

A report on small-pox, as it appeared in Ceylon in 1833-34 : with an appendix / by J. Kinnis, M.D., superintendent of vaccination in the Colombo district.

Contributors

Kinnis, John, 1794?-1853.
Great Britain. Colonial Office. Library
King's College London

Publication/Creation

Colombo : Printed at the Government Press, MDCCCXXXV [1835]

Persistent URL

<https://wellcomecollection.org/works/v5uyx7py>

License and attribution

This material has been provided by This material has been provided by King's College London. The original may be consulted at King's College London. where the originals may be consulted.

This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>

COLONIAL
OFFICE



Transferred on permanent loan

MMVII

682

KING'S
College
LONDON

FC02-RC183.7.57 KIN

Library

Kinnis, John


A report on small-pay . . .

1835

201164419 8



KINGS COLLEGE LONDON



Digitized by the Internet Archive
in 2015

<https://archive.org/details/b21297927>

A REPORT

ON

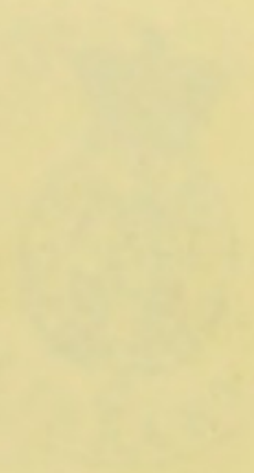
THE STATE OF THE

UNION

IN 1854.

AND

AN APPENDIX



SENT BY MAIL TO THE SEVERAL MEMBERS OF THE SENATE
AND HOUSE OF REPRESENTATIVES.

WASHINGTON:

ENDICOTT,

PRINTED AT THE NATIONAL PRESS.

1854.

2000
140

5
212782
821

A REPORT
ON
SMALL-POX,

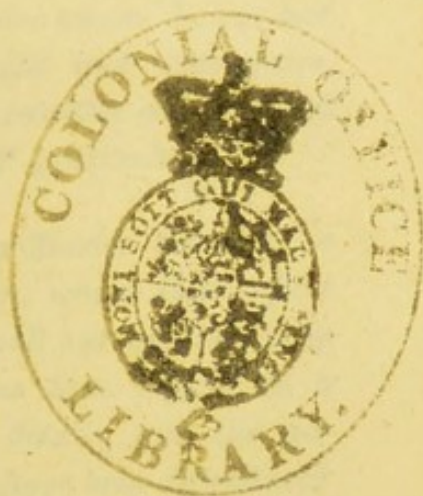
AS IT APPEARED IN

CEYLON

IN 1833—34 ;

WITH

AN APPENDIX.



BY

J. KINNIS, M.D.

SUPERINTENDENT OF VACCINATION IN THE COLOMBO DISTRICT.

PUBLISHED BY ORDER OF THE RIGHT HONORABLE THE GOVERNOR
AND COUNCIL.

COLOMBO:
PRINTED AT THE GOVERNMENT PRESS,
MDCCCXXXV.



1157934

NOTICE.

FOR permission to use the various official documents, consulted in drawing up this Report, the writer is indebted to DR. JAMES FORBES, Inspector General of Army Hospitals, and Superintendent General of Vaccination in Ceylon—an officer of whose character it does not become him here to speak, but immediately under whom he has had the inestimable advantage of serving, betwixt eight and nine years, in Europe, America and Asia, and for whose invariable courtesy and kindness he feels, and shall ever cherish, the liveliest gratitude.

To Lieutenant Colonel FRASER, Deputy Quarter Master General, he is indebted for the services of a young draftsman, whom that officer kindly placed under his directions, and for a small but excellent map of the island, from which the one here given has been copied, on a slightly reduced scale, with the omission of some details, and the addition of about fifty villages—too inconsiderable to have been introduced had their names not occurred in the Report; and to F. B. NORRIS, Esq., Civil Engineer and Surveyor General, for permission to have this, with two minor maps of the environs of Colombo, and plans of Colombo Pettah, and of the Pettah and Marandahn hospitals, printed at his private lithographic press. To both these gentlemen he begs to return his very sincere thanks, for the liberal assistance thus afforded him in illustrating his Report. Nor is he less sensible of his obligations to Mr. NORRIS's worthy draftsman and printer, Mr. VANDERSTRAATEN, without whose patience, perseverance, and ingenuity in combating the difficulties of this, the first successful, attempt to practise the art of Lithography in Ceylon, his labour in preparing these maps and plans would have been thrown away:—at the same time that he has to solicit the reader's kind indulgence for their more glaring inequalities and imperfections.

The first small map of the environs of Colombo is reduced, and the second copied or extracted, from a map constructed a good many years ago by the late Surveyor General, Captain SCHNEIDER; and

the outline of Colombo Pettah is abridged, from a larger and more detailed plan by the same officer. The plans of the Hospitals have been drawn under his own direction.

The writer has great pleasure in expressing his acknowledgments to those officers of the medical department, to whom he has had occasion to address inquiries, on the cases of small and chicken-pox that fell under their observation, during the late epidemic, for their kind attention in furnishing him with the information required—and to GEORGE LEE, Esq., Acting Post Master General, and Superintendent of the Government printing office,—for his very obliging assistance in conducting the Report through the press.

COLOMBO, 27th April, 1835.

CONTENTS.

REPORT.

	Page.
I. ORIGIN AND PROGRESS OF THE DISEASE.....	1
1 At Nuwera Ellia.....	<i>ib.</i>
2 — Jaffna.....	<i>ib.</i>
3 — Colombo.....	2
II. APPLICATION OF THE FACTS RECORDED DURING ITS PREVALENCE, AND BROUGHT TOGETHER IN THE APPENDIX, TO QUESTIONS OF INTEREST IN THE HISTORY OF VACCINATION, SMALL-POX, AND CHICKEN-POX	5
1 Influence of Vaccination on those attacked by the late epidemic. .	6
2 Duration of the disease in fatal cases of Small-pox.....	9
3 Periods of life at which the different cases occurred and proved fatal.....	<i>ib.</i>
4 Secondary cases of Small-pox.....	10
5 Cases of Small-pox occurring during the process of Vaccination. .	<i>ib.</i>
6 Supposed identity of Small-pox and Chicken-pox.....	<i>ib.</i>
A.—Annual prevalence, or occurrence, of Chicken-pox in Ceylon, from 1811 to 1834.....	<i>ib.</i>
B.—Places visited by Chicken-pox, but by neither Small nor Modified Small-pox, during the last fourteen months....	11
C.—Places visited, during the same period, by Small or Modified Small, as well as by Chicken-pox. .	12
D.—Success of Vaccination in cases of Chicken-pox.....	14
E.—Difference in the periods at which Small and Chicken-pox commenced, chiefly prevailed, and declined or terminated....	<i>ib.</i>
F.—Conclusion.....	<i>ib.</i>
III. MEASURES ADOPTED BY GOVERNMENT. .	15
1 Instructions to Government Agent, Superintendent of Police, Master Attendant, and Collector of Customs.....	<i>ib.</i>
2 Inspection of vessels from the Coast.....	<i>ib.</i>
3 Vaccination in gaols and hospitals.....	<i>ib.</i>
4 Proclamation calling upon the inhabitants to make known cases of Small-pox and inviting them to be vaccinated.....	<i>ib.</i>
5 Employment of Extra Vaccinators	<i>ib.</i>
6 Disposal of cases of Small-pox, when first discovered. .	<i>ib.</i>
7 Periodical inspection of cases in quarantine.....	16
8 Description and accommodations of the Pettah hospital.....	<i>ib.</i>
9 do. do. of the Marandahn hospital....	17
10 Treatment and Registration of patients.....	<i>ib.</i>
11 Attendants of patients in hospital. .	18
12 Diet of do. do. .	<i>ib.</i>
13 Ablution of person and clothes.....	19
14 Discharge from hospital.....	<i>ib.</i>
15 Burial of patients who died in quarantine.....	<i>ib.</i>
16 do. do. in hospital	<i>ib.</i>

	Page.
17 Financial arrangements.....	20
18 Circular letter addressed to vaccinators at out-posts.....	<i>ib.</i>
19 Registration of cases at out-posts.....	21.
20 Returns laid before the Colonial Secretary.....	<i>ib.</i>
IV. COMPARISON OF THE PRESENT WITH FORMER VISITATIONS OF SMALL-POX.....	
1 Visitation of 1819.....	<i>ib.</i>
2 do. 1830.....	22
3 do. 1833-34.....	23
4 Extraordinary difference in the prevalence and mortality of the disease on those three occasions.....	<i>ib.</i>
5 Principal causes to which this difference may be ascribed....	24
A.—Comparative numbers protected by vaccination at the com- mencement of the three different epidemics.....	<i>ib.</i>
B.—Activity with which vaccination has been prosecuted since the last appeared.....	25
C.—Compulsory seclusion of patients in their own houses or in public hospitals.....	26

APPENDIX.

No. I. Progressive steps of Small-pox, Modified small-pox and Chicken-pox in Ceylon, from 24th October 1833 to 23d December 1834, exhibiting the streets in Colombo and the villages throughout the island, which were successively visited by these diseases, together with the number of cases that occurred, the number that proved fatal, and the dates of occurrence of the first and last cases, in every street and village.....	29
II. Return of the number of cases that occurred, and the number that proved fatal, during every separate month, during the first and second six, the two last, and the whole fourteen months, comprehended in the preceding Table.....	36
III. Return of the number of cases that occurred among the Troops serving in Ceylon during the same period.....	37
IV. Return of the comparative numbers that occurred and proved fatal, in persons who had never undergone vaccination, who had been vaccinated, with different degrees of success, and who had previously passed through small-pox.....	38
V. Return of the comparative numbers that occurred and proved fatal, at different ages or periods of life, the parties attacked being classed as in No. IV., agreeably to their condition with regard to vaccination and small-pox.....	42
VI. Return of the numbers vaccinated at different periods of life in the Colombo district, during the year immediately preceding, and the year immediately following, the commencement of small-pox.....	45
VII. Return of the Population &c. of the Colombo district in 1833..	47
VIII. Explanation of the plan of Colombo Pettah.....	48
IX. Example of the Reports made by the Inspecting Medical Officer on the discovery of cases of Small-pox.....	52
X. Diet Table of the patients in Marandahn Small-pox hospital..	53

	Page.
XI. Particular account of the Provisions and Expenditure of the hospital establishment, at Marandahn, during the month of February 1834, as an example of the whole.	53
XII. Notices of the occurrence of Small-pox and progress of Vaccination in Ceylon, betwixt the years 1799 and 1833	54
1st Period, 1799 to 1818.	<i>ib.</i>
2d ———, Epidemic Small-pox of 1819.	57
3d ———, 1820 to 1829.	61
4th ———, Epidemic Small-pox of 1830.	62
Abstract of the total number successfully vaccinated in Ceylon since 1802, and of the annual numbers since 1807.	66
XIII. Return of the Population of Ceylon according to a census of 1833—and of the Marriages, Births and Deaths for that year. .	67
XIV. Notices of the occurrence of Chicken-pox among the troops serving in Ceylon betwixt 1811—and in the Orphan Asylum betwixt 1817—and 1834.	68
XV. Experiments on the distance to which the infectious matter of Small-pox is communicated through the air.	71
XVI. On the occurrence of Small-pox after vaccination, and on the distinctive characters of Modified small-pox and Chicken-pox. .	<i>ib.</i>
XVII. Influence of Situation and Treatment on the character of small-pox.	74
XVIII. H——y's Letters in the Colombo Observer.	75
Letter I.	76
II.	77
<i>a.</i> —Cases of Small-pox.	78
<i>b.</i> —Cases of Secondary Febrile eruptions following Small and Chicken-pox.	83
III.	85

MAP of Ceylon.

—— the Environs of Colombo.

PLAN of Colombo Pettah.

—— the Pettah and Marandahn hospitals.

WHERE India's swarthy millions crowd the strand,
AND ROUND THAT ISLE, WHICH CROWNS THEIR POINTED LAND,
Speak loud to parents ;—knew ye not the time,
When age itself, and manhood's hardy prime,
With horror saw their short liv'd friendships end,
Yet dar'd not visit e'en the dying friend ?
Contagion, a foul serpent lurking near,
Mock'd Nature's sigh and Friendship's holy tear.
Love ye your children ?—let that love arise,
Pronounce the sentence, and the serpent dies ;
Bid welcome a mild stranger at your door,
Distress shall cease, those terrors reign no more.
Love ye your neighbours ?—let that love be shown ;
Risk not their children while you guard your own ;
Give not a foe dominion o'er your blood,
Plant not a poison, e'en to bring forth good ;
For, who the pest discreetly as you will,
Deadly infection must attend him still,

BLOOMFIELD.

REPORT

ON

S M A L L - P O X,

AS IT APPEARED IN CEYLON IN 1833-34.

I.—ORIGIN AND PROGRESS OF THE DISEASE.

THE present, like all former inflictions of small-pox, of which we possess any accurate accounts, was imported from the continent of India, unquestionably at more than one part of the coast, and by more than one individual, though neither the number of original cases, nor the exact points at which they disembarked has been ascertained. Cases occurred almost simultaneously in three far distant parts of the island, namely in Colombo, Jaffna and Nuwera Ellia.

1. At the last mentioned station, one case occurred early in November 1833, in a native who resided in a brick shed belonging to a soldier of the 78th regiment, about three miles from the Barracks. The febrile symptoms appeared on the 3d and the eruption on the 6th of that month. Its previous history is unknown. It was stated to be a mild and modified but well marked case of small-pox. Many more are said to have afterwards occurred among the natives; but no others were reported to the superintendent general of vaccination until the month of May, during which twelve individuals—of whom ten had been vaccinated—were attacked. The disease was very mild; not more severe in the two unvaccinated than in the ten vaccinated subjects; the eruption passed quickly through its different stages; and the cases were referred, by the medical officer who reported them, to the conoidal varicella of Bateman, or modified small-pox.

2. Into Jaffna district small-pox is supposed to have been introduced by a boy, who landed at Cayts from the Coast some time in October, and who had quite recovered before he was found out. The first case seen by a medical officer occurred at Wellewittytora, near Point Pedro, about if not on the very same day as the first at Nuwera Ellia, but was not discovered before the 11th November. From this time, or perhaps earlier, the disease went slowly on, attacking one or two at a time, in the very centre of the village of Point Pedro; but the persons

affected being most carefully concealed by their relations, no others were detected until the 28th December: betwixt that date and the 10th January nine cases occurred, and on the 9th February a tenth, making eleven in all, besides those who had been concealed. A twelfth case occurred in the end of March, immediately after the patient's arrival from Colombo, where he was supposed to have contracted the disease. Every case on its first discovery was removed to the Small-pox hospital near Jaffna.

In the month of August the disease re-appeared at Pooneryn near Jaffna, having been, as was thought, introduced a second time from the Coast by the way of Rammisseram. Forty-six cases have been since reported, making fifty-eight of all descriptions, from the first importation of the disease in October 1833. Of this number forty were returned under small, eight under modified small, and ten under chicken-pox, and on the 23d December ten cases had terminated fatally and six of small and two of chicken-pox remained under treatment.*

3. The first case discovered near Colombo was that of a Moorman, who affirmed from first to last that he had landed at Galle, in a Nagore dhoney, from Madras about the 14th of October; and that, after staying four or five days there, he had set out for Colombo, been attacked with fever before his arrival, and with the eruption of small-pox on the 26th; that, being friendless in Colombo, he had taken refuge in New Moor-street mosque, where he was discovered by a medical sub-assistant on the 1st November. The case was reported and a police peon dispatched to secure him, without delay; but, before the latter could reach the spot, he had left it, and was a second time found at Wellikade on the Cotta road next day. In regard to the part of the island, at which this patient landed, his story was contradicted by information received from Galle—that no dhoney had arrived in that harbour from Madras, or its vicinity, since the preceding June. It is notwithstanding probable that he was put on shore clandestinely in its neighbourhood, or somewhere betwixt it and Colombo. The history of the second case is more certainly known. It was that of a boy, twelve years old, in the service of a Mahomedan priest, who had brought him from Cochin in a three masted vessel, the *Ahmado* of Tellicherry, on the 17th October, after a passage of four days. His fever began on the 28th October, and he was discovered in his master's house, in Old Moor-street, on the 5th November.† The third in order of occurrence was that of a female servant, from the same house as the second, whom—though she had never been vaccinated—she was obliged to attend, while he remained there. Her fever (from which the commencement of the disease is invariably dated in this Report) began on the 16th. These three cases were removed to

* All the cases that remained on the 23d December recovered.

† A third case was imported from Tuttucoreen in the beginning of March; the fever began on the 3d and the patient was admitted into Marandahn hospital, from the Colombo wharf, on the 9th.

the Pettah hospital on the 2d, 5th and 18th November; and it may be as well to notice their route, (which is indicated by a dotted line) in the accompanying outline of the Pettah from Caiman's gate, through the northern part of Fourth Cross-street, the eastern half of Keyser-street, and the middle of Second Cross-street, into Prince-street, where the hospital stands.*

During the next forty days, or from the 18th November to the 28th December, no new case of small-pox was admitted from without; but nine occurred in the Pettah hospital itself, and ten in other parts of the Pettah and suburbs. Nobody can for a moment doubt that the cases in the hospital were derived from one or other of the small-pox patients admitted into it: with regard to the ten cases that occurred out of hospital the origin is less obvious. In two of them the fever became manifest on the 18th of December, exactly one month after the admission of the last small-pox patient, and both in parts remote from the route followed by all the three. The one marked 6 in the plan (for an explanation of which see Appendix VIII) resided near the south end of First Cross-street, in the fourth house from Land-street, which communicates by its back court with Fishers' Quarters; the other (No. 7.) at the north eastern extremity of the Fish bazar. On the 23d a case (No. 12.) occurred in Fishers' Quarters, next house but one behind No. 6. and another (No. 13) in Prince-street. On the 25th a second (No. 14) in First Cross-street, next door to No. 6; one in Slave island, and one in the Colpitty; on the 27th one in Hufsdorp gaol, and two in Dam-street. Of the ten cases enumerated the residence of one only (No. 13 in Prince-street) was sufficiently near the hospital to justify the most remote suspicion that the disease was caught from any of the three patients previously admitted into it. This was a child, residing nearly opposite the south west corner of the hospital, who may have been exposed to the infection, when one or other of the three cases, already referred to, was admitted, though having all approached by the eastern part of the street none of them could have passed her house; but, as in her the febrile symptoms did not begin until the 23d December, thirty-five days after the admission of the last patient, and as the most experienced medical writers assign from six to twenty-one days as the limits of the latent period, at the end of which the contagion of small-pox begins to shew its deleterious effects upon the system, it would be contrary to all analogy to ascribe the case in question to such exposure, granting it to have taken place.

