth of the Isthmus of Kraw, and also be the means of ascertaining to what extent the rivers on either side approach each other, or if any communication by water exists between the coast of Tenasserim and the Gulf of Siam, as in some old maps that I have seen, some rivers are represented as intersecting the whole breadth of the Isthmus. The coal-fields discovered by the late Dr. Helfer are situated in about latitude $11^{\circ} 58'$ north, and in longitude $99^{\circ} 30'$ east, which makes the site of them, according to the charts, distant in a direct line from Cin Point, about 34 miles, and from the town of Cin, situated in a more southerly direction, only 23 miles. Captain Lloyd, I.N., remarks in his paper published in the seventh volume of the Journal of the Asiatic Society, Bengal, intitled, "A Short Notice of the Coast Line, Rivers, &c., forming a portion of the Mergui Province, from a late Survey," that he has doubts whether the coal-fields in question are in the British or Siamese territories; an important point which it is very necessary should be adjusted, in order to prevent any disputes as to the right of possession, and which would be settled by the survey I have indicated.

The China Seas and its coasts, the southern and eastern passages into them, present a vast field, requiring to be thoroughly explored, and it will require infinite labour, much time and skill to combine with each other the various surveys, executed by the scientific officers of almost all the European Navies. Her Majesty's vessels are now actively engaged in the China Seas, and I believe several excellent surveys of their possessions in the East have been lately made by the officers of the Dutch Navy, some of which are published. The Islands and surrounding shores of the Arafura Sea, the coasts of New Zealand, and New Guinea, and the approaches to Torres Straits, all require to be well examined, in order to render the navigation of them secure.

Not having the whole of the Admiralty surveys of the China Seas lately executed by the officers of the Royal Navy available to me, or those made by the officers of the Foreign Navies, I cannot pretend to state what actually requires to be done in those localities.

With regard to the question as to the measures that have been adopted to render the great trigonometrical survey of India available for the purpose of establishing points on the coasts of India, the publication by the East India Company from time to time of the various maps and works connected with it, as also the plan of the trigonometrical operations carried on in the Peninsula of India, from 1802 to 1814, inclusive, by Colonel Lambton and his assistants, published by their sanction, and by their hydrographer, will be, I consider, a sufficient answer; but no simultaneous operations have ever been carried on by the officers of the land and marine surveys: Captain R. Lloyd, I.N., in his survey of the River Hooghly, connected his survey of it with the south end of the Great Base on the Barrackpore road, and carried a set of triangulations from it down to the southern point of Saugor Island and Hedgelee Pagoda, places situated respectively on the eastern and western shores of the Hooghly.

Before quitting the subject of Indian surveys, I would venture to suggest that it would be highly advantageous that the difference of longitude be measured between Alexandria (the Pharos) as fixed by Captain W. H. Smyth, R.N., &c., in his beautiful survey of the Mediterranean and Suez, the positions assigned to which latter place by Colonel De Haviland, Madras Engineers, Captain Moresby, I.N., Professor Rüppell, and in the "Connaissance des Temps," do not agree; and from Suez, a series of carefully conducted chronometric measurements should be brought down to Aden, and from thence to Bombay, serving to connect the

surveys of the Red Sea, &c., with the Mediterranean, as has been done with the Persian Gulf survey by the officers of the Euphrates flotilla.

The subject of ascertaining the difference of longitudes between Alexandria and Bombay has, I believe, been already brought to the notice of Government by Captain Haines, of the Indian Navy, with reference to the position assigned to Bombay.

The total number of charts engraved and published since 1820, up to the present time, by and under the authority of the Honourable the Court of Directors of the East India Company, and sold by their booksellers, Messrs. W. H. Allen & Company, Leadenhall-street, London, amounts to 145 in number, as follows, viz.:—

	Sheets.
Coast of Africa - - - - -	4
Red Sea - - - - -	7
S. E. Coast of Arabia and Islands - - - - -	4
Persian Gulf and Arabian Coast - - - - -	21
Coast of Sind, Gulf of Cutch, and Cambay, &c. - - - - -	26
Bay of Bengal, &c. - - - - -	27
Martaban and Tenasserim Coasts - - - - -	13
Straits of Malacca, China Seas, &c. - - - - -	38
Indian Ocean - - - - -	5
TOTAL Number - - - - -	145

The largest size engraved is antiquarian, and the prices vary from 10 s. 6 d., to 1 s. each sheet. The demand for charts here (Bombay) is very limited, what it is at the other Presidencies I am unable to say; the reason I suppose is, that most ships coming out to India from England are already provided with every chart they may require. Up to the present time (August 1849) the greatest number of charts supplied to private parties, was last year, 1848, of the value of seventy-eight rupees, six annas, and three pice (Rs. 78, 6 annas, 3 pice). The sums realized by the sale of charts is paid into the Government treasury.

With regard to the list required of the charts, their description, prices, &c., &c., published by and under the authority of the East India Company, since 1820, the period embraced by the Parliamentary inquiry, the catalogue accompanying this Report will, I trust, afford every information required.

I have, &c.

(signed) *Chas. W. Montriou*, Commander, I. N.,
Draftsman, Indian Navy,
In charge of Observatory.

Indian Navy Draftsman's Office,
27 August 1849.

APPENDIX TO REPORT.

DESCRIPTION, Dates of Execution, and Publication of the CHARTS and SAILING DIRECTIONS, with the Scale of the CHARTS, and their Size, published by the Authority of the Honourable East India Company, from 1820 to 1849, inclusive.

Five per cent. is charged on the price of the Charts sold to private persons. The prices annexed to the Charts does not include mounting.

Sheet Number.	Names of Charts.	Author.	Size of Sheet and Scale of Chart.	Date of Publication.	Date of Execution.	Price.	REMARKS.
	COAST OF AFRICA:		<i>In. tenths.</i>			<i>£. s. d.</i>	The following are the abbreviations used in this list:— Showing the Size. Demy - - - D. Medium - - - M. Royal - - - R. Super Royal - - S. R. Imperial - - - Imp. Elephant - - - E. Colombier - - - C. Atlas - - - A. Double Elephant - D. E. Antiquarian - - Ant. Emperor - - - Emp.
2	N.E. Coast of Africa, from Ras Gulwaine to Ras Hafoon.	-- Lieutenant T. G. Carless, I. N., assisted by Lieutenants Jardine, Sheperd and Greive, and Messrs. Ball, Whitburn, Selby and Scott, Midshipmen, I. N.	d. = 15 0 Imp.	15 August 1848	1838	- 5 -	
2	African Coast from Sibal Jarne to Sayara.	-- Lieutenants Barker and Christopher, I. N.	d. = 15 0 Imp.	15 May - 1844	1841	- 5 -	
2	RED SEA: Northern part of the Red Sea.	-- Commander R. Moresby and Lieut. T. G. Carless, I. N.	d. = 6 0 D. E.	1 August 1836	1834 and 1835	- 12 -	Showing the Scale. d. Degree of latitude. m. Geographic mile. The figures denote inches and tenths of an inch. Thus:—D. E. d = 1 5 implies that the chart is printed on a sheet of double elephant, and that its scale is one inch and a half to the degree of latitude. The size of the sheet when not measuring the exact dimensions of any of the above, is given to the one it approaches nearest to.
2	Southern part of the Red Sea.	-- Commanders Elwon and Moresby, and Lieutenants Pinching and Carless, I. N.	The same. D. E.				
1	Survey of the principal Harbours and Anchorages in the Red Sea, south of Jiddah.	-- Commanders Elwon, S. B. Haines, and Lieutenant Pinching.	-- Plans of harbours, various scales. M.	14 February 1843	1829 and 1837	- 3 -	
1	Principal Harbours and Anchorages in the Red Sea, north of Jiddah.	-- Commander Moresby, and Messrs. F. Jones, I. N., Greive and Ford, Midshipmen, I. N.	The same. A.	8 February 1843	not stated	- 2 -	
1	Arabian Sea, extending from 10° south latitude to Suez, and from 39° to 63° east longitude.	-- Captain James Horsburgh.	d. = 1 0 C.	1 February 1816, with additions up to 1846.	- - -	- 7 6	Second edition.
	S. E. COAST OF ARABIA AND ISLANDS:						
1	Island of Socotra	-- Commander S. B. Haines, Lieutenants Welsted, Sanders, and Messrs. Rennie, Cruttenden and Fleming, Midshipmen, I. N.	m. = 0 5 C.	1 August 1835	not stated	- 3 -	
1	S. E. Coast of Arabia, from the Straits of Babelmandel to Inisenaat, with several Plans.	-- Commander S. B. Haines, assisted by Lieutenants Welsted, Sanders, Jardine and Sheperd, Messrs. Ball, Stephens, Rennie, Cruttenden, Green and Barrow, Midshipmen.	d. = 6 0 plans of various scales. Ant.	16 Sept. - 1839	1836	- 4 6	
1	The several Bays near Cape Aden.	-- Commander S. B. Haines, and assistants.	m. = 1 0 C.	15 August 1839	1836	- 3 -	
1	Kooria Moorria Bay, and Islands.	The same - - -	m. = 0 5 C.	14 May - 1840.	1837	- 3 -	
	PERSIAN GULF AND COAST OF ARABIA:						
1	Survey of the Harbours of Matra and Mucsat.	-- Lieutenants G. B. Brucks and S. B. Haines.	m. = 8 0 Imp.	1 July - 1831	1828	- 2 -	