But might not the little patient have imbibed the infection from its contiguity to the hospital, at some subsequent period? To answer

* Orders were given immediately, and acted upon on the 4th November to have every patient then in that establishment vaccinated. In most of those, who had never been before vaccinated, the operation succeeded: in others, who had imperfect marks, it failed. Of both these descriptions several were afterwards attacked with small-pox. In the first, it was mild and modified, in the second generally severe and confluent and in some fatal.

this question with any degree of confidence would require a more precise knowledge than we possess of the distance to which the atmosphere, surrounding a small-pox patient, may become impregnated with the effluvia emanating from his body, in sufficient activity to communicate the disease to another.* But if the opinion of Dr Haygarth, who has taken great pains to ascertain the sphere of variolous contagion and seems inclined to think that it does not exceed fifteen feet in diameter†, be allowed to have any weight, it will appear in the highest degree improbable that the patient's contiguity to the hospital, had any thing to do with her attack of small-pox. At the end of the Appendix there is a ground plan of the Pettah hospital, the basement story of which was exclusively devoted to the accommodation of small-pox patients; but for a long period, after the first appearance of the disease, the wings on each side of the back yard marked P were found to be amply sufficient for them, and no patient whatever was suffered to pass, or even to enter the back veranda, until a late period of the disease (late so far as regarded admissions into that hospital), when the ward marked H was opened for convalescents. The distance betwixt the back and front verandas (B and I), including the breadth of both, is about sixty feet, and the distance of the patient's house from the middle of the veranda, corresponding to the hospital door, about sixty feet more. Now even supposing (what is not at all probable) that the little girl, prompted by childish curiosity, had entered the front veranda, and been held up to look over the lower half of the door (this being kept locked), she could have approached to no patient nearer than fifty feet, which is the radius of a circle, exceeding almost seven times in diameter the one conjectured by the writer referred to, to limit the sphere of variolous contagion.

The patient that was attacked in the Colpitty had been in hospital for another complaint, from 12th November to 10th December, and was attacked, fifteen days after his discharge, with the febrile symptoms of small-pox; which occurred in a modified form after vaccination. We may undoubtedly ascribe this patient's attack to his previous residence in hospital; but it is the only case of the ten that can be directly traced to it.

If to this particular notice of the earliest detected cases, we add that, in the progress of the disease, *when the public attention was fixed upon it*, many cases were successfully concealed, some until perfect recovery, as that of a child at Kehelwatte near Pantura, which occurred in the month of January and communicated the disease, in its worst form, to six other individuals; a case in the Fish bazar, which was discovered on the 15th February,—having begun exactly one month before the first case in the same quarter already mentioned,—

* For an account of some experiments, instituted with the view of determining this point, see Appendix No. XV.

†See *Good's Study of Medicine* 3d ed. v. III. p. 112, and *Dr. Gregory on Small-pox*, in *Cyclopedia of Practical Medicine*, December 1833.

and escaped detection twenty-seven days; others, to the number of nearly forty in all, which were not taken to hospital, until the eruption had been out from five days to a fortnight. Can we entertain the smallest doubt that, *before the existence of the disease was generally known, or the attention of the Public, and in particular of the Police directed to it*, cases had, in like manner, occurred and been concealed, not until perfect recovery or an advanced stage of the disease only, but altogether? Can we be at any loss to conceive how such cases should at length find their way to the most densely populated parts of Colombo, and there multiply rapidly and prove most fatal?

II.—APPLICATION OF THE FACTS RECORDED DURING THE PREVALENCE OF THE DISEASE, AND BROUGHT TOGETHER IN THE APPENDIX, TO QUESTIONS OF INTEREST IN THE HISTORY OF VACCINATION, SMALL-POX, AND CHICKEN-POX.

A comprehensive account of the epidemic, from its first occurrence near Colombo, on the 24th December 1833, to the end of the period embraced by this Report, 23d December 1834, will be found in a series of tables in the Appendix. These tables have been chiefly constructed from registers, of a prescribed form (see Div. III, 10 and 19.) into which every case was entered when first examined by a native medical officer of the vaccine department, and of which a duplicate was transmitted to the superintendent of vaccination, and the original and duplicate exchanged, as often as any information in regard to new cases, or the discharge or death of cases already registered, was to be communicated. In the application of names to diseases, or modifications of one disease, the specific difference of which has been denied by writers of distinguished reputation in Europe,* and the distinctive characters of which are acknowledged by the most eminent of those who are satisfied that such difference exists—to be unequivocal during the first and second or third day of the eruption only—that is before any part of it has begun to form crusts†—we cannot expect much precision or uniformity from practitioners, of whom the greater number have been educated in the Army hospitals and Military Medical Library

* “I have been convinced,” observes professor Thomson of Edinburgh “by the varieties which have appeared in the form of this epidemic” the varioloid disease which prevailed in Scotland in 1818—“in the different individuals whom it has attacked, that the descriptions, which have been given of the appearances and progress of the eruption in small-pox by our best systematic authors, are, in many respects, imperfect; that the diagnostic marks which have been pointed out betwixt small-pox and the disease which has been termed chicken-pox, are not to be relied upon; and that no applicable marks of distinction betwixt modified small-pox and chicken-pox have hitherto been established.” *Edinburgh Medical and Surgical Journal* for 1818. vol. XIV. p. 522.

† *Edinburgh Medical and Surgical Journal* for 1820. v. XVI. p. 253.

and Museum of this island. We accordingly find by the returns that no very definite meaning could have been attached, in many instances, to the term modified small-pox, since in them fifty patients, *who had been satisfactorily vaccinated*, are returned not under it but under the distinct and confluent forms of the disease. With chicken-pox again—a disease which we shall presently shew to be of common occurrence in this island, independently altogether of small-pox—they are evidently better acquainted, and, from many opportunities of personal observation, the writer of this Report has reason to think that a majority at least of the cases referred to that disease corresponded, in all essential points, with the descriptions given of it by Mr. Bryce, Dr. Abercrombie, and the writer of the very able review of Dr. Thomson's work on the Varioloid Epidemic, in the *Edinburgh Medical and Surgical Journal* *. Let us now see how the facts brought together in the Appendix bear upon several points of interest and importance in the history of vaccination, of small and of chicken-pox; and in particular on the supposed identity of the two last, and on the benefits conferred during *their* late prevalence on the inhabitants of this island by the *first*.

1. By referring to the Appendix—No. IV—we find that of 713 cases, comprising all the varieties that occurred during the epidemic, 114, or 1 to 6 $\frac{1}{4}$ died, and that of the fatal cases 111 were returned under small-pox, 1 under modified small-pox, and 2 under chicken-pox. The case of modified small-pox was that of a child in the Pettah, a year old, who had been shortly before unsuccessfully vaccinated, and who laboured under anasarca and Malabar itch, at the time of the attack. The small-pox eruption was distinct, very mild and readily distinguishable from that of itch. The little patient died the same day on which he was first discovered, evidently from the disease under which he had previously laboured, and not from modified small-pox.

The first fatal case returned under chicken-pox occurred in a female, who had been successfully vaccinated, and who entered the Chicken-pox hospital in Kandy, on the 16th February, "with slight symptoms of varicella," and died of acute dysentery on the 23d. The second occurred in an old man of 65, who had never been vaccinated and who, when admitted from Wevelcatte into Marandahn hospital, on the 3d November, laboured under the same disease, (dysentery) in its chronic form, which carried him off on the 12th of the month.

Of the 111 fatal cases, referable to small-pox, two occurred at Baddegama, on the Ginderah river, and their condition with regard to vaccination was never ascertained. Of the remaining 109 cases three appear in the returns as having satisfactory marks of vaccination. One of them was that of a woman, 28 years old, who had been vaccinated 15 years before, and was admitted into the Pettah hospital, on account

* Volume XVI. p. 225. See extracts from this paper in the Appendix No. XVI.

of dropsical swellings of the body and limbs. When supposed to be recovering from this complaint, she was attacked on the 1st February with febrile symptoms, attended by violent headach and sickness at stomach and, on the evening of the 3d, the eruption of small-pox appeared. On the 5th it was described as "very thick and of a malignant nature," accompanied by considerable swelling of the whole body and urgent thirst. On the 10th, the swelling was a good deal increased, and the "vesicles quite flat, communicating with each other;" she had torn the skin from different parts of the face and body and complained of difficult breathing. She died on the 14th. The two other cases occurred at Jaffna; and on them Dr. Boyes remarks that "one had very good marks of vaccination" and, so far as he could judge, the other also, "though they were almost hidden by the eruption of small-pox." The first appears to have been examined the same day on which he was attacked with fever, the 9th October; the eruption came out on the 11th, assumed a confluent form, and terminated fatally on the 22d of the month, or twelfth day of the eruption. The second was attacked with febrile symptoms on the 16th November; the eruption followed on the 18th, and became also confluent; but the patient was not seen until the 24th, when, as already observed, the scars "were almost hidden by it." This case at least, therefore, is equivocal. The other two we shall suppose to have been examples of fatal small-pox after successful vaccination—remarking at the same time that one of them was consequent upon, if not combined with anasarca, and that the difficulty of determining with certainty the true character of the vaccine vesicle from the appearance of the scar has been acknowledged by the most accurate observers. * We have thus 425 cases of small and modified small-pox, of which

111 had been successfully vaccinated & 2,	} or 1 to {	55½	} of these died.
86 bore either no marks, or unsatisfactory marks, of vaccination and		4 $\frac{53}{100}$	
228 had never undergone vaccination, & 88		2 $\frac{59}{100}$	
425		3 $\frac{9}{10}$	
109			

* "Unfortunately there is nothing sufficiently specific in the appearance of the cicatrix to determine with certainty that the insertion of the lymph had excited a vesicle of a satisfactory character—The uncertainty which attends a diagnosis in this respect, is perhaps greater in the skins of blacks than in whites; and the difficulty in question is increased by the prevalence of pocky itch among the natives of Ceylon. This latter disease sometimes leaves cicatrices which cannot be distinguished from the marks that succeed successful vaccination." Staff Surgeon (now Deputy Inspector General) Marshall in *Edinburgh Medical and Surgical Journal* v. XIX. p. 77.

From these data we are justified in concluding that, if the whole
 425 patients { (1) had been successfully vaccinated, the mortality would
 { have been as 1 to $55\frac{1}{2}$, or 8 only,
 { (2) had borne either no marks, or unsatisfactory marks
 { of vaccination, the mortality would have been as 1 to
 { $4\frac{53}{100}$ or 94 only.
 { (3) had never submitted to vaccination, the mortality would
 { have been as 1 to $2\frac{59}{100}$, or so high as 164:

In other words the lives of
 55 persons ($164 - 109 = 55$) out of 164 or 1 to 3 *were actually saved*,
 and the lives of
 101 persons more ($109 - 8 = 101$), making together 156 out of 164 or 1
 to $1\frac{5}{100}$, *might have been saved, by vaccination*, during the last epi-
 demic. But to have ensured this favorable result two things would
 have been indispensable: 1st. That the 228 patients who had never
 undergone vaccination should have previously submitted to that ope-
 ration, and 2ndly. That not only they, but the 86 patients, who
 bore either no marks or unsatisfactory marks, as well as the 111
 who bore satisfactory marks, should have returned as often as might have
 been necessary to satisfy the vaccinator whether or not the opera-
 tion had been successful, and to enable him to repeat it in the
 event of its failure.* These observations on the influence of vac-
 cination on the cases of small-pox, that occurred during the late
 epidemic, may be concluded with the following extract from an ano-
 nymous writer, quoted in the *Edinburgh Medical and Surgical Journal*:
 "We may affirm that though the cow-pox should be found not to
 prove a security for life in every instance; and though it should be
 found, that in one case in a hundred, nay, one in ten, it should
 fail in destroying susceptibility, it would nevertheless be of inestimable
 value to mankind, for it would still prove an instrument for annihilat-
 ing, more or less gradually, the whole existing stock of variolous infection."†

* Within the last three months the child of an officer in this garrison, though enjoying excellent health, underwent vaccination week after week, without the slightest appearance of a vesicle being produced, until the eighth insertion of the lymph, which was followed by perfect success.

† Vol. VII. for 1811 p. 483. The following is another interesting extract from the same writer: Small-pox inoculation having "been proved, beyond all doubt, to render the disease less dangerous and severe than when communicated by casual infection, it was therefore gradually adopted, and became very general in the upper ranks of society. It never was so general, however, in the great mass of the population as to diminish the mortality. On the contrary, it has been clearly proved by Dr. Heberden, that after the introduction of inoculation, the total mortality increased; for, by an examination of the bills of mortality, it appeared, that before the year 1720 the average deaths from the small-pox was 70 in 1000; whereas towards the end of the century it was 95 in 1000.

2. The following table shews the period of the eruption at which 107 cases of small-pox terminated fatally. On the

3rd day—2 cases	13th day—8 cases	22nd day—2 cases
4th — 1 „	14th — 7 „	25th — 1 „
5th — 4 „	2d week 57 „	27th — 2 „
6th — 11 „	15th day—2 „	4th week 5 „
7th — 6 „	16th — 3 „	30th day—1 „
1st week 24 „	17th — 3 „	31st — 1 „
8th day—8 „	18th — 3 „	32d — 1 „
9th — 6 „	19th — 1 „	5th week 3 „
10th — 9 „	20th — 1 „	37th day—1 „
11th — 10 „	21st — 3 „	40th — 1 „
12th — 9 „	3rd week 16 „	6th week 2 „

Total 107 „

3. The periods of life, at which the different cases occurred, are shewn in the Appendix No. V; and for purposes of comparison a return of the number vaccinated at different ages in the Colombo district during the year immediately preceding and the year immediately following the commencement of small-pox (No. VI), and another of the population &c. of the same district in 1833 (No. VII), are annexed to that table.

From No. V. it appears that of

265 patients, who had never been vaccinated,

37 were attacked with chicken-pox, and one of them carried off by dysentery;

228 with small-pox, and 88 of them terminated fatally, at the undermentioned periods of life,

Above 40 years—14	} out of { 52 }	which gives the propor- tion of 1 to	} of the whole number attack- ed at that pe- riod of life.
Betwixt 21 and 40—38			
Under 6 years—22			
Betwixt 16 & 20—9			
— 6 and 10—3			
— 11 — 15—2			

that is nearly one-tenth of the whole mortality. This evidently arose from inoculation destroying more than it saved, by spreading it to places which would otherwise have escaped; for formerly it was not unusual for whole districts to be free from small-pox for 30 or 40 years, or more; so that many lived and died without ever catching it.

“This expedient therefore, of inoculating the small-pox from itself, may fairly be said to have failed; for the just estimate of its value must depend on the general result of its effect on the whole species, and not on the benefit conferred on a small portion of it.”—p. 482.

4. Of 18 patients, who had previously passed through small-pox, 16 were attacked with chicken, and two with modified small-pox. These last occurred at Ratnapoora, where the other cases of modified small-pox were generally mild, requiring little or no medical treatment; but in the two referred to, "which had unequivocal marks of confluent small-pox, the disease was more severe and the pustules more numerous than in those which had satisfactory marks of vaccination." This corresponds with an observation, repeatedly made in Europe, that *small-pox exceeds vaccination in preventive but falls short of it in modifying power.*—See Appendix No. XVI.

5. Reports have been received of only six cases of small-pox, occurring during the process of vaccination. Two of them were in Moor children, of one and three years old, who, after vaccination on the 31st January, were both attacked on the 3d February with febrile symptoms, followed on the 5th by the eruption of confluent small-pox, which terminated fatally in the youngest on the 8th day of the eruption. The eldest recovered. A third child, two years old, who had been vaccinated on the 11th February, was seized with febrile symptoms on the 14th, a papular eruption appeared on the 16th, and the little patient was taken into hospital on the 17th. The eruption however, went off, without advancing to the vesicular or pustular stage, and the cow-pox proceeded in its regular course leaving two good marks on the arms. A girl, three years old, who had never been vaccinated, was attacked with febrile symptoms on the 5th February, and the eruption of confluent small-pox on the 8th; she was brought to hospital on the 9th and recovered. Her brother a boy of 7 years, after vaccination on the 7th February, was attacked with febrile symptoms on the 20th, and with an eruption, which was returned under distinct small-pox, on the 24th: when admitted into hospital on the 25th, the vaccine vesicles were found to have been broken; they nevertheless, had attained maturity, and the symptoms of small-pox were very mild—The sixth and last case was vaccinated on the 18th February. He was attacked with febrile symptoms, on the 20th, a mild eruption appeared on the 23d; yet the vaccine process went on to the formation of three satisfactory vesicles.