Sheets Number.	Names of Charts.	Author.	Size of Sheet, and Scale of Chart.	Date of Publication.	Date of Execution.	Price.	Remarks.
PERSIAN GULF AND COAST OF ARABIA—cont'd.							
1	Battnah and Burka Coast -	- - Commander G. B. Brucks and Lieutenant S. B. Haines.	<i>In. tenths.</i> d. = 12 0 S. R.	July - 1831	1828	£. s. d. - 2 -	
1	Entrance to Gulf of Persia and Coast of Arabia, from Ras Guberindee to Muscat.	The same - - -	d. = 12 0 S. R.	1 June - 1831	1828	- 2 6	
1	Coast of Arabia from Ras Guberindee to Ras Soatce.	The same - - -	m. = 2 0 A.	1 June - 1832	1828	- 3 -	
	Gulf of Persia, constructed from the trigonometrical surveys made by orders of the Honourable the Court of Directors.	Commander G. B. Brucks	d. = 4 0 E.	1 January - 1832	1830	- 4 -	
5	Persian Gulf, Arabian side, extending from Cape Moosendom to the Euphrates.	-- Lieutenants J. M. Guy, G. B. Brucks, W. E. Rogers, and R. Cogan, I. N.	d. = 12 0 2, 1st sheets, E. 3, or ditto, C.	{ Sheets. 1st, 15 April 1826 2d, 1 Sept. 1826 3d, 8 July 1826 4th, 1 Jan. 1829 5th, 1 Sept. 1828 }		1822 to 1825	{ 3s. each. - 15 - }
1	Island and Harbour of Bohrein, Arabian side of Persian Gulf.	- - Lieutenants G. B. Brucks and W. E. Rogers.	m. = 0 5 R.	16 June - 1828	1825	- 2 6	
1	Anchorage off El Katiff -	The same - - -	m. = 0 5 ½ D.	1 March - 1828	1825	- 2 -	
1	The Harbour of Grave or Quade.	-- Lieutenants J. M. Guy and G. B. Brucks.	m. = 0 5 D.	1 January - 1828	1825	- 2 -	
1	Entrances to the Rivers at the head of the Persian Gulf.	- - Lieutenants G. B. Brucks and S. B. Haines.	m. = 1 0 A.	2 May - 1831	1927	- 3 -	
1	Coast of Persia from Ras Tuloop to Bushire.	- - Lieutenants G. B. Brucks and R. Cogan.	d. = 12 0 R.	1 April - 1828	1826	- 2 6	
1	Bushire Roads - - -	The same - - -	m. = 2 0 R.	1 February - 1828	1826	- 2 -	
1	Coast of Persia from Bushire to Bassadore.	- - Lieutenants G. B. Brucks and S. B. Haines.	d. = 12 0 C.	1 May - 1831	1828	- 3 -	
2	Clarence's Straits, Persian Gulf.	- - Commander G. B. Brucks and Lieutenant S. B. Haines.	m. = 1 0 1st sheet, C. 2d sheet, S. R.	{ Sheet. 1st, Nov. - 1831 2d, 1 Sept. 1831 }		1828	- 5 -
1	Coast of Persia and Beloochistan, from Kooe Mubarrack to Kurrachee, with four Plans of Bays on same sheet.	The same - - -	d. = 4 0 plans on various scales. D. E.	1 August - 1832	1829	- 3 -	
COAST OF SCINDE, KATTIWAR, GULFS OF CUTCH AND CAMBAY, &c. :							
1	Soomianee Harbour -	- - Lieutenants C. W. Montriou, assisted by Lieutenant Trushard, Messrs. Fergusson and Holt, Midshipmen, and Lieutenant Robertson, 25th Reg. N.I.	1,000 yds. = 1 0 D.	14 June - 1843	1842	- 1 6	
1	Kurrachee Harbour -	- - Lieutenant T. G. Carless, assisted by Lieutenants Sheperd and Greive, and Messrs. Ball, Whitburn, Selby and Scott, Midshipmen.	m. = 4 0 Imp.	25 May - 1844	1838	- 2 -	
1	Entrance to the Gulf of Cutch, with the Island and Harbour of Bate.	- - J. T. Jones, Midshipman, I. N.	d. = 20 0 ¾ D.	1 September 1834	1833	- 1 -	
1	Gulf of Cutch - - -	Lieutenant Middleton, I. N.	m. = 0 4 C.	1 July - 1823	1821	- 3 -	
1	Coast of Kattiwar from Dio to Dwarka.	- - Lieutenant H. R. Whitelocke, I. N.	d. = 20 0 S. R.	1 January - 1835	1833	- 2 6	
2	Kattiwar Coast from Diu Head to Perim Island -	- - Lieutenant R. Ethersey, I. N., assisted by S. H. Buckler.	d. = 36 0 R.	3 March - 1845	1836	- 4 -	
1	Diu Harbour - - -	- - Lieutenant H. R. Whitelocke, assisted by Messrs. Hawes and Garrett.	m. = 4 5 D.	1 November 1834	1833	- 1 -	
1	Gulf of Cambay - - -	- - Lieutenant R. Ethersey, assisted by Messrs. Fell, Whitburn and Campbell, Midshipmen.	d. = 29 0 C.	1 January - 1845	not stated	- 3 -	
1	Malacca Banks - - -	- - Lieutenant R. Ethersey, assisted by Mr. W. E. Campbell, Midshipman.	d. = 25 0 Imp.	3 March - 1845	1837	- 1 6	
2	Bombay Harbour - -	- - Lieutenant R. Cogan and Mr. G. Peters, Midshipman.	m. = 2 0 R.	1 May - 1833	1829	- 4 -	

Sheet Number.	Names of Charts.	Author.	Size of Sheet, and Scale of Chart.	Date of Publication.	Date of Execution.	Price.	Remarks.
GULF OF CUTCH, KATTIWAR COAST, &c.—cont'd.							
1	Angenwell Harbour	Lieutenant W. E. Rogers	<i>In. tenths.</i> m. = 2 0 ¾ D.	1 March - 1828	1826	£. s. d. - 1 -	
1	Laccadive Islands	Lieutenant R. Moresby	d. = 6 0 E.	-- 1 July 1830, corrected to 1845.	1828	- 2 6	
3	Maldeev Islands	-- Commander R. Moresby and Lieutenant F. T. Powell.	d. = 14 5 1 sheet, D. E. 2 sheets, R.	{ Sheet, 1st, 16 April 1838 2d, 10 Dec. 1839 3d, 10 Dec. 1839 }	1835	- 10 -	
1	Maldeev Islands reduced from the above.	James Horsburgh	d. = 2 5 M.				- 5 - -- First edition, 26 March 1814, corrected to 1841.
1	Chagos Archipelago	-- Commander R. Moresby and Lieutenant F. T. Powell, I. N.	d. = 12 0 C.	2 December 1839	not stated	- 3 -	-- Second edition.
1	Principal groups in the Chagos Archipelago.	The same	m. = 1 0 S. R.	10 July - 1839	not stated	- 2 -	
1	Coast of Tinnevely	Mr. J. J. Franklin, R.N.	d. = 30 0 C.	30 April - 1846	1842	- 3 -	
1	Coast of Madura	-- Lieutenants Powell and R. Ethersey, I. N., and Mr. Franklin, R. N.	d. = 30 0 C.	30 April - 1846	1838	- 3 -	
1	Western side of Palk's Straits	-- Lieutenants Powell, R. Ethersey, assisted by Acting-lieutenants Jones and W. Christopher, and Messrs. Selby, Heming, Greive and King, Midshipmen.	d. = 30 0 C.	30 April - 1846	1838	- 3 -	
1	Roadstead and Harbour of Tuticorin.	-- Mr. Franklin, R. N., assisted by Messrs. Brookings and Canner.	m. = 4 0 A.	1 July - 1846	not stated	- 3 -	
1	Paumben Pass	-- Lieutenants Powell and Ethersey, assisted by Acting-lieutenant Jones, and Messrs. Macdonald, Christopher, Riddle, Heming, Greive, and King, Midshipmen, I. N.	1,000 yds. = 2 0 Imp.	10 July - 1839	1838	- 2 -	
BAY OF BENGAL, &c.:							
1	Bay of Bengal	James Horsburgh	d. = 1 4 Imp.	1 June - 1825	not stated	- 6 -	
1	Bay of Bengal	James Horsburgh	The same	-- Second edition, corrected to 1844.	not stated	- 6 -	
1	Pulicat and Arnegon Shoals	-- Captain William Maxfield, I. N.	d. = 29 1 A.	25 March - 1822	1821	- 2 -	
1	Mootapilly Bay	Captain Charles Court	m. = 0 5 R.	1 July - 1830	1816	- 1 6	
3	False Point to Saugor Roads	-- Captain W. Maxfield, I. N., with additions by Commander R. Lloyd, I. N.	d. = 30 0 C.	- 1 December 1819, corrected to 1831.	not stated	- 8 -	-- Second edition.
1	The Sands and Channels forming the entrance into the River Hooghly, including Balasore Roads.	-- Commander R. Lloyd, assisted by Mr. H. Weston, commanding a vessel, and by Messrs. Powers and Keyman, pilot service.	d. = 15 0 E.	1 November 1842	1841	- 3 -	
1	River Hooghly from Calcutta to Saugor Roads.	-- Commander R. Lloyd, assisted by Lieutenant C. Montriou and Mr. Powers.	m. = 1 0 Ant.	1 August - 1839	1836	- 4 6	
3	Sea-face of Soonderbunds	-- Commander R. Lloyd, assisted by Lieutenants J. A. Young, Boscawen, Montriou, Fell and Rennie, I. N., and Mr. Weston.	d. = 15 0 D.	1 November 1842	not stated	- 6 -	
1	Chittagong or Kornafalee River.	-- By Lieutenants J. A. Young and Rennie, under the direction of Commander Lloyd, I. N.	1,000 yds. = 1 0 M.	1 November 1842	1840	- 1 6	
2	Chittagong to Arracan River	-- Captain Ross, I. N., F.R.S.	d. = 16 0 C.	{ Sheet. 1st, 1 Feb. 1835 2d, 1 May 1835 }	1833	- 3 -	-- Two editions of the second sheet have been published.
1	Coast of Arracan from Akyab to 17° 50' north.	-- Captain D. Ross, I. N., with additions by Commander R. Lloyd, I. N., and Captain Holstead, R. N.	d. = 15 8 C.				
1	Arracan River	Lieutenant R. Lloyd, I. N.	m. = 1 0 Imp.	1 February 1834	1832	- 2 -	
1	Cheduba Straits and Coast of Ramree.	Captain D. Ross, I. N.	d. = 30 9 Imp.	25 May - 1834	1832	- 2 -	First edition.
1	The same	-- Captain D. Ross, I. N., and Captain Holstead, R. N.	The same	Corrected to 1842	1832	- 2 -	-- Second edition.
1	A Plan of Kyook Phyoo Harbour.	Captain Bowman	m. = 1 0 ¾ D.	20 August - 1829	not stated	- 1 6	