6. The *Supposed identity of Small and Chicken-pox* is the only remaining subject to be noticed under this Division.

A. With the exception of two imported cases (see Appendix XII.) which did not propagate the disease, small-pox appears to have been unknown in this island from 1810 to 1819; yet, during that interval, not a year elapsed without the appearance of chicken-pox, whether in a sporadic or epidemic form. To what extent this disease may have prevailed among the community at large, we have no means of ascertaining, but we learn, in the first place, from the Army Hospital Returns, preserved in the principal inspector's office since 1811, that there occurred in

that year. 46 cases	1819, 52 cases	1827, 10 cases
1812, 26 "	1820, 21 "	1828, 4 "
1813, 27 "	1821, 25 "	1829, 21 "
1814, 2 "	1822, 1 "	1830, 81 "
1815, 7 "	1823, 5 "	1831, 16 "
1816, 9 "	1824, 2 "	1832, 18 "
1817, 36 "	1825, 3 "	1833, 2 "
1818, 8 "	1826, 8 "	1834, 50 "

Total in 24 consecutive years 480;

while among the Europeans there occurred only three cases, namely, one in a soldier of the 73d regiment at Badulla in December 1817, and 2 in men of the 83d regiment in Kandy, one of them in March, and the other in April 1826:

And 2ndly, from a register kept at the Orphan Asylum since 1817, that among the children brought up in that institution, there occurred in

1817, 23 cases	1822, 1 case	1829, 14 cases
1819, 17 "	1823, 21 "	1830, 6 "
1820, 5 "	1825, 19 "	1834, 18 "

Total in 18 consecutive or 9 separate years 124.

If we deduct cases that occurred in 1819, 1820, 1824, 1830 and 1834—years in which small-pox prevailed—amounting to 206 among the native troops, and 46 among the children of the Orphan Asylum—on the grounds that they may possibly have been cases of modified small, mistaken for, chicken-pox—we shall still have 274 cases, among the former, in 19 separate years, 78 among the latter in 5 separate years, and 3 among the European troops, altogether 355 cases, in none of which could such mistake have occurred (see Appendix No. XIV.)

B. of 123 streets, quarters, villages, public institutions, or other places, by whatever name distinguished, which small and chicken-pox attacked, during the fourteen months ending 23d December last,

42 were visited by 103 cases, all which were returned under small-pox;	
10 29 modified small-pox;	
31 124 chicken-pox;	
7 116 cases, of which 92 were returned under small-pox, and;	
24 modified small-pox;	
14 79 45 small-pox;	
34 chicken-pox;	
5 78 23 modified small-pox;	
55 chicken-pox;	
14 184 112 small-pox;	
32 modified small-pox;	
40 chicken-pox.	
123 713.	

The names of the places here referred to, with the numbers and other particulars of the cases that occurred in each, may be seen in the Appendix (No I.) and in the Maps. Confining our attention at

present to the places visited by chicken-pox only, we therein find that 44 cases of that disease occurred in Kandy (No 83 in Appendix I.) of which 16 were treated in the gaol, 27 in the Chicken-pox hospital, and 1 in Marandahn hospital, having brought the disease with him from Kandy:

17—in the Orphan Asylum (104 *). Three of them had been repeatedly vaccinated without success and had no marks of either vaccination or small-pox. The remaining 14 had satisfactory marks of vaccination.

10—at Desaster Caltura (37). Three of them had satisfactory marks of vaccination, 1 no marks and 6 had never been vaccinated. The operation, being performed on the last seven, failed in the one without marks, and in three of the remaining 6; but succeeded in the other three.

4—in Dibedde (106), near Pantura.

5—at Morottoo (68), forming one family, of whom three had never been vaccinated: in two of these the operation succeeded in the Pettah hospital.

5—at Arookwatte (110).

12—in all, or 3 in each of the following 4 villages, namely, Wellewatte (94), Attigale (108), Balangodde (72), and Badulla (at the end of Table I without a No.)

14—in all, or 2 in each of the following 7 places—Catoekurundu 2nd (77), Wakedde (89), Megodde (107), Gorobabile (109), Welvelcatte (111), Ambapoosse (112), and Horakelle (114).

11—in all, or 1 in each of the following places, namely, Kalany (56), Dadoegame (65), Putlam (70), Allow (73), Oedoewerre (76), Payagalla (78), Small Pass (99), Pottupitty (105), Oedoegame (116), Kornegalle gaol (no No). The case from Dadoegame, which had never before been vaccinated, underwent the operation with success, in the Marandahn hospital—The case at Allow had passed through neither small nor cow-pox. That at Putlam had numerous marks of the former disease.

C. In 33 places visited, not by chicken-pox only, but also by small-pox, or modified small-pox, or both, 342 cases occurred, of which 158 were returned under small-pox, 55 under modified small-pox, and 129 under chicken-pox: of these last

45 occurred in the Ceylon Rifle regiment Colombo, were reported by the surgeon as cases of purely vesicular chicken-pox, and would have been referred to the preceding division, comprising places visited by that form of disease only, but for the occurrence of one solitary, very mild example of small pox, in the same corps, during the 14 months.

* The numbers within parentheses correspond to the numbers of the different villages to which they are annexed in the Maps and in Appendix No I.

25 more, from 7 different places, occurred from 45 days to 8 months before the commencement, or after the recovery or removal of the immediately subsequent or preceding case of small or modified small-pox, in the same place*.

70 which deducted from the whole number
129, referable to this division, leaves

59 cases of chicken-pox, which may be conceived to have arisen from either the same infectious matter, which gave rise to the cases of small and modified small-pox, that occurred in the same places, or to a different infectious matter, capable of producing chicken-pox only, accidentally meeting it. If we adopt the first conjecture we are bound to explain the occurrence of the remaining (253—59=)194 cases of chicken-pox, in places either not visited at all by small or modified small-pox, during the whole 14 months, in which the three forms of disease prevailed, or visited by one or other of them at least 45 days (and often a much longer interval) before or after the existence of a single case of chicken-pox†.

Some of the particulars of these 59 cases follow, whichever side of the question they may be thought to support. The three from Nawagame (52) were from one house, and the first began 26 days after the removal to hospital, from the same village, of the last two cases of small-pox: one of the former had never been vaccinated, another had unsatisfactory marks, and both were successfully vaccinated in hospital. A third from Demettegodde having never before been vaccinated, had the operation successfully performed in the same place. —Of 7 patients from the New Bazar, one had never been vaccinated, another had unsatisfactory marks; vaccination, performed in hospital, succeeded in the latter, and failed in the former. A female infant, of 7 months, who had not been vaccinated, was brought to hospital from Grand Pass with confluent small-pox, on the 14th and died on the 18th February. Her mother, who had good marks of vaccination, was attacked with fever, on the 15th February, an eruption of modified small-pox appeared on the 18th., she was admitted the same day into hospital and did well. An old female slave, from the same house, *who had never been vaccinated*, furnished the only case of chicken-pox in 17 patients from Grand Pass. The eruption came out on the 23d February; she was taken to hospital on the 27th; and, after more than one failure, vaccination succeeded before she was discharged. Three of

* These places were Slave island (No 7), Colpitty (8), Colomb Fort (14) New Moor-street (16), Pamongame (38), Catoe kurundu 1st (64), Wascadoowe (79), Marepane (91), Matacooly (35), Mutual (60), Oedamitta (66).

† The places here referred to were Hoenoeppitty (No 19), Keyser street (29), Kehelwatte (39), Nawagame (52), Ballagolla (53), St. Sebastian (71), New Bazar (81), Angorookamoole (48), Palanchene (62) Ratnapoora (100), Grand Pass (13), Land Street (17), Wolfendahl (24), Caltura (28), 2nd Cross Street (40), Demettegode (42), Hulfsdorp (9), Dam Street (10) Main Street (12).

the four cases, that occur under Cultura began in Colombo, from which the patients had fled in dread of small-pox. The only case of chicken-pox attacked at Kehelwatte, was that of a woman, who had been three days absent from Desaster Cultura, on a short visit to her relations, and returned to the last mentioned place with the disease upon her.

D. Of the 253 cases of chicken-pox, the condition with regard to previous small-pox and vaccination was registered in 186 (see Appendix No. IV.). Of this number 37 had passed through neither small nor cow-pox; 11 declared that they had submitted to vaccination, but could shew no marks, and 15 had unsatisfactory marks, making together 63 individuals, who had either never passed through, or retained no satisfactory marks of the one or other of these diseases. Thirty-nine of the 63 were vaccinated, soon after the attack of chicken-pox, 27 being from places visited by chicken-pox only, and 12 (including those already noticed in the preceding division C) from places visited also by small and modified small-pox. In 17 of the former, and 9 of the latter, 26 in all, or two-thirds of the number vaccinated,—the operation succeeded and in the remaining 13, after repeated attempts, failed.

E. Small-pox appeared, attained its height, declined and terminated earlier than chicken-pox. The first case commenced on the 24th October; a greater number occurred during the third, fourth, and fifth months than during the two first and nine last put together; the last fatal case commenced on the 14th July, and the last, to which the name of small or modified small-pox was applied, in the Colombo district, on the 18th of August; but modified cases (the only form it there assumed) have occurred more lately in and near Ratnapoorra, the last case reported thence, having begun on the 19th November.*—see Appendix Nos. I and II.

On the other hand, the first case of chicken-pox commenced on the 1st January, or during the third month of the prevalence of small-pox; a greater number of cases occurred during the ninth, tenth, eleventh, twelfth, and thirteenth months, than during the eight first and the last or fourteenth put together; the proportion of cases of chicken-pox to all the three forms of disease progressively increased from that of 1 to $6\frac{3}{4}$ in January to that of 1 to $2\frac{1}{2}$ in April; diminished to that of 1 to $3\frac{1}{2}$ nearly in May; increased in June to that of 1 to 1 11-12; and kept nearly the same to the end of December; nor has this disease yet quite disappeared (24th March 1835†.)

F. After this detailed exposition of facts and observations, bearing upon the hypothesis under discussion, we are inevitably compelled to abandon it, and to adopt the conclusion that the febrile eruptive disease, known in Ceylon by the name of chicken-pox, arises from an infectious matter, essentially different from that which produces small and modified small-pox.

* A distinct importation of small-pox, into the district of Jaffna last August, though included in the different tables, is here left out of consideration.

† The day on which the proof of this sheet has been corrected.

III.—MEASURES ADOPTED BY GOVERNMENT.

The measures adopted by Government in reference to small-pox, were directed to two principal objects, the first to protect the community from infection, by strictly confining to their own dwellings, or in public hospitals, all infected persons; and the second, to diminish the number of individuals, susceptible of its influence, by promoting and extending vaccination to the utmost throughout the island.

1. Immediately after the discovery of the first case, the government agent of the Western province and the superintendent of police in Colombo, were instructed to use all their vigilance in detecting any others that might occur; and the collector of customs and master attendant to cause a diligent search to be made in all vessels, then in harbour, or that might afterwards arrive, and to place in quarantine any vessel on board of which a case of small-pox might be discovered.

2. All dhonies or other vessels, arriving from the Coast, at any of the principal ports in the island, were ordered to be inspected by a medical officer, and no person permitted to land, nor goods to be sent on shore, before this inspection had been made: steps also were immediately taken to vaccinate any of the crew or passengers who had not satisfactory marks of vaccination or small-pox.

3. An order was subsequently issued that all who were at the time inmates of, or might thereafter be admitted into public hospitals or goals, should be immediately vaccinated, if they required that operation.

4. In the month of January, the occurrence of the disease within the gravets was officially announced in Colombo and the neighbouring villages by printed proclamations in the English, Singhalese, and Tamul languages: the inhabitants were called upon, in obedience to a Government Regulation of 1820—originating no doubt in the dreadful ravages which the disease had committed during the preceding year—to make known to the constables or other police officers the existence in their families of any case of small-pox, that might occur; and were at the same time warned, that neglect or disobedience of that Regulation would subject the offenders to punishment, at the discretion of a District Court. They were also invited and recommended to adopt forthwith the only sure preservative of their own healths and lives, by resorting to the medical officers of Government for vaccination, in all cases in which that operation might have been neglected.

5. The number of vaccinators in Colombo was increased from one to seven, as soon as sufficient alarm was excited in the minds of the people to induce them to seek protection in vaccination from the impending danger of small-pox.

6. When any case of small-pox was discovered in Colombo, the house was visited by the head constable, and a medical sub-assistant, who in-

spected every individual in the family, and sent to the superintendent of vaccination a report, specifying by name, all who had, and who had not, satisfactory marks of vaccination, (for example, see Appendix No. IX.) This report was immediately transferred to the principal vaccinator, with directions to lose no time in vaccinating all who required it. If the person affected with small-pox was either himself a Burgher, or related to the Burgher, in whose house he was found, by marriage or blood, he was placed in quarantine, whether previously vaccinated or not, unless from poverty or other cause he preferred being sent to hospital; but, if he was a Singhalese or other native, or the adopted child of a Burgher, he was placed in quarantine, only on being able to shew satisfactory marks of small-pox or vaccination.* This rule was afterwards modified by the introduction of a clause, that all persons whatever, known to have wilfully concealed the disease for twenty-four hours after the appearance of the eruption, should be sent to hospital, whether they had marks of vaccination or not. Two of the three adopted children taken to hospital were accommodated in separate cajan huts and indulged each with two attendants.

The purpose for which patients were placed in quarantine, or sent to hospital, being rather to prevent the communication of the disease than to attempt its cure, no inquiry was made whether they had previously a medical attendant or not; but those placed in quarantine were permitted to select their own.

7. Patients in quarantine were visited once a week by the superintendent of vaccination and those who were thought fit to be released, pointed out, or reported to the officers of the police department.

8. On the first appearance of the disease, the patients under treatment in the Pettah hospital were all removed to the second story, so as to leave the ground floor entirely free for the reception of small-pox cases. The Pettah hospital is a large and well constructed building, capable of accommodating with ease a hundred and twenty patients. The number of cases of small-pox, at any one time within its walls, never exceeded forty-one, and it was only for a few days, before and after the 24th January, that it reached nearly so high. Up to the 16th January, for example, the number had never exceeded twenty, and by the 1st February, had fallen to thirty. But, taking it at the highest, and allowing three-fourths of the patients to have been attended each by a relation, we have seventy-

* In point of fact no Burgher was admitted into the *Pettah* hospital, and ten only, who claimed that epithet, out of 242 were admitted into the hospital at *Marandahn*. One of the ten had marks of vaccination, the other nine none. Three were adopted children, and three, being poor and friendless, came voluntarily. Of the remaining four the parents seemed to be in reduced circumstances, though they professed their ability and desire to take care of their children at home; but, in two of them the eruption appeared to be ten days old, and in one eight days on admission. No memorandum of the reason for detaining the other case appears to have been kept. He was discharged well on the 25th March. Both parents had accompanied two of these children as nurses; on leaving the hospital they appeared much gratified with the attention shewn them there, and expressed themselves to that effect,

one persons, for whom were appropriated (as will be seen by reference to the plan, H. J. J. K. K. K.) six wards, comprising together a superficial extent of 2,241 square feet, which is at the rate of thirty-one and a-half for every individual, or, taking the 41 patients only, (of whom 11 were under twelve, and 6 under nine years of age) into account, fifty-five for every patient.

9. The Marandahn hospital was opened on the 24th January. It stands in a large cocoanut garden, extending from the road of the same name to the lake, 900 feet in length and 270 to 240, in breadth. The permanent building is 330 feet from the Marandahn road, and consists of a centre and two back wings enclosing a court, which is open towards the lake. The whole building is divided into thirteen apartments, six of which were used as store rooms, kitchen, and other offices, and seven appropriated to the reception of patients. But in addition to the permanent, there were six temporary cajan buildings constructed in the garden, two of a large size for convalescents, and four small, that is one for chicken-pox cases, two for the use of patients, who had been accustomed at home to better accommodation than the natives in general, and one for the examination of the sick on their first arrival, but serving also on emergency for the use of one or two patients. By inspecting the plan we can, besides, see that the site of the hospital gave every facility for erecting as many more temporary buildings as might have been required. Now the greatest number of small-pox cases, at any one time in Marandahn hospital, was 77, (namely on the 17th of March), which, with 62 private attendants, made 139 individuals requiring accommodation. To this purpose were appropriated the seven apartments and the six cajan buildings already referred to, comprising altogether a superficial extent of 3,658 square feet, which is at the rate of above twenty-six for every individual, or if we reckon the 77 patients only (of whom 37 were under twelve, and 20 under nine years of age,) forty-seven and a half for every patient. Though the smaller space—twenty-six square feet—might be justly regarded as inadequate to the comfortable accommodation of a full grown patient in a European hospital; yet no person, who makes due allowance for the infancy or childhood of so considerable a proportion of the maximum number ever under treatment at Marandahn, and who has had opportunities of observing the crowd of individuals,—in Fishers' Quarters, Land-street, Bankshall the Bazar and other parts of Colombo Pettah and suburbs,—that are often huddled together in one small, close, unventilated apartment, without other opening than the door, to admit either air or light, will hesitate to acknowledge, that it was probably far larger than the space, that could have been allotted to each, in the dwellings from which nine-tenths of the patients came to hospital.