Sheet Number.	Names of Charts.	Author.	Size of Sheet, and Scale of Chart.	Date of Publication.	Date of Execution.	Price.	Remarks.
	BAY OF BENGAL, &c.—continued.						
1	Kyook Phyo Harbour and Combermere Bay.	-- Captain D. Ross and Commander Lloyd, I.N., and Captain Holstead, R.N.	2,000 yds. In. tenths. = 1 0 Imp.	-- 1 October 1833, corrected to 1843.	1832	£. s. d. - 3 -	-- Two editions of this chart.
2	Coast of Ava, from latitude 18° to Cape Negrais.	Captain J. Crawford, I.N.	d. = 30 6 1st sheet, C. 2d sheet, near C.	Sheet. 1st, 1 Dec. 1827 2d, 1 April 1829	1826 & 1827	- 6 -	
1	Eastern Peninsula of India	James Horsburgh	d. = 1 0 C.	-- 12 Feb. 1813, corrected to 1833.	not stated	- - -	-- Second edition.
1	Rangoon River	Captain D. Ross, I.N.	m. = 1 25 Imp.	1 January - 1827	1825	- 2 -	
1	Plan of Martaban River	-- Major Jackson, Deputy Quartermaster-general.	d. = 9 5 D.	1 December - 1826	not stated	- 1 6	
1	Moscov Islands	Captain Charles Court, I.N.	d. = 15 0 M.	1 December - 1826	not stated	- 2 -	
	MARTABAN, TENASSERIM COASTS, &c.:						
2	Martaban to Tavoy Point	-- Captain D. Ross, F.R.S., I.N.	d. = 15 3 R.	Sheet. 1st, 30 July 1829 2d, 1 Aug. 1829	1828	- 4 -	
1	Tavoy River	Lieut. R. Moresby, I.N.	m. = 0 75 R.	1 January - 1827	1824	- 2 -	
1	Tenasserim Coast, from Tavoy Point to Mergui.	-- Captain D. Ross, F.R.S., I.N.	d. = 30 5 C.	16 November 1829	1828	- 3 -	
1	Mergui Harbour	-- Lieutenants J. A. Young and Fell, under the direction of Commander R. Lloyd.	1,000 yds. = 2 0 Imp.	10 July - 1841	not stated	- 2 -	
2	Mergui Archipelago, from Iron Island to the Sayer Islands.	-- Captain D. Ross, F.R.S., I.N.	d. = 14 5 1st sheet, C. 2d sheet, Imp.	Sheet. 1st, 1 Nov. 1832 2d, Feb. 1838	1828 & 1831	3 s. each - 6 -	
2	The same	-- The same, with additions by Commander Lloyd, I.N.	The same	-- The same, with additions to 1839.	The same	- 6 -	-- Second edition.
1	Hastings Harbour, Mergui Archipelago.	Captain D. Ross	m. = 1 0 S. R.	2 November 1829	1828	- 2 -	
1	General Chart of the River Hooghly, and the Approaches to it.	-- Captain R. Lloyd, I.N., and his assistants.	d. = 12 5 A.	-- 1 January 1840 additions to 1845.	not stated	- 7 -	-- Compiled by J. Walker, Geographer to the East India Company.
1	Moulmein River, and the Eastern Coast of the Gulf of Martaban, from Amberst Point to the Sitang River.	Lieutenant W. Fell, I.N.	-- Scale of plan of River, m = 1 0 Coast, d = 25 2 E.	22 November 1848	1847	- 2 -	
1	Cheduba Roads and Ramree Harbour.	Lieutenant R. Lloyd, I.N.	m. = 0 25 D.	15 June - 1829	not stated	- 1 -	
	STRAITS OF MALACCA, CHINA SEAS, &c. &c.:						
1	Straits of Malacca and Singapore.	James Horsburgh	d. = 5 0 C.	-- 1 March 1826, additions to 1844.	not stated	- 7 6	-- Second edition.
1	Plan of the Arroa Islands, Straits of Malacca.	Captain D. Ross, I.N., &c.	m. = 1 0 D.	1 August - 1820	1819	- 1 6	
1	North and South Sands, (Straits of Malacca).	-- The same, assisted by Lieutenants Maugham and Crawford.	d. = 14 9 Imp.	1 September 1820	1819	- 2 -	
1	Plan of Singapore Harbour	Captain D. Ross	m. = 2 0 3/4 D.	1 January - 1820	1819	- 1 2	
1	Singapore Harbour, and Islands in its vicinity.	The same	1,000 yds. = 0 5 M.	1 May - 1830	1827	- 2 -	
1	Plan of the Harbour near Singapore.	The same	1,000 yds. = 2 0 3/4 D.	30 May - 1829	1827	- 1 -	
1	Western Coast of Sumatra, with various Plans.	James Horsburgh	d. = 2 5 C.	10 August - 1832	not stated	- 6 -	Compilation.
1	Northern Pepper Ports (West Coast of Sumatra).	Samuel Ashmore	d. = 10 2 S. R.	1 October - 1822	1821	- 2 -	
1	East Coast of Sumatra, from Diamond Point to the southern entrance of Brewer's Straits.	-- Lieutenants W. Rose and R. Moresby, I.N.	d. = 10 0 A.	1 January - 1824	1822	- 3 -	
1	Islands eastward of Bintang	Captain D. Ross, I.N.	d. = 15 0 3/4 D.	1 August - 1820	1819	- 1 -	
1	East Coast of the Malay Peninsula.	-- Lieutenant John Crawford, I.N.	d. = 4 0 3/4 D.	1821	1820	- 1 -	
1	Straits of Durian	-- Lieutenants W. S. Collinson, Hawkins, and R. Moresby, I.N.	m. = 0 75 Imp.	1 November 1823	1822	- 2 -	
2	Tanjong Bon and Pulo Bareliah, to the southern entrance to the Straits of Durian.	-- Lieutenants Collinson and R. Moresby.	d. = 22 8 S. R.	not stated	1823	- 4 -	
1	Hechester Shoal	Captain D. Ross	d. = 11 5 1/2 D.	14 September 1820	1819	- 1 -	
1	Tracks of the H. C. S. "General Harris," on her passage from China to Gaspar Straits.	No name	d. = 7 8 D.	2 January - 1826	1825	- 1 6	