10. This hospital was placed in immediate charge of one of the most active and intelligent native medical officers in the ser-

vice,* assisted by a well educated and promising pupil, and was daily visited by the superintendent of vaccination for the district. Every patient was examined on his admission: if he had good marks of vaccination, and desired to return, he was sent back to his own house and placed in quarantine†; if he had no good marks, or had come to hospital voluntarily, the following particulars were entered in a register, 1, No: 2, Name; 3, Age: 4, Sex: 5, Caste: 6, Disease (i. e. whether confluent, distinct, or modified small, or chicken-pox): 7, Date of admission: 8, Whence from: 9, Period of residence there: 10, Distance and direction from Colombo: 11, Birthplace: 12, Date of Fever: 13, Date of Eruption: 14, Ever vaccinated or not: 15, Marks left by small-pox or vaccination: 16, Satisfactory or not: and 17, a column was reserved for the date of Discharge from hospital or Death. Of this register two copies were made for the superintendent of vaccination, the one being exchanged every morning for the other, which had remained the preceding day at the hospital, and which contained whatever alterations had taken place during the preceding twenty-four hours. The messenger, who carried it from the hospital to the Fort, called daily on his way, to shew it to the principal vaccinator; thereby giving him the earliest notice of the particular street, quarter, or village, from which admissions had taken place, and enabling him to judge where his exertions, in carrying on vaccination, were most likely to be useful, in arresting the progress of the disease. The same register was daily shewn to the superintendent general of vaccination; and similar registers were kept of all the cases in quarantine.

11. Patients were generally accompanied to hospital and attended there by their nearest relation, who bore good marks of small-pox or vaccination. But other friends, though vaccinated, were constantly refused access to them. If the first in attendance wished, or consented, to take his leave, another was admitted in his place; and the attendant was in this way often changed. If the patient was so ill as to require the assistance of more than one, two persons were allowed to attend him.

12. With regard to the Diet of the patients, it will be seen, by consulting the Appendix (No. X. and XI.) that, while the establish-

* Mr. Misso (the officer here referred to), after spending twenty years in the public service, with equal credit to himself and satisfaction to those under whom he was employed, having retired from it since the above paragraph was written, and opened an exceedingly well furnished Dispensary in Colombo Pettah, the writer is happy to have this opportunity of bearing unsolicited testimony to the excellence of his general character, and of recommending him to public patronage, as eminently qualified for the duties of the office he has undertaken.

† Of 242 cases, 43 only had satisfactory marks of vaccination or small-pox; 37 of these, being houseless friendless or poor, and three others, unwilling to expose their families to the risk of infection, came voluntarily; two were detained against their will, because the distance of their villages made it doubtful if they could be well secluded at home; and one was a Malay soldier from gaol.

ment was conducted with every regard to economy, no luxury, which the natives regard as such, and are in the habit of using during sickness, was withheld from them.

13. A washerwoman was kept on pay in the hospital, from the beginning, and the patients' clothes changed and clean ones substituted for their own, at the expence of Government, as often as required. The convalescents were allowed to bathe, under the charge of a police peon, at a well betwixt the hospital and the bank of the lake.

14. Convalescents were examined by the superintendent of vaccination once a week, for the purpose of selecting such as were fit to be discharged from hospital. Those selected were then desired to send to their friends for clean clothes in which to go home; but when poor and friendless cloths were given them by Government.

15. When patients in quarantine died, the only person permitted to enter the house, previously to the funeral, was a carpenter for the purpose of taking the dimensions of the coffin. As many members of the family, residing in the same house with the deceased, as chose to attend the funeral, were permitted to do so, being recommended first to bathe carefully and change their clothes; but the house was not released from quarantine until the following day, nor until the bed-linen and clothes, worn by the deceased, had been destroyed, and his immediate attendants, with their clothes, thoroughly washed.

16. Every patient who died, in either the Pettah or the Marandahn hospital, was buried in a coffin. Of twenty-four, who died in the former, twenty-one were buried in St. Thomas's church yard, that is every one who died previously or subsequently to the 30th of January. Up to this period, the number of deaths had amounted to thirteen, and, on the day mentioned, Mr. ————— for Colombo, sent a letter to the medical sub-assistaunt in charge of the hospital, representing that there was no longer room in that church yard, for those who died in the Pauper hospital. At the time this letter was received two bodies lay unburied and another died the same day. Pending a reference to the colonial secretary, the three bodies in question were buried on the sea shore. But, before that ceremony was again required, the matter had been investigated, and Mr. ———'s statement ascertained to be without foundation. Things were therefore allowed to take their former course, and the patients who afterwards died were buried in St. Thomas's.

Of sixty-one patients who died in Marandahn hospital, one was buried in St. Paul's church yard, and all others, of whatever religious denomination (excepting one Roman Catholic and six Mahomedans), who were claimed by their relations, in St. Thomas's. The number of these was only seventeen. The Roman Cathotic was buried by his relations at Cotanchene, and the Moors behind their own mosque at Marandahn. The relations of the last mentioned sent coffins for them. Bodies not claimed by relations or friends, thirty-six in number, were buried in

the Cinnamon garden, in a spot selected by the government agent, not far from the hospital. The friends of patients who were claimed, generally sent a cloth to wrap the body in, before being deposited in the coffin; but the price of this last, and every other funeral expence was always defrayed by Government. The hospital messenger attended the funeral of every patient taken to St. Thomas's and of the one taken to Cotanchene church yard, to see that they were carried thither direct from the hospital. A police peon attended the funeral of every patient, buried in the Cinnamon garden, and behind the Moors' mosque, for the same purpose, and also to see that the graves (which were dug there, not by a sexton, but by hired coolies), were of sufficient depth.

One of the patient's friends, in addition to the person, who had waited on him, was permitted, if he desired it, to enter the hospital and see the body placed in the coffin; all others, who wished to attend the funeral, were obliged to wait at the hospital gate, until the body was brought forth.

17. With regard to expenditure, a weekly estimate, made by the superintendent of vaccination, was paid in advance to the medical subassistant in charge of the hospital, by the government agent, and an account of the expences incurred, with separate vouchers for servants wages, cooly hire, funeral expences &c. was sent every month to the officer last mentioned.

18. The same principles, which regulated the measures of Government in Colombo, were acted upon at the different dependent outposts. A circular was addressed by the superintendent of vaccination to the medical officers employed under him at Negombo, Chilaw, Putlam, Calpenty, Caltura, Ruanwelle and Ratnapoora, calling upon them to exert every means in their power to prevent the spreading of the disease, and directing their earnest attention to the following suggestions :

a. To lose no opportunity of impressing upon the minds of the headmen and other natives the immediate danger of a *fatal disease* to which all, who had not been successfully vaccinated, were exposed.

b. To examine carefully and watch every case of fever that might come to their knowledge, until they should have the best grounds for believing that it would not terminate in small-pox.

c. To report to the nearest civil authority every case of small or of chicken-pox that might occur, and request that a guard might be placed over the house to prevent all communication with it.

d. To examine all the individuals residing in any house in which a case of small-pox or of chicken-pox or of fever had been detected, and to lose not a moment in vaccinating such among them as did not bear satisfactory marks of that operation.

e. To transmit to the superintendent of vaccination for the district without delay a return containing the result of this examination under the heads of

<i>Name.</i>	<i>Age.</i>	<i>Disease.</i>	<i>Vaccinated or not.</i>	<i>Marks satisfactory or not.</i>	<i>Remarks.</i>
--------------	-------------	-----------------	-------------------------------	---------------------------------------	-----------------

and to state under the column disease whether the case was simply fever, chicken-pox, distinct small-pox or confluent small-pox, and under that of remarks, all the particulars to be ascertained from the patient or his friends regarding the origin of the disease and the person from whom, or place in which, it had been contracted.

f. To point out to the civil authorities the necessity of appropriating some vacant public building, or of hiring a house to be occupied as an hospital, in the event of the cases within the vaccinator's district exceeding two or three in number, so as to render it more troublesome and expensive to guard them in separate than in one common building.

19. A register of all the cases that occurred at different outposts, on the model of the one already described as used in Colombo, was kept in duplicate, one copy being sent every week or oftener to the superintendent of vaccination and the other returned by him.

20. This careful registration of every case that became known to any officer of the vaccine department, whether treated in hospital or placed in quarantine, and the regular transmission to Colombo of the registers kept at other stations, enabled the superintendent general of vaccination to lay before the colonial secretary a weekly return comprising all the cases that had occurred and died at the different stations throughout the island from the first appearance of the disease, and also the numbers remaining under treatment at the date of the return.

IV.—COMPARISON OF THE PRESENT WITH FORMER VISITATIONS OF SMALL-POX.

It is always interesting, and sometimes highly instructive, to compare together the visits paid by epidemic diseases to the same country in different years. Small-pox has often visited Ceylon; but we possess authentic accounts of the extent, to which it spread, and the mortality it produced, on three occasions only, namely, in 1819, 1830, and 1833-4.—(See Appendix No. XII.)

1. In July 1819, the disease was introduced by a dhoney from the Malabar coast, and was first detected in Bankshall, Colombo Pettah, whence it rapidly spread and committed great ravages, not in the Colombo district only, but throughout the Kandyan provinces. During the six months terminating 15th January 1820, 5,451 persons were

ascertained to have had the disease, and 1,745 to have died, in the Maritime districts alone: yet extraordinary (when compared with the more recent effects of the disease), as appear this prevalence and mortality, it was not regarded as comprising the whole amount. In the Kandyan provinces, it was found still more difficult to ascertain the precise numbers that were attacked and died.—Returns from Kandy, Alipoot, Badulla, and other military stations in the interior, from 15th August 1819 to 15th January 1820, give 2,423 as the number of patients admitted into hospitals, opened for their reception, and 1,200 as the number of those admitted that died. But, as the people were only *invited* and not *compelled*, to avail themselves of those charitable establishments, the numbers mentioned doubtless fall considerably short of the whole that occurred, and that terminated fatally. * The number then ascertained to have been attacked, throughout the island, in the six months of 1819-20, in which the disease prevailed, was no less than 7,874, and the number ascertained to have died no less than 2,945.

2. In the end of January 1830, small-pox (again introduced from the Coast, apparently at Alikam near Caltura) appeared at Colombo. A second importation took place at Morottoo or Pantura, in March or April, and various cases were introduced from the Coast into Aripoo during the Pearl Fishery of the same year. After prevailing to some extent in Colombo, the disease spread to Kandy, Doombura, Matele, Fort McDonald, and the Four Korles. Three cases occurred at Trincomalie, the same number at Galle, and a few in the island of Manar; but its ravages were not to be compared with those it had committed in 1819; the number attacked in the Maritime districts being only 619 of small, and 411 of chicken-pox †, 1,030 in all, of whom 147 died;—in the Kandyan provinces 198 of small-pox, of whom 110 died; altogether throughout the island 1,228 cases (comprising both small and chicken-pox), of whom 257 died, from the beginning to the end of the epidemic, embracing a period of fourteen months. (See Appendix No. XII, 4th period.)

* Convincing proof of this is furnished by Dr. Farrell's account of the disease in 1819, from which copious extracts are given in the Appendix (No. XII 2nd period); for, in the first place, that account was written on the 20th of January 1820, only five days after the termination of the half year to which it refers, and when consequently there must have been many cases recently admitted into hospitals, which afterwards terminated fatally. 2ndly, The returns from the Kandyan provinces embraced only five months, namely, from 15th August 1819 to 15th January 1820: 3rdly, In reference to the Maritime districts Dr. Farrell remarks that "there is reason to suppose that several have had the disease and some have died of whom we have had no account;" and, lastly, in speaking of the Kandyan provinces, that "it was the hopeless cases only that were brought to hospital, while all who had the disease in its mild form took their chance of recovery at home." See also an extract from Deputy Inspector Marshall's *Account of the disease in Kandy*, in the same Appendix.

† Twenty-nine cases of chicken-pox, at most, are particularly noticed as having occurred during the prevalence of small-pox in 1819, and even in fourteen of these the eruption was of doubtful character (see Appendix XII); but in a letter

3. The origin of the present visit of small-pox has been already treated of in detail. From the commencement of the disease, 24th October 1833 to the end of the period embraced by this Report, 23d December 1834, 353 cases of small, 107 of modified small, and 253 of chicken-pox have occurred throughout the island, making 713 in all, and 114 have died.

4. Let us now place in apposition the number of persons that were attacked, and the number that died, in three equal portions of the three different years, commencing in each with the month and day on which the disease was ascertained or presumed to have first appeared.—

During the six months ending in

January 1820—7,874 were attacked and of that number 2,945 died.

July.... 1830— 806* ————— 169.

April.... 1834— 425* ————— 94†.

So vast a difference in the numbers attacked and carried off by the same disease, in equal portions of three different years, would hardly obtain credit, were the evidence on which it rests drawn from any less authentic source than the official records of a public department. The fact is indisputable that, in six months of 1819, small-pox attacked at least 7,874, and carried to their graves at least 2,945 of the inhabitants of this island, while, in six months of 1833-34—if we separate cases of modified small and of chicken-pox from both which every patient (excepting two already noticed at page 6, who died respectively of dropsy and of acute dysentery) recovered—the number attacked was only 293 and the number cut off 94; in other words, for EVERY INDIVIDUAL ATTACKED with that horrible disease, in 1833-34, TWENTY-SEVEN WERE ATTACKED in 1819, and for EVERY INDIVIDUAL WHO DIED from it in 1833-34 THIRTY-ONE DIED in 1819. The difference in the effects produced by the present visit of the disease and that of 1830, is less extraordinary; but still very remarkable, the

addressed to Sir James McGrigor on the 26th January 1820, Dr. Farrell remarks, "It would also appear that there is a connexion, if not a similarity, in the contagions of small-pox and chicken-pox; for chicken-pox was as little known in this island as small-pox until the contagion of the latter was introduced in July last from the Malabar coast, after which it was found that chicken-pox became very prevalent." In making this general observation, Dr. Farrell probably referred to the period immediately preceding the appearance of small-pox only: for, on consulting Appendix XIV, we find that no fewer than 60 cases of chicken-pox occurred in 1817, among the Native Troops and children of the Orphan Asylum; that even in 1818 eight cases occurred among the former, and, in the 6 months of 1819, which preceded the appearance of small-pox, 5 more, besides 6 in the Orphan Asylum.

* Including cases of modified small and chicken-pox.

† This number includes all the fatal cases that had been admitted previously to the 25th April, though one of them died on the 29th of that month and another on the 16th of May.

number of attacks, as well as of deaths, being in the one period little more than one half of what they were in the other.

5. In attempting to trace the causes of this wonderful diminution in human suffering and saving of human life, we shall confine our attention to two, the important and powerful influence of which could not have been well appreciated, at an earlier stage of the inquiry, in which we are engaged. The first is the comparative numbers of the inhabitants protected by vaccination from the infection of small-pox, at the commencement of the three epidemics in question, and the second, the difference in the measures pursued by Government to arrest the progress and mitigate the severity of the disease.

A. Vaccination was introduced into the Maritime districts of this island in the year 1802, and into the Kandian provinces in 1816. An uninterrupted register of the numbers vaccinated monthly and annually since January 1809, has been kept in the superintendent general's office. From other sources we learn that 21,000 was the total number vaccinated previously to the 13th April 1804*; 54,958 the total number previously to the end of 1806, or during the first five years; 21,870 the number in 1807, and 26,207 the number in 1808†. The annual numbers have, upon the whole, progressively increased, though liable to great and rapid fluctuations from the occasional appearance and departure of small-pox. During the thirty-three years, which have elapsed since the first introduction of vaccination, terminating with December 1834, the whole number vaccinated has been 822,321. This gives an annual average of 24,919. (See Appendix XII.)

Ten years and a half intervened betwixt the two visits of small-pox to the island in 1819, and 1830. Now—

During the 10½ years immediately preceding the first visit, or from January 1809, to June 1819, inclusive, the number vaccinated was,	}	238,475
---	---	---------

While, during the 10½ years immediately preceding the second or from July 1819 to December 1829, the number vac- cinated was,	}	287,209
---	---	---------

So that the number of the inhabitants protected by vaccination from small-pox, at the commencement of the disease in 1830, exceeded the number protected at its commencement in 1819, by	}	48,734
--	---	--------

* Shoolbred's *Report on the progress of Vaccination in Bengal*, referred to in the *Edinburgh Medical and Surgical Journal* for 1805, vol. I, p. 252.

† Two letters of Dr. Christie's, superintendent general of vaccination, republished from the *Ceylon Government Gazette* in the *Edinburgh Medical and Surgical Journal* for 1809, vol. V, pp. 499. 501.

AGAIN,

During the 14 years and 4 months immediately preceding the first visit, or from March 1805* to June 1819, the number vaccinated was, } 316,918

While, during the 14 years and 4 months immediately preceding the third visit, or from July 1819 to October 1833, the number was, } 442,497

So that the number protected by vaccination, at the commencement of the disease in 1833, exceeded the number protected at its commencement in 1819, by } 125,579

LASTLY,

During the 3 years and 10 months immediately preceding the second visit, or from March 1826 to December 1829, the number vaccinated was, } 89,156

While, during the 3 years and 10 months immediately preceding the third visit, or from January 1830 to October 1833, the number was, } 155,288

So that the number protected by vaccination, at the commencement of the disease in 1833, exceeded the number protected at its commencement in 1830, by } 66,132

Any commentary on these comparative statements would only weaken, instead of adding to the force of the impression which in their naked simplicity they cannot fail to produce.

B. But in estimating the influence of vaccination, in limiting the range and mortality of the late visit of small-pox, we cannot overlook the activity with which that process has been conducted, and the great numbers that have derived palpable protection from it, since the commencement of the disease; and this brings us to the measures of Government, the second cause, to which we ventured to attach importance, in arresting its progress and mitigating its severity.