Sheet Number.	Names of Charts.	Author.	Size of Sheet and Scale of Chart.	Date of Publication.	Date of Execution.	Price.	Remarks.
	STRAITS OF MALACCA, CHINA SEAS, &c. &c.—contd.						
1	Island of Thwart-the-way, with the Passages between that Island and Hog Point, and the Button and Cap Rocks.	-- Captain Maxfield and Lieut. J. S. Criddle, I.N.	In. tenths. m. = 0 5 D.	1 November 1820	1819	£. s. d. - 1 6	
1	Track of the H. C. S. "Scaleby Castle" through the Giltolo Passage.	-- Mr. W. R. Blakely, chief officer.	d. = 9 8 R.	1 February - 1823	not stated	- 2 -	
2	China Seas	James Horsburgh	d. = 2 0 D. E.	Sheet. 1st, 1 Oct. 1821 additions to 1844 2d, 1 July 1831	not stated	- 15 -	-- Two editions published.
1	Passages leading the Lymoon	-- W. R. Blakely, assisted by John Vaux, Charles Evans, and Charles W. White, H. C. S.	m. = 1 0 3/4 D.	1 November 1830	not stated	- 1 6	
1	Canton River	James Horsburgh	d. = 25 6 A.	1 July - 1831	not stated	- 7 6	
1	South-east Coast of Hainan	Captain D. Ross	d. = 14 0 D.	1 June - 1822	not stated	- 2 -	
1	Lintin to the Bocca Tigris	Lieutenant D. Ross	m. = 1 0 3/4 D.	not stated	not stated	- 2 -	
1	The Dhaulie's Track, between the east coast of China and western part of Formosa.	Mr. George Baxland	d. = 5 5 Imp.	18 August - 1828	1827	- 2 -	
1	Plan of the Soundings on the S.E. Coast of China.	Lieutenant Parkyns, R.N.	d. = 20 0 3/4 D.	10 June - 1825	1824	- 1 -	
1	Killon Harbour and Merope Bay, in the Island of Formosa.	-- Lieutenant G. Parkyns, R.N., and Mr. J. B. Livesay.	m. = 13 0 R.	1 July - 1825	1824	- 2 -	
1	East Coast of China	James Horsburgh	d. = 2 9 D. E.	12 February 1835	not stated	- 8 6	
3	Eastern Passages to China	The same	d. = 2 0 C.	Sheet. 1st, 1 May 1824 2d, 2 June 1828 3d, 2 Jan. 1826; sheet 1st, corrected to 1845; 2d, corrected to 1839.	not stated	1 11 6	
1	Islands and Channels at the S.W. extremity of the China Seas.	James Horsburgh	d. = 11 2 C.	-- 1 Dec. 1821, corrected to 1847.	not stated	- 7 6	-- Second edition.
1	Passages through the Barrier Reefs, &c. &c.	The same	d. = 15 0 3/4 D.	28 January - 1830	not stated	- 4 -	
1	Plan of the Channel to the eastward of Fansyack.	-- W. R. Blakely, John Vaux, Charles Evans, and Charles W. White, E.I.C. maritime service.	m. = 1 0 3/4 D.	1 November 1830	1829	- 1 -	
	INDIAN OCEAN:						
1	Madagascar Archipelago	-- Captain T. Moresby, C.B., R.N.	d. = 6 0 C.	20 May - 1824	1822	- 2 -	
1	Indian Ocean, from Kerguelen's Island to the Saya de Malha Bank.	James Horsburgh	d. = 0 5 A.	-- 10 Nov. 1814, additions to 1833.	not stated	- 7 6	-- Second edition.