It was not until the beginning of January 1834 that sufficient alarm was excited in the public mind, to induce many to seek vaccination

* In the want of exact information we have been obliged to estimate the numbers vaccinated, during that portion of the above interval comprised betwixt March 1806 and December 1806, by assuming that, as

26,207, the number vaccinated in 1808, exceeds by about one-sixth

21,870, the number vaccinated in 1807; so

18,225, which falls 1-6th short of 21,870, may be taken as the number vaccinated in 1806, and

12,141, which falls 2-6th short of 18,225, as the number vaccinated during the ten last months of 1805; making altogether

78,443, from March 1805 to December 1808; and by adding to this

238,475, the number vaccinated from January 1809 to June 1819, we have

316,918, as the number vaccinated from March 1805 to June 1819.

spontaneously as a protection against the reigning epidemic. But no sooner did symptoms of panic appear than advantage was taken of it, to increase the number of vaccinators, and ample employment was soon found for *seven*, in a district in which the exertions of *one* are, on ordinary occasions, sufficient. The result was that, during the first quarter of 1834, 13,135, persons were vaccinated successfully, and of that number 6,707, or more than one half in the district of Colombo.* After remarking that, in the first quarter of 1833, the number vaccinated throughout the island was only 5,952, and in the Colombo district only 569, we may be able to form some notion of its probable influence in ~~exciting~~^{arresting} to arrest the disease.†

C. To sum up this lengthened comparison, it may be observed that one of the principal objects of Government seems to have been, in 1819, to *relieve*, in 1830, and 1833—34, to *prevent* human sufferings. —The motives on both occasions were equally benevolent. In the first case, hospitals were established, in all parts of the country, and the people *invited* to enter them: in the second case, every person affected with small-pox was *compelled* to remain secluded until his recovery, either in his own house, or in a public hospital. After perusing the preceding details, can any one doubt by which of the two measures the interests of humanity were most effectually served?

For additional observations on the present epidemic which would have been misplaced in the body of the Report, see Appendix No. XVIII.

* This district embraces Salpitty, Hewagam and Hina Corles, together with that part of Aloetcoor Corle lying to the south of Dandoogam river.

† For a return of the numbers vaccinated in the Colombo district, during the year immediately preceding and that immediately following the commencement of small-pox, see Appendix VI.

APPENDIX.

The first part of the history of the United States is the period from the discovery of the continent by Christopher Columbus in 1492 to the establishment of the first permanent settlements. This period is characterized by the exploration of the continent by Spanish, French, and English explorers, and the establishment of the first permanent settlements by the English in 1607. The second part of the history is the period from the establishment of the first permanent settlements to the American Revolution in 1776. This period is characterized by the growth of the colonies, the struggle for independence, and the establishment of the United States as a new nation. The third part of the history is the period from the American Revolution to the present. This period is characterized by the development of the United States as a major world power, the expansion of its territory, and the growth of its population.

APPENDIX

The appendix contains a list of the names of the explorers and settlers who were instrumental in the discovery and settlement of the United States. It also contains a list of the names of the presidents of the United States, and a list of the names of the members of the Congress of the United States. The appendix is a valuable source of information for anyone interested in the history of the United States.

APPENDIX.

No. I.—See Pages 2. 11. 14.

PROGRESSIVE STEPS OF SMALL-POX, MODIFIED SMALL-POX AND CHICKEN-POX IN CEYLON, FROM 24TH OCTOBER 1833 TO 23D DECEMBER 1834, EXHIBITING THE STREETS IN COLOMBO AND THE VILLAGES THROUGHOUT THE ISLAND WHICH WERE SUCCESSIVELY VISITED BY THESE DISEASES, TOGETHER WITH THE NUMBER OF CASES THAT OCCURRED, THE NUMBER THAT PROVED FATAL AND THE DATES OF OCCURRENCE OF THE FIRST AND LAST CASES IN EVERY STREET AND VILLAGE.

The maps of the island and of the environs of Colombo may be referred to in illustration of this Table ; and the same numbers, which are here prefixed to the names of places, have in them been placed *on or near their sites*, for facility of reference.

The numbers in the fourth column, representing cases of chicken-pox, are preceded by the letter *c*, of modified small-pox by *m*, and of small-pox terminating fatally by *f*. When two or more cases referable to any one of these three heads occur in immediate succession they are enclosed by parentheses and their distinguishing letter is prefixed to the first only. Numbers having no letter prefixed represent cases of small-pox, properly so called, which terminated in recovery.

<i>Places in which cases were successively found.</i>	<i>Distance and Direction from Colombo.</i>	<i>Commence- ment of fever in the 1st case found at each place.</i>	<i>Cases arranged and numbered according to the order of occurrence.</i>	<i>Commence- ment of fever in the last case.</i>	<i>Num- ber at- tached in each place.</i>	
1 Wellikade.....	3 m. Cotta road.....	24th October	1 (f 69 70) 474.....	15th August	4	
2 Old Moor Street.....	Colombo	28th "	2 f 3 311.....	6th March.	3	
3 Prince Street.....	"	16th Nov....	4 (f 5 6) 7 (f 8 11) 12 13 14 f 16 34 71 f 103 113 132 133 (m 141 148 149 150 151) 178 f 184 m 296 207 256 (f 294 295 315).....	7th "	29	
4 1st Cross Street.....	"	18th Dec....	f 9 19 29 f 30 33 f 35 89 m 97 116 134 m 155 159 f 162 163 164 165 f 166 167 m 168 f 174 175 186 187 (m 188 256 f 305 * 307) 314 m 332 362.. 10 31 37 42 f 44 45 48 m 87 (f 90 102) 194 f 195 m 197 245 246 (f 249 252) 258 264 265 270 272 274 278 282 (f 301 318 326 348).....		22d "	30
5 Bazar.....	"	18th "	15 f 68 138 139 145 169 (m 170 179) 180 190 f 200 204 226 248 310 m 319 f 249 358 f 381.....	20th "	29	
6 Fishers' Quarters.....	"	23d "	17 144 f 406 (c 455 456).....	30th "	19	
7 Slave Island.....	"	25th "	18 f 82 c 499.....	28th July...	5	
8 Colpitty.....	"	25th "	20 m 152 (c 239 327).....	21st Sept....	3	
9 Hulfsdorp.....	"	27th "	21 22 c 23 f 60 67 263 m 279 337 374 c 429.....	14th March..	4	
10 Dam Street.....	"	28th "	24 f 36.....	2d June....	10	
11 Front Street.....	"	1st January	(c 25 26 28 93) (m 172 202 205) 273 297.....	1st Feb....	2	
12 Main Street.....	"	2d "	27 58 79 101 (f 110 111) 112 (f 117 118) m 125 f 126 m 203 (f 227 228) c 232 m 260 384.....	2d March..	9	
13 Grand Pass.....	3 miles	7th "		30th "	17	

14 Colombo Fort.....	Colombo	18th January	f 38 c 34 f 261 293 302 (c 506 513). ..	19th October	7
15 Oottoankandy	57 m Kandy road	"	39	13th January	1
16 New Moor Street.....	Colombo	14th	40 66 f 158 240 419 423 c 463.	8th August	7
17 Land Street.....	"	"	41 (f 43 49) 54 f 55 56 140 146 (f 153 157) c 176 185 196 209 210 m 212 215		
18 Dehiewelle.....	5 m Galle road.....	15th	m 283 f 237 m 242 f 258 268 269 276		
19 Hoenepity.....	23 m near Negombo	"	f 364 365 372 373 388 c 386.	1st April..	38
20 Balantotte.....	7 m beyond Cotta	16th	f 46.	15th January	1
21 Canalawatte	12 m Kandy road	"	f 47 115 217 (c 280 281 285).	28th Feb. ..	6
22 Gangame	54 m Galle District	"	f 50.	16th January	1
23 Baddegama	Galle District.....	"	51 95.	28th "	2
24 Wolfendahl.....	Colombo	"	52	16th "	1
25 3d Cross Street.....	"	17th	f 53 98 f 99.	29th "	3
26 Mesengere Street	"	"	57 m 286 409 m 435 c 437 f 442 443	3d July ..	8
27 Kirlepane	5 m near Katobowille.....	"	f 445.....	17th January	1
28 Cultura.....	26 miles	"	59.	" "	1
29 Keyser Street.....	Colombo	"	61	8th Feb. ..	3
30 Daldegama	6 m Kandy road.....	"	(f 62 120 147).....		
31 Silver Smith Street.....	Colombo	"	(c 63 94 213) f 291 298 c 299 m 371	2d August..	8
32 Sedewatte	4 m Hangwelle road	19th	458.....	3d May ..	7
33 Palliagode	5 m Kandy road	"	64 (c 122 154) 189 c 243 335 c 412...	8th Feb. ..	2
34 Sea Street	Colombo	"	f 65 156.....	26th "	5
35 Matacooly	3 m near Grand Pass.....	20th	m 72 124 m 130 230 m 271	19th January	1
36 Pette Cotta	4 m Galle road	"	f 73.....	" "	1
37 Desaster Cultura	25 m Galle road	"	74.....	30th July	11
38 Pamongame	12 m near Jayelle	"	75 76 77 86 (f 96 161 261 287) 376 f 452 457.	4th Aug.	5
		"	m 78 231 266 (c 410 459.) ..	20th Jany.	1
		"	f 80.		
		"	(c 81 300 368 369 370 398 399 401 426 496.)	10th Sept.	10
		"	f 82 c 339.	17th March	2
				Carried over	297

• See page 6.

Places in which cases were successively found.	Distance and Direction from Colombo.	Commence-ment of fever in the 1st case found at each place.	Cases arranged and numbered according to the order of occurrence.	Commence-ment of fever in the last case.	Num-ber at-tacked in each place.
39 Kehelwatta	Near Pantura	21st Jany.	83 f 135 143 181 182 c 183. ..	Brought over	297
40 2nd Cross Street	Colombo	23d "	c 85 f 123 m 211 c 225 f 377. ..	5th June	6
41 Bullock Lines	"	24th "	88 (f 100 250.)	28th March	5
42 Kahatadowa	12 m. Galle road	25th "	91 284 303.	24th Feb.	3
43 Demettegode	2 m. near Callura canal	"	"	3d "	3
	Grand Pass	27th "	(m 92 107 108) 199 (c 216 213	"	
	"	"	219 220 229.)	19th Feb.	9
44 Wellanpitty.. ..	2 miles	2d Feb.	104.	2d "	1
45 Macandona	24 m. Ratnapoora road.	"	105.	"	1
46 Weveldinia	Kandy road	"	f 106 267 f 275.	27th "	3
47 Dowa.. ..	Near Negombo	"	m 109 (c 136 142.)	6h "	3
48 Angorookamoolle	3 m. from Negombo	3d "	114.	3d "	1
49 Bankshall	Colombo	4h "	m 119.	9h "	1
50 Hangwelle	18 m. Ratnapoora road.	"	m 121.	4th "	1
51 Tanquesalgadoe	2 miles	"	m 127.	"	1
52 Nawagame	12 m. Ruanwelle road.	5th "	128 235 (c 375 378 382.)	30th March	5
53 Pellehendelo	12 m. Galle road	"	129 251 288.	1st "	2
54 Mariacadey	1½ m. Cotta road	6th "	m 131 137 c 460.	5th Aug.	3
55 4th Cross Street	Colombo	9th "	f 160 359.	21st March	2
56 Kalany	6 m. Kandy road	"	c 171.	9th Feb.	1
57 Merandain	Colombo	10th "	173 f 201 221 c 222 241 c 322. ..	10th March	6
58 Ballagolla	7 m. Kandy road	"	177.	10th Feb.	1
59 Calpentyn	100 miles	12th "	191.	12th "	1
60 Mutual	3 miles	13th "	192 (c 308 360) m 400.	15th April	4
61 Captain's Garden.....	Marandain	"	193 m 284 343.	19th March	3
62 Palancheno	30 m. Chilaw road	"	c 198 (m 225 236.)	30th Feb.	3
63 Biagame	6 m. Ruanwelle road	15th "	f 208.	15th "	1

65 Dadoegame	.....	5 m. Kandy road	.....	18th	"	f 214 c 514.	.....	22d Nov.	2
66 Oedamitta	.....	12 m. Negombo road	.....	"	"	c 223.	.....	18th Feb.	1
67 St. John's Lake	.....	Colombo	.....	21st	"	224 c 323 329 336 (m 361 366)	.....	31 April	8
68 Morotto	.....	8 m. Galle road	.....	23d	"	(c 385 389.)	.....	23d May	4
69 Aloetgame	.....	20 m. Kandy road	.....	1st March	"	f 238 244 415 422.	.....	21 March	5
70 Pulum	.....	84 miles	.....	"	"	(c 247 253 254 255 296.)	.....	1st "	2
71 St. Sebastian	.....	2 miles	.....	"	"	(f 289 290.)	.....	"	1
72 Ballangode	.....	87 miles	.....	4th	"	c 202.	.....	"
73 Allowe	.....	41 m. Kurunegalle road..	.....	5th	"	304 c 328 f 344 345 f 346 367	.....	14th April	9
74 Pettia	.....	Near Pantura	.....	8th	"	380 396 397.	.....	7th March	3
75 Cottanchene	.....	2 miles	.....	9th	"	(c 309 313 316).	.....	8h "	1
76 Odoowere	.....	28 m. Galle road	.....	10th	"	c 317.	.....	9h "	1
77 Catoekurundu 2d.	.....	27 m.	.....	"	"	f 320.	.....	27th April	2
78 Payagalla	.....	29 m.	.....	14th	"	321 408.	.....	10th March	1
79 Wascudowa	.....	23 m.	.....	"	"	c 324.	.....	14th April	2
80 Vellegampilly	.....	12 m. Negombo road	.....	15th	"	(c 330 402.)	.....	14th March	1
81 New Bazar	.....	Colombo	.....	16th	"	c 331	.....	28th Augt.	4
82 Washers' Quarter	.....	"	.....	17th	"	333 (c 480 482 483.)	.....	5th April	2
83 Kandy	.....	72 miles	.....	18th	"	(f 334 390.)	.....	9th Sept.	9
84 Jaffna*	.....	221 miles	.....	"	"	338 c 393 404 (c 446 448 449)	.....	8th "	11
85 Ambanwettye	.....	12 m. Negombo road	.....	21st	"	450 462 495.)	.....	21st March	1
86 Mahare	.....	8 m. Kandy road..	.....	27th	"	341 347 350 351 352 353 354 357	.....	27th "	1
87 Nangalle	.....	Near Allowe....	.....	2d April	"	379 394 f 431.	.....	2d April	1
88 Wenuawatte	.....	6 m. Hangwelle road	.....	6th	"	c 358.	.....	14th "	3
89 Wakedde	.....	Near Caltura....	.....	19th	"	f 387.	.....	22d May	5
90 Battapola..	.....	12 m from Negombo	.....	22d	"	c 388.	.....	22d April	1
91 Marapanne	.....	6 m from Rathapoor	.....	18th	"	391 f 392 395....	.....	25th "	2
				1st May	"	403 416 417 421 f 425..	.....	25th June..	6
				6th	"	405.....	.....	10th Nov. ..	4
						(c 407 424).....	.....	Carried over	461
						411 420 f 430 433 f 434 439	.....	
						(c 413 414) (m 519 524)	.....	

* In this case the disease is supposed to have been contracted on the road from Colombo; the other 57 (which occurred near Jaffna and are here omitted) to have originated in one or more direct importations from the Coast.

<i>Places in which cases were successively found.</i>	<i>Distance and Direction from Colombo.</i>	<i>Commence-ment of fever in the 1st case found at each place.</i>	<i>Cases arranged and numbered according to the order of occurrence.</i>	<i>Commence-ment of fever in the last case.</i>	<i>Num-ber at-tacked in each place.</i>
92 Hill Street....	Colombo....	17th May ..	m 418.....	17th May ..	461
93 Cottugode..	10 m Negombo road	29th " ..	f 427 428 (f 436 440)..	21 July ..	1
94 Welawatte ..	5 m Galle road..	14th June ..	(c 438 447 521)....	22d July ..	4
95 Minooangode..	20 m Negombo road	22d " ..	438.....	22d October.	8
96 Candane ..	11 m "	25th " ..	f 441.....	22d June ..	1
97 Checko Street	Colombo....	2d July ..	m 444.....	25th " ..	1
98 Wavolle....	10 m Galle road..	10th " ..	f 451.....	2d July ..	1
99 Small Pass ..	Colombo....	16th " ..	c 453	10th " ..	1
100 Ratnapoora....	58 miles..	23d " ..	(c 454 461 464) m 466 (c 467 468) (m 469 470 471 472 475 484 485 486 516 517 518 525 529 531 532 548).....	16th " ..	1
101 Dewalle..	2 m from Ratnapoora.....	10th August.	(m 465 476 492)....	19th Nov. ..	22
102 Werloopa....	1 m "	15th " ..	(m 473 479 487 491)..	4th Sept. ..	3
103 Battagedera ..	1 m "	18th " ..	(m 477 488)...	2d " ..	4
104 Orphan School	1 mile..	" ..	(c 478 481 493 494 498 500 501 507 508 510 527 528 530 542 546 547 548).....	31st August.	2
105 Pottupitty..	22 m Galle road	2d Sept. ..	c 489..	23d Dec. ..	17
106 Dibbedde..	17 m "	19th " ..	(c 490 535 536 540)....	2d Sept. ..	1
107 Megode..	22 m old road to Ruwanwelle..	" ..	(c 497 502).....	14th Nov. ..	4
108 Attigalle....	16 m "	1st October	(c 503 512 514).....	29th Sept. ..	2
109 Gorobabile ..	12 m "	2d " ..	(c 504 505).....	20th October	3
110 Arookwatte ..	20 m "	12th " ..	(c 509 511 515 520 523)...	3d " ..	2
111 Wevelcatte ..	21 m "	22d " ..	c f 522 * c 524.....	25th " ..	5
112 Ambaposse ..	36 m Kandy road..	29th " ..	(c 526 541)....	23d " ..	2
113 Moddowe..	1 m from Ratnapoora.....	10th Nov. ..	m 533,.....	15th Nov. ..	2
				10th " ..	1

114 Horakelle....	....	16 m near Pantura..	....	11th Nov. ..	(c 537 538).....	....	....	11th Nov. ..	2
115 Panegame .....	....	7 m from Ratnapoora.....	....	13th ..	m 539.....	....	....	13th ..	1
116 Oedagame..	....	32 m Ratnapoora road.....	....	27th ..	c 545.....	....	....	27th ..	1
									548

Cases not included in the above Statement, from their origin being different, or the exact date of their occurrence unknown.