SAILING DIRECTIONS.

Vols. Number.	TITLE OF BOOK.	AUTHOR.	Date of Publication, and Price.
1	Sailing Directions for the Red Sea.	-- Commanders Moresby and Elwon, I.N.	London, 1831 - 3s.
1	Nautical Directions for the Maldiva Islands and the Chagos Archipelago.	-- Commander R. Moresby, I.N.	London, 1840 - 2s.

(True copy.)

(signed) P. M. Melvill, Lieutenant-Colonel,
Secretary to Government.

LIST OF CHARTS, &c.—continued.

Sheets: Number.	Names of Charts.	Author.	Size of Sheet, and Scale of Chart.	Date of Publication.	Date of Execution.	Price.	Remarks.
1	Moulmein River and Eastern Coast of the Gulf of Martaban.	Lieutenant Fell - -	-- 32 by 27 inches; 5 miles = $2\frac{1}{10}$ inches.	22 November 1848	1847	£. s. d. - 2 -	
1	Islands of Rameseram and Manaar.	-- Lieutenants Powell and Ethersey.	-- 40 by 26 inches; 1 mile = $\frac{1}{2}$ inch.	20 February - 1850	not dated	- 3 -	
4	West Coast of Ceylon -	-- Mr. J. J. Franklin, R. N., and Lieutenants Powell and Ethersey, I. N.	-- 26 by 20 inches; 1 mile = $\frac{1}{2}$ inch.	20 February - 1850	1845	- 1 6 each sheet	
1	Calicut Roads, and Entrance to Beypoor River.	-- Lieutenant Montriau and Mr. A. D. Taylor.	-- 24 by 23 inches; 1,000 yards = 1 inch.	25 February - 1850	1846	- 1 6	
1	Viziadroog, or Gheriah Harbour.	-- Lieutenant Montriau and Mr. A. D. Taylor.	-- 22 by 21 inches; 500 yards = 1 inch.	1 March - 1850	1844	- 1 6	
1	Cochin Harbour and Roads	-- Lieutenant Robinson and assistants.	-- 22 by 13 inches; 1 mile = 4 inches.	22 April - 1850	1835	- 1 -	
1	Entrance to the Red Sea -	Commander Haines -	-- 40 by 26 inches; 1 mile = 1 inch.	2 May - 1850	1835	- 3 -	
1	Dewghur Harbour - -	-- Lieutenant Montriau and Mr. A. D. Taylor.	-- 33 by 26 inches; 250 yards = 1 inch.	20 May - 1850	1844	- 2 -	
1	Islands westward of Socotra	-- Lieutenant Grieve and Mr. Ward.	-- 40 by 26 inches; 4 miles = inch.	25 May - 1850	1848	- 3 -	
1	South-east Coast of Arabia, sheet II.	-- Commanders Haines and Sanders, and Lieutenant Grieve.	-- 40 by 26 inches; $1^2 = 6\frac{2}{10}$ inches.	1 August - 1850	not dated	- 3 -	
1	Anchorage of Rutnagheriah	-- Lieutenant Montriau and Mr. A. D. Taylor.	-- 26 by 20 inches; 500 yards = 1 inch.	1 January - 1851	not dated	- 1 6	
1	Bay and entrance of Rajapoor River.	-- Lieutenant Montriau and Mr. A. D. Taylor.	-- 31 by 26 inches; 250 yards = 1 inch.	1 January - 1851	1844	—	
1	Coringa Bay - - -	Lieutenant Fell - -	-- 24 by 24 inches; 1,000 yards = 1 inch.	-- now in course of engraving.	1846	—	
3	Coromandel Coast - -	Lieutenant Fell - -	-- 40 by 26 inches, and 32 by 26 inches; 4 miles = 1 inch.	-- now in course of engraving.	1848	—	
1	North-east Coast of Africa -	-- Lieutenants Barker and Grieve.	-- 40 by 26 inches; $1^2 = 6\frac{2}{10}$ inches.	-- now in course of engraving.	1847	—	

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