	Small Pox.	Modified Small Pox.	Chicken Pox.	
Nuwera Ellia —	—	13	—	13
Jaffna District—	39	8	10	57
Kandy Gaol —	—	—	16	16
— Chicken-pox Hospital —	—	—	27	27
Trincomalie Gaol—	—	—	1	1
Badulla—	—	—	3	3
Kurunegalle —	—	—	2	2
Ceylon Rifle Hospital, Colombo —	—	1	45	46
Total—				165
				713

• See Page 6.

No. II.—See page 14.

RETURN OF THE NUMBER OF CASES THAT OCCURRED AND THE NUMBERS THAT PROVED FATAL, DURING EVERY SEPARATE MONTH, DURING THE FIRST AND SECOND SIX, THE TWO LAST AND THE WHOLE FOURTEEN MONTHS, COMPREHENDED IN THE PRECEDING TABLE.

Period of occurrence.			Small pox.	Modified Small pox.	Chicken pox.	Total.	Of which proved fatal	Proportion of chicken pox to the whole; 1 to
1st—		November 1833 —	6	1	0	7	2	0
2nd—		December „ —	14	0	0	14	6	0
3rd—		January 1834 —	65	4	12	81	24	6 $\frac{3}{4}$
4th—		February „ —	105	34	30	169	35	5 $\frac{65}{100}$
5th—		March „ —	80	13	36	129	22	3 $\frac{58}{100}$
6th—		April „ —	23	2	17	42	6	2 $\frac{1}{2}$
1st Six—			293	54	95	442	95	4 $\frac{66}{100}$
7th—	Month ending 23rd	May „ —	9	14	9	32	0	8 $\frac{55}{100}$
8th—		June „ —	11	0	12	23	6	1 $\frac{11}{12}$
9th—		July „ —	8	1	29	38	6	1 $\frac{7}{29}$
10th—		August „ —	3	11	33	47	0	1 $\frac{14}{33}$
11th—		September „ —	6	8	23	37	2	1 $\frac{14}{23}$
12th—		October „ —	7	8	28	43	3	1 $\frac{15}{28}$
2nd Six			44	42	134	220	17	1 $\frac{16}{25}$
13th—		November „ —	13	11	15	39	2	2 $\frac{9}{15}$
14th—		December „ —	3	0	9	12	0	1 $\frac{1}{4}$
Last Two			16	11	24	51	2	2 $\frac{3}{24}$
Whole Fourteen months —			353	107	253	713	114	2 $\frac{41}{50}$

No. III.

RETURN OF THE NUMBER OF CASES WHICH (THOUGH INCORPORATED WITH THOSE ANALYZED IN THE PRECEDING AND SUBSEQUENT TABLES) OCCURRED AMONG THE TROOPS SERVING IN CEYLON DURING THE SAME PERIOD.

Description of Troops.	Average strength from October 1833 to December 1834.	Stations at which cases occurred.	Disease.				Of which proved fatal.
			Small-pox.	Modified Small-pox.	Chicken-pox.	Total.	
British.....	2055	"	0	0	0	0	0
Native.....	2692	{ Colombo	0	1	45	46	0
		{ Badulla	0	0	3	3	0
		{ Allowe	0	0	1	1	0
		{ Other Stations	0	0	0	0	0
Total.....	4747	"	0	1	49	50	0

No. IV.—See pages 6. 14.

RETURN OF THE COMPARATIVE NUMBERS, THAT OCCURRED AND PROVED FATAL, IN PERSONS WHO HAD NEVER UNDERGONE VACCINATION, WHO HAD BEEN VACCINATED WITH DIFFERENT DEGREES OF SUCCESS, AND WHO HAD PREVIOUSLY PASSED THROUGH SMALL-POX.

Treated in	Occurred in Persons who had been	Small-pox.		Modified Small-pox.		Chicken-pox.		Total.		Proportion of fatal cases, 1 to
		Admit- ted	Died	Admit- ted	Died	Admit- ted	Died	Admit- ted	Died	
Pettah Hospital	1 Never Vaccinated	22	13	0	0	0	0	22	13	$\frac{9}{13}$
	2 Vaccinated but could shew no marks*	0	0	0	0	0	0	0	0	0
	3 ———— and had unsatisfactory marks	22	10	0	0	0	0	22	10	$\frac{1}{2\frac{1}{2}}$
	4 ———— and had satisfactory marks	15	1+	0	0	4	0	19	1	19
	5 Previously attacked with small-pox*	0	0	0	0	0	0	0	0	0
	Total	59	24	0	0	4	0	63	24	$\frac{7}{10}$
Marandahn Hospital	1 Never Vaccinated	154	57	0	0	15	1+	169	57	3
	2 Vaccinated and had unsatisfactory marks	16	4	0	0	13	0	29	4	$7\frac{1}{4}$
	3 ———— satisfactory marks	12	0	11	0	13	0	36	0	0
	4 ———— and had satisfactory marks	0	0	0	0	8	0	8	0	0
	5 Previously attacked with small-pox									
	Total	182	61	11	0	49	1	242	62	4
Orphan Asylum	2 Vaccinated but could shew no marks	0	0	0	0	3	0	3	0	0
	4 ———— and had satisfactory marks	0	0	0	0	14	0	14	0	0
	Total	0	0	0	0	17	0	17	0	0

Private Houses in Colombo Gravets	1 Never Vaccinated	3	1	1	0	0	0	0	4	1	4
	2 Vaccinated but could shew no marks	8	1	2	0	0	0	0	10	1	10
	3 ——— and had unsatisfactory marks	14	2	2	1†	2	0	0	18	3	6
	4 ——— satisfactory marks	12	0	33	0	21	0	0	66	0	0
	Total	37	4	38	1	23	0	0	98	5	19
Caltura	1 Never Vaccinated	9	4	0	0	13	0	0	22	4	5½
	2 Vaccinated but could shew no marks	1	0	0	0	1	0	0	2	0	0
	3 ——— and had unsatisfactory marks	0	0	1	0	0	0	0	1	0	0
	4 ——— satisfactory marks	0	0	0	0	21	0	0	21	0	0
	5 Previously attacked with small-pox	0	0	0	0	2	0	0	2	0	0
Ratnapoora	Total	10	4	1	0	37	0	0	48	4	4
	1 Never Vaccinated	0	0	4	0	0	0	0	4	0	0
	2 Vaccinated but could shew no marks	0	0	1	0	0	0	0	1	0	0
	3 ——— and had unsatisfactory marks	0	0	5	0	0	0	0	5	0	0
	4 ——— satisfactory marks	0	0	18	0	0	0	0	18	0	0
Negombo	5 Previously attacked with small-pox	0	0	2	0	0	0	0	2	0	0
	Total	0	0	30	0	0	0	0	30	0	0
	1 Never Vaccinated	5	5	0	0	2	0	0	7	5	1½
	2 Vaccinated but could shew no marks	4	0	0	0	1	0	0	5	0	0
	3 ——— and had unsatisfactory marks	2	0	3	0	0	0	0	5	0	0
Negombo	4 ——— satisfactory marks	1	0	2	0	7	0	0	10	0	0
	Total	12	5	5	0	10	0	0	27	5	5½

* In this first compartment the different conditions, with regard to Vaccination and Small-pox, of all the patients registered have been introduced, to shew the arrangement adopted in the Return: in the following compartment's the conditions to which no cases are referable (as Nos. 2 and 5 in the first,) are omitted, though the numbers here affixed to each are retained throughout to prevent mistakes,

† See page 6.

‡ See page 6.

Treated in	Occurred in Persons who had been	Small-pox.		Modified Small-pox.		Chicken-pox.		Total.		Proportion of Fatal cases; 1 to
		Admit- ted	Died	Admit- ted.	Died	Admit- ted	Died	Admit- ted.	Died	
Ballangodde Alowe Ambaposse Putlam Calpentyn	1 Never Vaccinated	3	1	0	0	4	0	7	1	7
	2 Vaccinated but could shew no marks	1	0	0	0	1	0	2	0	0
	4 ——— and had satisfactory marks	2	0	0	0	2	0	4	0	0
	5 Previously attacked with small-pox	0	0	0	0	2	0	2	0	0
	Total	6	1	0	0	9	0	15	1	15
Kandy Chicken-pox hospital	2 Vaccinated but could shew no marks	0	0	0	0	5	0	5	0	0
	4 ——— and had satisfactory marks	0	0	0	0	18	1*	18	1	18
	5 Previously attacked with small-pox	0	0	0	0	4	0	4	0	0
	Total	0	0	0	0	27	0	27	1	27
Jaffna	1 Never Vaccinated	27	7	0	0	3	0	30	7	4½
	2 Vaccinated but could shew no marks	3	1	0	0	0	0	3	1	3
	3 ——— and had unsatisfactory marks	1	0	0	0	0	0	1	0	0
	4 ——— and had satisfactory marks	8	2	8	0	7	0	23	2	11½
	Total	39	10	8	0	10	0	57	10	5½
Grand Total		345	103	93	1	186	0	624	112	5½

Abstract of the above Return.

Of the before mentioned 624 cases, that were registered,		Small-pox.		Modified Small-pox.		Chicken-pox.		Total.		Proportion of Fatal cases; 1 to
		Admitted	Died	Admitted	Died	Admitted	Died	Admitted	Died	
There had been,	1 Never Vaccinated	223	88	5	0	37	1	265	89	3
	2 Vaccinated but could shew no marks	17	2	3	0	11	0	31	2	15½
	3 ----- and had unsatisfactory marks	55	16	11	1	15	0	81	17	4½
	4 ----- satisfactory marks	50	3†	72	0	107	1	229	4	57¼
	5 Previously attacked with small-pox	0	0	2	0	16	0	18	0	0
Total		345	109	93	1	186	2*	624	112	6 5½
Cases of patients whose condition in reference to Vaccination and previous Small-pox is unknown.										
Throughout the island	Baddegama	3	2	0	0	0	0	3	2	1½
	Ceylon Rifle Corps	0	0	1	0	45	0	46	0	0
	Kurunegalle Gaol	0	0	0	0	2	0	2	0	0
	Kandy Gaol	6	0	0	0	16	0	16	0	0
	Nuwera Ellia	0	0	13	0	0	0	13	0	0
	Badulla	0	0	0	0	3	0	3	0	0
Single cases at different other places		5	0	0	0	1	0	6	0	0
Total		8	2	14	0	67	0	89	2	44½
Grand Total		353	111	107	1	253	2	713	114	6¼

* See page 6.

† See page 7.

RETURN OF THE COMPARATIVE NUMBERS THAT OCCURRED AND PROVED FATAL, AT DIFFERENT AGES OR PERIODS OF LIFE; THE PARTIES ATTACKED BEING CLASSED AS IN No. IV. AGREEABLY TO THEIR CONDITION WITH REGARD TO VACCINATION AND SMALL-POX.

Condition of the party in reference to Vaccination and previous Small-pox.	Age.	Disease.					No. of fatal cases.	Proportion of fatal to the whole; 1 to
		Small-pox.			Chicken- pox.	Total.		
		Conflu- ent.	Distinct.	Modi- fied.				
1 Never Vacci- nated.	Under 2 years old—	10	7	1	2	20	7	$2\frac{6}{7}$
	Betwixt 2 and 5 years inclusive	20	14	0	4	38	15	$2\frac{8}{15}$
	„ 6 „ 10 „	15	16	2	5	38	3	$12\frac{2}{3}$
	„ 11 „ 15 „	15	12	1	2	30	2	$15\frac{1}{3}$
	„ 16 „ 20 „	14	6	0	5	25	9	$2\frac{7}{9}$
	„ 21 „ 25 „	18	6	0	2	26	12	$2\frac{1}{6}$
	„ 26 „ 30 „	23	6	0	3	32	16	$2\frac{1}{2}$
	„ 31 „ 35 „	6	2	0	2	10	4	$2\frac{1}{2}$
	„ 36 „ 40 „	10	1	0	2	13	6	$2\frac{1}{6}$
	„ 41 „ 45 „	1	2	0	2	5	1	$5\frac{1}{5}$
	„ 46 „ 50 „	5	2	0	4	11	4	$2\frac{3}{4}$
	„ 51 „ 55 „	2	1	0	0	3	2	$1\frac{1}{2}$
	„ 56 „ 60 „	6	0	1	2	9	5	$1\frac{4}{5}$
	65	0	2	0	2	4	2*	$2\frac{1}{2}$
	67	1	0	0	0	1	1	1
Total—		146	77	5	37	265	89	3
2 Vacci- nated but could shew no marks.	Under 2 years old—	0	1	0	1	2	0	0
	Betwixt 2 and 5 years	2	3	2	0	7	0	0
	„ 6 „ 10 „	0	1	0	4	5	0	0
	„ 11 „ 15 „	1	0	0	0	1	1	1
	„ 16 „ 20 „	3	1	0	0	4	1	4
	„ 21 „ 25 „	0	0	1	0	1	0	0
	„ 26 „ 30 „	0	2	0	2	4	0	0
	„ 31 „ 35 „	0	2	0	0	2	0	0
	„ 36 „ 40 „	0	1	0	0	1	0	0
	„ 41 „ 45 „	0	1	0	0	1	0	0
Age unknown —		0	0	0	5	5	0	0
		6	11	3	12	32	2	16
3 Vacci- nated with unsa- tisfactory marks.	Under 2 years old—	0	1	1	0	2	2†	1
	Betwixt 2 and 5 years	0	2	0	0	2	0	0
	„ 6 „ 10 „	3	5	1	2	11	1	11
	„ 11 „ 15 „	2	8	0	1	11	1	11
	„ 16 „ 20 „	4	3	0	2	9	1	9
	„ 21 „ 25 „	4	5	2	1	12	3	4

* One of them a case of chicken-pox; see page 6.

† One of them a case of modified small-pox; see page 6.

Condition of the party in reference to Vaccination and previous Small-pox.	Age.	Disease.					No. of fatal cases.	Proportion of fatal to the whole; 1 to
		Small-pox.			Chicken-pox.	Total.		
		Confluent.	Distinct	Modified.				
3 Vaccinated with unsatisfactory marks.	Betwixt 26 & 30 years	3	2	1	1	7	1	7
	—, 31 & 35 —, —	2	1	1	2	6	1	6
	—, 36 & 40 —, —	2	1	1	3	7	2	3½
	—, 45 —, —	2	0	1	0	3	1	3
	—, 46 & 50 —, —	1	0	1	1	3	1	3
	—, 51 & 55 —, —	1	0	0	1	2	1	2
	—, 59 —, —	1	0	0	0	1	1	1
	—, 65 —, —	1	0	0	0	1	1	1
	—, 68 —, —	0	0	2	0	2	0	0
	—, 75 —, —	0	0	0	1	1	0	0
Total —————		26	28	11	15	80	17	4½ ¹² / ₁₇
4 Vaccinated with satisfactory marks.	Under 2 years old—	0	0	0	2	2	0	0
	Betwixt 2 & 5 years	0	4	1	9	14	0	0
	—, 6 & 10 —, —	0	4	4	17	25	0	0
	—, 11 & 15 —, —	1	4	11	15	31	0	0
	—, 16 & 20 —, —	2	8	11	6	27	0	0
	—, 21 & 25 —, —	3	6	14	10	33	1	33
	—, 26 & 30 —, —	2	8	15	11	36	2	18
	—, 31 & 35 —, —	1	0	8	6	15	0	0
	—, 36 & 40 —, —	0	3	3	19	15	0	0
	—, 41 & 45 —, —	0	3	2	0	5	0	0
	—, 46 & 50 —, —	0	1	1	2	4	0	0
	—, 60 —, —	0	0	2	0	2	0	0
	—, 71 & 75 —, —	0	0	0	2	2	0	0
	Age unknown —	0	0	0	18	18	1	0
Total —————		9	41	72	107	229	4	57½
5 Having had Small-pox.	Betwixt 18 & 20 years	0	0	0	3	3	0	0
	—, 21 & 25 —, —	0	0	1	2	3	0	0
	—, 35 —, —	0	0	0	2	2	0	0
	—, 40 —, —	0	0	0	4	4	0	0
	—, 46 —, —	0	0	1	0	1	0	0
	—, 55 —, —	0	0	0	1	1	0	0
	Age not specified—	0	0	0	4	4	0	0
Total —————		0	0	2	16	18	0	0

Abstract of No. V.

Condition of the party in reference to Vaccination and previous Small-pox.	Age.	Disease.					No. of fatal cases.	Proportion of fatal to the whole; 1 to
		Small-pox.			Chicken-pox.	Total.		
		Confluent.	Distinct.	Modified.				
Total whether vaccinated, unvaccinated or previously the subject of small-pox.	Under 2 years old—	10	9	2	4	25	9	0
	Between 2 & 5 years	22	24	3	13	62	15	4½
	—, 6 & 10—, —	18	26	7	23	79	4	19½
	—, 11 & 15—, —	19	24	12	18	73	4	18½
	—, 16 & 20—, —	23	18	11	16	68	11	6½
	—, 21 & 25—, —	25	17	18	15	75	16	4½ ¹¹ / ₁₆
	—, 26 & 30—, —	28	18	16	17	79	19	4¾
	—, 31 & 35—, —	9	3	9	12	33	5	6⅓ ³ / ₅
	—, 36 & 40—, —	12	5	4	18	39	6	6½
	—, 41 & 45—, —	3	5	3	2	13	2	6½
	—, 46 & 50—, —	6	3	3	7	19	6	3⅙
	—, 51 & 55—, —	3	3	0	2	8	3	2⅔ ² / ₃
	—, 56 & 60—, —	7	1	3	2	13	6	2⅙ ¹ / ₆
	—, 61 & 65—, —	1	2	0	2	5	3	1⅔ ² / ₃
	—, 66 & 70—, —	1	0	2	0	3	1	3
—, 71 & 75—, —	0	0	0	3	3	0	0	
	Between 1 month and 75 years—	187	158	93	159	597	110	5⅔ ³ / ₇
Age unknown— — —		0	0	0	27	27	*1	27
Age and condition in regard to vaccination and previous small-pox unknown— — }		0	8† 0	14	67	89	3	29⅔ ² / ₃
Total— — —		187	(8)158	107	253	713	114	6⅓ ¹ / ₃

* See page 6.

† Whether confluent or distinct was not reported.

No. VI.—See pages 9. 26.

RETURN OF THE COMPARATIVE NUMBERS VACCINATED AT DIFFERENT PERIODS OF LIFE, DURING THE YEAR IMMEDIATELY PRECEDING AND THE YEAR IMMEDIATELY FOLLOWING THE COMMENCEMENT OF SMALL-POX, IN COLOMBO GRAVETS, THE SALPITTY, HEWAGAM AND HINA CORLES, AND THAT PART OF ALOETCOOR CORLE WHICH LIES TO THE SOUTH OF THE DANDOEGAM RIVER.

Age.	November 1832 to October 1833.		November 1833 to October 1834.		Total.			
	No. vac- cinated.	Proportion vaccinated at different ages to the whole; 1 to	No. vac- cinated.	Proportion vaccinated at different ages to the whole; 1 to	No. vac- cinated.	Proportion of these vaccinated cases the ages to the on failed whole; 1 to	Proportion of failures to the whole at diff. ages; 1 to	Opera- tion suc- ceeded in
Under 2 years	368	$\frac{32}{9\frac{1}{100}}$	1347	$\frac{88}{9\frac{1}{100}}$	1715	$\frac{75}{9\frac{1}{100}}$	$\frac{7}{3\frac{1}{100}}$	1158
Between 2 & 5 years	1722	$\frac{99}{1\frac{1}{100}}$	5597	$\frac{37}{2\frac{1}{100}}$	7319	$\frac{29}{2\frac{1}{100}}$	$\frac{99}{7\frac{1}{100}}$	6403
—, 6 & 10 —,	1057	$\frac{24}{3\frac{1}{100}}$	4202	$\frac{16}{3\frac{1}{100}}$	5259	$\frac{18}{3\frac{1}{100}}$	$\frac{47}{9\frac{1}{100}}$	4702
—, 11 & 15 —,	152	$\frac{57}{22\frac{1}{100}}$	866	$\frac{37}{15\frac{1}{100}}$	1018	$\frac{51}{16\frac{1}{100}}$	$\frac{11}{16\frac{1}{100}}$	955
—, 16 & 20 —,	36	$\frac{3}{95\frac{1}{100}}$	379	$\frac{13}{35\frac{1}{100}}$	415	$\frac{32}{40\frac{1}{100}}$	$\frac{77}{14\frac{1}{100}}$	393
—, 21 & 25 —,	25	$\frac{24}{137\frac{1}{100}}$	263	$\frac{63}{50\frac{1}{100}}$	288	$\frac{14}{56\frac{1}{100}}$	144	268
—, 26 & 30 —,	51	$\frac{27}{67\frac{1}{100}}$	277	48	328	$\frac{5}{51\frac{1}{100}}$	$\frac{12}{13\frac{1}{100}}$	303
—, 31 & 35 —,	10	$\frac{1}{343\frac{1}{100}}$	132	$\frac{8}{101\frac{1}{100}}$	142	$\frac{88}{110\frac{1}{100}}$	$\frac{10}{12\frac{1}{11}}$	131

Age.	November 1832 to October 1833.		November 1833 to October 1834.		Total.				
	No. vac- ci- nated.	Proportion vaccinated at different ages to the whole; 1 to	No. vac- ci- nated.	Proportion vaccinated at different ages to the whole; 1 to	No. vac- ci- nated.	Proportion vaccinated at different ages to the whole; 1 to	Of these cases the on failed in	Proportion of failures to the whole at diff. ages; 1 to	Opera- tion suc- ceeded in
Between 36 & 40 years—	9	$381 \frac{2}{9}$	151	$88 \frac{11}{100}$	160	$104 \frac{3}{100}$	18	$8 \frac{88}{100}$	142
—, —, —, 41 & 45—,	0	0	20	$665 \frac{75}{100}$	20	8373	3	$6 \frac{2}{3}$	17
—, —, —, 46 & 50—,	0	0	44	$302 \frac{35}{100}$	44	$380 \frac{59}{100}$	2	22	42
—, —, —, 51 & 55—,	0	0	0	0	0	0	0	0	0
—, —, —, 56 & 60—,	1	2431	18	$739 \frac{66}{100}$	19	$881 \frac{4}{10}$	3	$6 \frac{1}{3}$	16
—, —, —, 61 & 65—,	0	0	7	$1902 \frac{1}{7}$	7	2392	2	$3 \frac{1}{2}$	5
—, —, —, 66 & 70—,	0	0	8	$1664 \frac{3}{8}$	8	2093	1	8	7
—, —, —, 71 & 75—,	0	0	2	$6672 \frac{1}{2}$	2	8373	0	0	2
—, —, —, 76 & 80—,	0	0	2	$6657 \frac{1}{2}$	2	8373	0	0	2
	3431		13315		16746		2260	$7 \frac{61}{100}$	14546

No. VII.—See pages 9. 26.

RETURN OF THE POPULATION OF THE DISTRICTS MENTIONED IN No. VI. AND OF THE MARRIAGES, BIRTHS, AND DEATHS FOR 1833, ACCORDING TO THE CENSUS OF THAT YEAR.

[Furnished by the Government Agent of the Western Province.]

District.	Whites.		Free Blacks.		Slaves.		Total.		Persons employed in			Births.	Marriages.	Deaths.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Agriculture.	Manufac- tures.	Commerce.			
Colombo Gravets.....	1,255	1,303	16,160	15,313	65	62	17,480	16,708	201	218	670	452	314	195
Salpitty Corle.....	10	8	14,204	13,661	0	0	14,214	13,669	7,077	2,777	1,131	675	189	875
Hewagam Corle.....	5	1	10,053	8,687	0	0	10,058	8,688	6,189	393	160	638	126	459
Hina Corle.....	0	0	22,191	20,287	24	19	22,215	20,306	16,805	875	569	988	301	1,020
Southern division } of Aloetcoor Corle }	0	0	6,967	6,606	10	12	6,977	6,618	3,120	160	82	17	60	120
Total.....	1,270	1,312	69,575	64,584	99	93	70,944	65,989	33,895	4,453	2,612	2,770	990	2,169.

No. VIII.—See page 3.

EXPLANATION OF THE PLAN OF COLOMBO PETTAH.

In this plan numbers have been applied, in the order of occurrence, to the houses of all those residing in the Pettah, who were there attacked with small-pox, modified small and chicken-pox; and in the subjoined Table, the names of the Streets, in which the houses are to be found, the date of the invasion of the eruptive fever in every case, and its corresponding No. in Appendix No. I.—which indicates its order of occurrence among the cases throughout the island—successively follow its No., in reference to the other cases that occurred in the Pettah. The fifth or last column has been introduced to shew the comparative numbers attacked in Colombo Pettah only, and in the whole island, at every stage of the disease; and the letters *c*, *m*, and *f*, have the same application as in the Appendix from which this column is filled up.

Cases number- ed in order of occurrence.		Streets in which they successively appeared.	Invasion of fever in each	Corresponding No. in Appendix I.
Treated in Private houses	Pettah or Ma- randahn hospital			
	1	Prince-street, (hospital)	16th November	4
	2	"	21st "	f 5
	3	"	26th "	f 6
	4	"	28th "	7
	5	"	6th December	f 8
6		1st Cross-street	18th "	f 9
	7	Fish Bazar	" "	10
	8	Prince-street, (hospital)	21st "	f 11
	9	"	" "	12
	10	"	22nd "	13
	11	"	" "	14
	12	Fishers'-street, D.	23rd "	15
13		Prince-street	" "	f 16
14		1st Cross-street	25th "	19
	15	Front-street	1st January	21
16		Main-street	2nd "	c 25
17		"	3rd "	c 26
18		"	10th "	c 28
	19	1st Cross-street	" "	29
	20	"	" "	f 30
	21	Fish Bazar	" "	31
	22	1st Cross-street	11th "	33
	23	Prince-street	" "	34
	24	1st Cross-street	12th "	f 35
	25	Front-street	" "	f 36
	26	Bazar	" "	37
	27	Land-street	14th "	41
	28	Fish Bazar	" "	42

Cases number- ed in order of occurrence.		Streets in which they successively appeared.	Invasion of fever in each	Corresponding No. in Appendix I.
Treated in	Private or Ma- houses houses			
	Pettah or Ma- randahn hospital			
	29	Bazar	14th January	f 44
	30	Fish Bazar	" "	45
	31	Land-street ..	" "	f 43
	32	Fish Bazar ..	" "	48
	33	Land-street ..	16th "	f 49
	34	" ..	17th "	54
	35	" ..	" "	f 55
	36	" ..	" "	56
	37	3rd Cross-street	" "	59
58		Keyser-street	" "	64
	39	Fishers'-street C.	18th "	f 68
	40	Prince-street, (hospital)	19th "	71
41		2nd Cross-street	23rd "	c 85
	42	Fish Bazar	" "	m 87
	43	Bullock Lines	24th "	88
	44	1st Cross-street	" "	89
	45	Fish Bazar ..	" "	f 90
46		Main-street ..	27th "	c 98
47		1st Cross-street	29th "	m 97
	48	Bullock Lines	1st February	f 100
	49	Bazar	" "	f 102
	50	Prince-street, (hospital)	" "	f 103
51		Prince-street	3rd "	113
	52	1st Cross-street	4th "	116
53		Bankshall	" "	m 119
	54	Keyser-street	5th "	c 122
	55	2nd Cross-street	" "	f 123
56		Prince-street..	" "	132
57		"	" "	133
58		1st Cross-street	6th "	134
	59	Fishers'-street A.	" "	138
60		" " C.	" "	139
61		Land-street ..	" "	140
62		Prince-street ..	" "	m 141
	63	Fishers'-street, B.	7th "	145
	64	Land-street ..	" "	146
65		Prince-street	" "	m 148
66		"	" "	m 149
67		"	" "	m 150
68		"	" "	m 151
69		Land-street ..	" "	f 153
70		Keyser-street ..	" "	c 154
	71	1st Cross-street	8th "	m 155
	72	Land-street ..	" "	f 157
73		1st Cross-street	" "	159
	74	4th "	9th "	f 160



Cases numbered in order of occurrence.		Streets in which they successively appeared.	Invasion of fever in each.	Corresponding No. in Appendix I.
Treated in Pettah Private or Mahouses. randahn hospital				
	75	1st Cross-street.	9th February.....	f 162
	76	"	"	163
	77	"	"	164
	78	"	"	165
	79	"	"	f 166
80		"	"	167
81		"	"	m 168
	82	Fishers' street A.....	"	169
83		" C.....	"	m 170
84		Main-street.	"	m 172
	85	1st Cross-street.	10th	f 174
86		"	"	175
87		Land-street.	"	c 176
88		Prince-street.	"	178
89		Fishers'-street A.....	"	m 179
	90	" D.....	11th	180
	91	Prince-street.....	"	f 184
	92	Land-street	12th	185
	93	1st Cross-street	"	186
	94	"	"	187
95		"	"	188
96		Keyser-street	"	189
	97	Fishers'-street C.....	"	190
	98	Bazar.....	13th	194
	99	"	"	f 195
	100	Land-street	"	196
101		Bazar	"	m 197
	102	Fishers'-street C.....	14th	f 200
103		Main-street	"	m 202
	104	Fishers'-street D.....	15th	204
105		Main-street.	"	m 205
106		Prince-street.....	"	m 206
	107	"	"	207
	108	Land-street	16th	209
	109	"	"	210
	110	2d Cross-street.	"	m 211
111		Land-street	"	m 212
	112	"	17th	215
	113	Fishers'-street E.....	19th	226
114		Land-street	20th	m 233
	115	"	21st	f 237
	116	St. John's Lake	"	f 238
117		Land-street	22d	m 242
118		Keyser-street.	"	c 243
	119	St. John's Lake.....	23d	244
	120	Bazar.....	"	245

Cases number- ed in order of occurrence		Streets in which they successively appeared.	Invasion of fever in each.	Corresponding No. in Appendix I.
Treated in Pettah Private or Ma- houses. randahn hospital.				
122	121	Bazar.....	23d February	246
		Fishers'-street C	" "	248
	123	Bazar.....	24th "	f 249
	124	Bullock Lines ..	" "	f 250
	125	Bazar.....	" "	f 252
126		1st Cross-street	" "	m 256
127		Prince-street.	" "	257
128		Land-street	" "	259
129		Bazar.....	" "	258
	130	"	26th "	264
	131	Fish Bazar.....	" "	265
	132	Land-street.	" "	268
	133	"	" "	269
134		Bazar.....	" "	270
	135	"	27th "	272
	136	Main-street	" "	273
	137	Bazar.....	" "	274
	138	Land-street	" "	m 276
	139	"	" "	277
140		Bazar.....	" "	278
	141	"	28th "	282
142		Land-street	" "	283
	143	Prince-street.....	2d March	f 294
	144	"	" "	f 295
145		Main-street	" "	297
	146	Bazar.....	3d "	f 301
147		1st Cross-street	4th "	m f 305*
148		"	5th "	m 307
149		Land-street.	" "	306
	150	Fishers'-street C.....	6th "	310
151		Land-street	" "	m 312
152		1st Cross-street	7th "	314
	153	Prince-street (hospital).....	" "	f 315
	154	Bazar.....	9th "	f 318
155		Fishers'-street C.....	" "	m 319
156		2d Cross-street.	11th "	c 325
	157	Fish Bazar.....	14th "	m 326
158		1st Cross-street.	15th "	m 332
159		Keyser-street	16th "	335
	160	Land-street	18th "	340
	161	"	19th "	342
	162	Fish Bazar.....	20th "	343
	163	Fishers'-street C.....	21st "	f 349
	164	" B.....	" "	355
	165	Land-street.	" "	356
	166	4th Cross-street.	" "	359

Cases number- ed in order of occurrence	Treated in Pettah Private or Ma- houses. randahn hospital	Streets in which they successively appeared.	Invasion of fever in each.	Corresponding No. in Appendix I.
167		1st Cross-street	22d "	362
168		Land-street	" "	363
169		"	" "	f 364
170		"	" "	365
171		"	25th "	372
172		"	" "	373
173		2d Cross-street	28th "	f 377
174		Fishers'-street A	30th "	f 381
175		Land-street	" "	383
176		"	1st April	c 386
177		Keyser-street.	3d May	c 412
178		St. John's Lake	8th "	415
179		"	23d "	422

No. IX.—See page 16.

EXAMPLE OF THE REPORTS MADE BY THE INSPECTING MEDICAL OFFICER
ON THE DISCOVERY OF CASES OF SMALL-POX.

Names of the persons comprising the family of the widow Mrs. Roosmalecocq, Grand Pass; the Division and Number of the house are unknown for the present.

No.	Names	Age		Remarks.
		Y.	M.	
1	The widow Mrs. Roosmalecocq, Burgher	70	0	{ Had Small-pox, and bears the mark of it.
2	A. L. Jansz —————, " —	23	0	{ Do not perceive any scars of vaccination, but now affected with confluent Small pox.
3	John Perera —————, " —	6	4	{ Says to have been vaccinated, and finding that there were no scars left to perceive, I have vaccinated after my inspection, and now under operation.
	<i>Servants.</i>			
4	D. W. Secasingha ————— Cingalie	16	0	—do.—do.—do.
5	Bababamy —————, " —	8	0	—do.—do.—do.
6	Docho —————, " —	16	0	—do.—do.—do.
7	Bacho ————— Malay	80	0	{ Says that he had the Small-pox in his youth.

The above family has been inspected by me; and requested the police officer to remove the confluent case of small-pox to the Marandahn hospital.

To J. KINNIS, Esquire
Superintendent of Vaccination, Colombo.

(Signed) B. H. TOUSSAINT,
Medical Sub-Assistant.

No. X.—See page 18.

DIET TABLE OF THE PATIENTS AT MARANDAHN SMALL-POX HOSPITAL,

In the First stage of the disease.

Rice Gruel, _____	} With salt or sugar, according to the wishes of the patients.
Fresh Butter Milk, _____	
Kings' Cocoanut, _____	} These patients get frequent drinks, and the extras are given according to the urgency of the case. They get twice sago and rice soup, and the extras during the intervals.
Sugar Cane Juice, _____	
Oranges, _____	
Sago and Sugar, _____	
Biscuit and Sugar Candy, _____	
Rice Soup, _____	

In the Second and Third stages.

Rice Soup, or _____	} Besides this diet, they get congee, as much as they require; they get 2 meals a day with extras.
Rice and Curries, _____	
Kings' Cocoanut, _____	
Sago and Sugar, _____	
Fish and Vegetable Curries, _____	
Cream, _____	
Sugar Cane, _____	
Biscuit and Sugar Candy at night _____	

N. B.—The attendants are fed with Rice and Curry, twice a day.

(Signed) J. B. MISSO,
Medical Sub-Assistant.

No. XI.—See page 18.

PARTICULAR ACCOUNT OF THE PROVISIONS AND EXPENDITURE OF THE HOSPITAL ESTABLISHMENT AT MARANDAHN, DURING THE MONTH OF FEBRUARY 1834, AS AN EXAMPLE OF THE WHOLE.

	£	s.	d.
44½ parrahs of Rice at 3s. 4½d. per parrah	7	10	5½
Fish	6	1	2½
Jack	0	0	1½
Vegetables	0	7	10½
400 Cocoanuts	0	19	4½
92 Kings' Cocoanuts	0	4	6
Sugar Cane	1	10	6½
382 Oranges	0	17	0½
Salt	0	2	4½
68 measures of Oil at 5¼d. per measure	1	9	9
Green Plantains	1	1	2½
Firewood	1	7	3
Limes	0	5	9
Onions	0	7	6½
Curry stuff	0	13	6
Tamarinds	0	0	1½
Biscuits	1	9	7½
Cream	0	3	0

Carried over—£ 24 11 0

	£	s.	d.
<i>Brought forward</i> —	24	11	4
44½ pounds of Sago at 3d. per pound	0	11	2½
60¾ —do.— of soft Sugar at 4½d per pound	1	2	9½
55 —do.— of Sugar candy at 9d. per pound	2	1	3
Butter Milk	0	0	4½
Bottle Gourds	0	3	8½
Dried Fish	0	5	11½
2 Dozen of common Plates	0	8	9
32 Chatties and Pots	0	1	0
Coolie hire for conveying the above from the Market to the Hospital—	0	5	9½

Funeral Charges.

21 Coffins	2	14	9
5 Graves at St. Thomas's Burial ground	0	8	9
16 —do.—at Marandahn—do.—do.	0	6	0
71 Bearers at 6d. each	1	15	6
Servants' wages as per List	4	13	0
Total—	£ 39	0	1

Total number of diets	2140
Average daily number of persons on diet	76 $\frac{12}{28}$
Of whom were patients	38 $\frac{9}{10}$
— Attendants brought by patients	31 $\frac{6}{10}$
— fixed Hospital Servants	6
Average daily expence of a patient and his attendant	6½d.

(Signed) J. B. MISSO,
Medical Sub-Assistant.

No. XII.—See pages 10. 21. 22.

NOTICES OF THE OCCURRENCE OF SMALL-POX, AND PROGRESS OF
VACCINATION IN CEYLON BETWIXT THE YEARS 1799 AND 1833.

1st Period, 1799 to 1818.

"The dreadful ravages, which the small-pox usually committed in Ceylon," observes Dr. Christie in 1809, "previous to the introduction of vaccination must be in the recollection of every one. It scarcely ever failed to visit us at Colombo, during the prevalence of the south-west monsoon, when the port was open and generally carried off a great proportion of the inhabitants*."

In the year 1799, (as we are informed by Mr. Toussaint one of the oldest medical sub-assistants now in the service,) small-pox raged in the district of

* Letters on Vaccination in Ceylon, from Thomas Christie Esq. Medical Superintendent General, re-published from the *Ceylon Government Gazette*, in the *Edinburgh Medical and Surgical Journal* for 1809, vol. v. p. 499.

Jaffnapatam; and at Copay, a village five miles from Jaffna, there was an establishment for the treatment of patients affected with that disease, consisting of four hospitals, in charge of a superintending surgeon, an assistant surgeon, and three Native medical officers, of whom Mr. Toussaint was one. Each of those hospitals was sufficiently large to accommodate two hundred patients; and the average number of cases of natural and inoculated small-pox, under treatment in the whole establishment, was from five to six hundred, of which many terminated fatally.

The disease appeared near Batticaloa in 1800; and Cordiner, who visited that district immediately after its subsidence, gives a horrible account of the misery and devastation it had caused.

"On the 4th of September," says he, "I accompanied the superintendent of hospitals in a boat, ten miles up the arm of the sea, which beautifies this part of the country. His object was to inspect the villages of Vandermal and Eraoor, which had been lately deserted by the inhabitants, owing to the breaking out of the small-pox. On such occasions the husband forsakes his wife, the mother her children, and the son his father, often leaving them in their miserable huts to the ravages of famine, and the wild beasts of the forest. Sometimes, however, they contrive to furnish them with subsistence without entering their dwellings; but, in those sequestered hamlets, medical aid was only now beginning to be known. For many years great desolation was committed annually by that exterminating malady, the natural small-pox. The Dutch inhabitants, being themselves enemies to the practice of inoculation, never encouraged it among the native Ceylonese.

"After the inhabitants had left their villages, they became the prey of wild elephants, hogs, and chetas. The elephants broke down the feeble fences, took possession of the gardens, tore up the plaintain trees by the roots, levelled those of the cocoanut and browsed upon their leaves. The ravaged orchards exhibited scenes of terrible devastation; the mangled trees were strewn on the ground, the straw stripped from the roofs of the cottages, the surface of the earth broken up, and filled with hollows, the fences shattered; earthen pots, the simple utensils for culinary purposes, wheels, reels, looms, and all the apparatus of the weaver lying useless and forsaken. A family of three infected persons, who had been left in one of the gardens of Eraoor, were supposed to have been devoured by the chetas, or wild bears, as a vestige of them could not be seen. Of the diseased in Vandermal, forty people died and ten recovered. The malady having then subsided, the villagers were beginning to return, and setting about repairing their demolished hamlets.

"Soon after Mr. North's assumption of the Government of Ceylon," continues Mr. Cordiner, "establishments were formed, which tended greatly to mitigate the distress produced by the small-pox. At the four principal stations in the island spacious hospitals were erected, both for the purposes of inoculation, and for the reception of persons labouring under the natural disease. In each of the twelve smaller districts a medical overseer was appointed to attend the sick in their own houses, to repair to any villages where infection prevailed, and to reside there while it continued. After the commencement of those establishments many thousands of patients were inoculated, and the proportion of deaths to that of cures was not greater than what was at the same time common in Europe. The system proved extremely beneficial, and its several branches became the means of preserving many useful lives. But now Providence has conferred on the inhabitants of

Ceylon a milder and more sure relief, by the introduction of the Jennerian improvement. Vaccine inoculation commenced at Trincomalee in August 1802, with matter sent from Bombay. It was thence circulated round the island, conveyed to Madras, communicated to his Majesty's fleet, and spread with a rapid success over all the British empire in the east*.

"On receiving the reports made to the committee of superintendence, it appears that from the 1st of October 1800 to the 30th of September 1802, the number of patients with natural small-pox, treated by the medical overseers in the different hospitals and villages in Ceylon, was 2,110, of which number 473 died, being nearly one-fourth of the whole; and the number of inoculated patients amounted to 4,158, of which number 108 died, being nearly one in thirty-eight. This considerable mortality occurred under the most favourable circumstances of treatment and it is conceived, from my own observations and those of the different persons with whom I have conversed on the subject, that the mortality from natural small-pox amongst the inhabitants of Ceylon, when left to themselves, was much greater†."

"On the first introduction of the cow-pox in 1802, when the small-pox raged at Colombo, the natives of their own accord flocked in crowds to the inoculators, and expressed the greatest anxiety to be immediately vaccinated."

In January 1808, Dr. Christie writes "of late we have comparatively suffered very little from small-pox. It is true that, since May 1805, we have had occasionally cases in the Pettah of this place, which, in some instances, there is reason to believe, was introduced from the Kandyan country, but the contagion never spread as formerly."‡ In January 1807, small-pox was prevalent at Trincomalee, "and from thence found its way to Jafna, but has since been banished from both places by the beneficial influence of vaccination, which has been very extensively practised in these districts during last year"§.

The disease did not exist "in any part of the British possessions on this island during the year 1808, except in the district of Galle, into which it was brought on the 31st of January, by a Maldivian boat, last from Bengal. A large proportion of the crew of this boat died; and the disease was communicated by a fisherman, who visited it on its first arrival, to two or three inhabitants in the neighbourhood of Galle, but spread no further; which must be attributed chiefly to the favourable influence of vaccination, which has been (February 1st 1809) so extensively diffused in that and other districts of the island||."

In October 1809, "the disease was brought to Jaffnapatam by a country boat from Quilon, on the Malabar coast. The contagion spread in a few individuals, who had not been vaccinated, in the Pettah of Jaffnapatam, and, by means of a civil prisoner, was introduced into the gaol at that place; but its progress there was immediately arrested by the removal of the infected persons and the indiscriminate vaccination of all the other prisoners." Six individuals only were attacked in the whole district and the disease "found its way to no other part of the island except Putlam, where a coolie from

* Cordiner's *Description of Ceylon* vol. i. p. 258 — 256.

† Dr. Christie's "Account of the Ravages committed in Ceylon by small-pox, previously to the introduction of Vaccination"—quoted in *Edinburgh Medical and Surgical Journal* for 1812, vol. viii. p. 99.

‡ *Edinburgh Medical and Surgical Journal*, vol. v. p. 500.

§ ————— p. 499.

|| ————— p. 501.

Jaffna was taken ill with small-pox in December, but recovered without communicating the disorder to any other person**.

In 1810 small-pox prevailed in Jaffna and was kept up for some time by one of the Native headmen, who persisted in inoculating with variolous matter in defiance of a Government regulation forbidding it. It was detected the same year in several other districts; but did not spread to any extent, and only one case occurred in the district of Colombo, in a person, who was ascertained to have brought the disease from the Kandyan territory: and no instance occurred of any person, who had gone through the Vaccine disease, having received the contagion.†

As we have already remarked, the records of the medical department in this island carry us no further back than 1809, though from other sources we have been enabled to state (p. 24) the total number vaccinated previously to the 13th April 1804, and to the end of 1806, as well as the numbers in 1807 and 1808. The average number vaccinated annually up to the end of the year last mentioned, or during the first seven years after the introduction of vaccination, was 14,719. The annual numbers have upon the whole progressively increased since 1809; but in so remarkable a proportion whenever small-pox prevailed that the mere inspection of the vaccination Abstracts suffices to point out the different years, in which that disease visited the island. Its presence in 1810, as in subsequent years, appears to have either greatly increased the vigilance and activity of the vaccinators or subdued the antipathy of the people to vaccination, for we find the number returned as vaccinated in 1809 to be 25,697, while in 1810 it is 35,076, or more than double the annual average of the preceding eight years.

In February 1813, two recruits for the second Ceylon regiment, labouring under small-pox, landed from the Coast, at Chilaw; but with this exception we find no mention of the disease from 1810 to the middle of 1819.

2d Period, Epidemic Small-pox of 1819.

The immediate danger of small-pox being over, the number vaccinated annually diminished by degrees from 35,076 in 1810 to 13,010 in 1818. This diminution might possibly have been ascribed to the supply of unvaccinated subjects having in a series of years become nearly exhausted, if the return of small-pox in 1819, had not brought *nearly four times that number* to present themselves for vaccination. Though the disease did not break out before the month of July, 48,411 individuals were vaccinated in the Maritime districts, and 14,249 in the Kandyan provinces (into which cow-pox had been introduced three years before), making a total of 62,660, in the whole island, during that year.

On this occasion the disease was introduced from the Malabar coast by the master of a dhoney, and was first discovered in Bankshall, among some families who had sheltered and concealed the patient. The following are extracts from an interesting account of this epidemic, addressed by Dr. Farrell, inspector general of hospitals, and then superintendent general of vaccination, to the deputy secretary to Government, and from staff surgeon (now deputy inspector general) Marshall's "Account of the introduction of vaccination among the inhabitants of the Interior of Ceylon, and of an Epi-

* Dr. Christie in *Edinburgh Medical and Surgical Journal* for 1811 vol. vii. p. 254.

† Letter of A. High Esq. superintendent general of the Vaccine establishment, to the editor of the *Ceylon Government Gazette*, 2d February 1811.

demic small-pox which prevailed in the Kandyan provinces in 1819" published in the *Edinburgh Medical and Surgical Journal* for 1823 (vol. XIX p. 71.)

"In the four Gravets of Colombo, where the population is great and much concentrated, abounding with Moors, Malabars and Chetties, all averse to vaccination, it (small-pox) seized in a very short time a vast number of people."

"On the first appearance of the disease, hopes were entertained that it might be prevented from spreading, by regulating the communication with infected persons, but it was soon found that the contagion had diffused itself much more widely than had been suspected, and it became necessary to adopt other measures. With the view therefore, of arresting its progress, and saving as many people as possible from its grasp, the Government authorized the fullest extension of vaccination and put at my disposal all the means that the country afforded of carrying it into effect."

"The care of the Government did not stop with the means of increasing the practice of vaccination—It extended itself to providing accommodation, food and medical attendance, for such unfortunate sufferers from the disease as were willing to avail themselves of them. The charitable hospital in the Pettah of Colombo was thrown open for the reception of small-pox patients; and establishments for the reception and care of patients of the same description, were made at every post in the Maritime districts and Kandyan provinces, at which a medical officer was stationed. These establishments were soon crowded with sick, and the returns from them evince at once their utility and necessity.

"Small-pox is in this climate, as I believe it is in all intertropical climates, a disease of peculiar malignity and danger. It assumes the confluent, or in other words, the more dangerous form, in a vast proportion of cases; consequently it must prove far more destructive, in proportion to the numbers attacked, in this country than in the cooler parts of the world.

"The total loss occasioned by this disease, from the period of its appearance up to this date, it is almost impossible to ascertain: an attempt towards an approximation to it may, however, be made. There has been considerable diversity in the amount of loss in different districts.

"In Colombo the deaths have been considerable, while the populous district of Jaffna has suffered comparatively but little. In the other Maritime districts, the loss, taking the aggregate of it, has not been great. All this may be accounted for from the circumstance of a number of people in these districts being secured by cow-pox. It is in the Kandyan provinces, that the disease will have committed the greatest ravages.

"By returns received from the Maritime districts, from the 15th July 1819 to the 15th instant, we find that 5,451 persons have had the disease; of whom, it is to be lamented, no fewer than 1,745 have died.—This picture, frightful as it appears, does not present, it is to be feared, the full extent of the evil, as there is reason to suppose, that several have had the disease, and some have died, of whom we have had no account.

"The number of people that have been seized by the disease or have died of it, in the Kandyan provinces, it is still more difficult to ascertain than that of the inhabitants of the Maritime districts. To judge from reports, and from the circumstance of very few of the Kandyans being protected by cow-pox, the loss in that part of the country, must have been great. By returns from Kandy, Allipoot, Badulla and the other military stations in the Interior, from

the 15th August 1819 to the 15th instant, it appears that 2,423 small-pox patients have been admitted into hospitals established for their accommodation, out of which number not fewer than 1,200 have died. This is a surprisingly heavy loss, considering the number in which it has taken place. —But it is to be recollected, that the worst cases of the disease, and those in the most hopeless stage of it, were the only ones for which aid was sought in our hospitals by the Kandyans. The total loss in the Kandyan provinces must exceed by much the number here stated; but the proportionate mortality among the people at large was, I have reason to think, far less than what has taken place in our hospitals; for, as I have just observed, it was the hopeless cases only that were brought to hospital, while all, who had the disease in its mild form, took their chance of recovery at home."

"Shortly after the appearance of small-pox at Colombo," writes Mr. Marshall in the paper referred to, "the epidemic extended to the Kandyan provinces, where the disease had not been known for a period of about seventeen years. There were therefore a great proportion of the inhabitants obnoxious to small-pox. Under the native Government a very strong measure used to be adopted to arrest the dissemination of the disease when it occurred. Every family was placed in a kind of quarantine, and all intercourse among the people interdicted, until the source of contagion had apparently become extinct.

"Upon the appearance of small-pox in Kandy, an hospital was established for the reception of the inhabitants who became affected with that disease. —By this means it was attempted to check the extension of the epidemic, but our views in this respect completely failed. Notwithstanding every endeavour to separate the sick from the healthy, the disease extended rapidly, the hospital became crowded, and inadequate for the accommodation of all candidates for admission. Under these circumstances, it was necessary to confine the admissions to the more indigent and destitute of the afflicted. —Indeed a large portion of the patients latterly received into hospital were individuals whose relations had completely deserted them. Thus abandoned by every one, they were often found lying in the streets in a very advanced stage of the disease. People were appointed to convey cases of this kind to the hospital, where, although in many instances little could be done for them in regard to the exhibition of medicine, they received that attention which their condition required."

"It is most satisfactory to have to observe" continues Dr. Farrell, "that the returns, which I have this day (20th January 1820) received from all parts of the country, present a striking diminution in the number of admissions, and a still greater one in the number of deaths from this disease. It is to be hoped therefore that the worst of it is gone by. The insinuating nature of its contagion, the rapidity with which it spreads, and the unsparing sweep in which it involves all that are liable to it, are of themselves causes of its exhaustion, and when to those are added the widely extended security afforded by cow-pox, it is not unreasonable to hope that its final extinction and disappearance are not far distant. We may also be allowed to hope that the heavy blow now given by the horrors of small-pox to prejudices against vaccination, will conduce to an extension of the blessings of cow-pox, and secure the rising generation a much longer interval of exemption from the scourges of small-pox than that lately experienced by their predecessors.

"The occurrence of small-pox to the extent to which it has lately taken place among us, and in a country where vaccination has been carried on for so

many years with perseverance and care, must naturally give rise to a discussion of the question of security afforded by cow-pox against small-pox, and never was there a better occasion for trying the question than the present one. —The climate, the habits of the natives, every thing in fact that can give virulence to the contagion of small-pox, or aggravate the nature of the disease, are to be met with in this country. Still it is to be observed that the whole European population of the colony, including the troops, their wives and children, and all the descendants of Europeans, have, with four exceptions, escaped small-pox and all other eruptive diseases bearing a resemblance to it. This exemption cannot be accounted for on any ground but that of the persons herein alluded to having had previously either small-pox or cow-pox. —But as very many of them were born since the introduction and adoption of vaccination, have had cow-pox, and never had small-pox, it is impossible to avoid attributing the exemption of these at least to the former.

“Of the *four* cases of exception above stated, one was that of a British soldier, who had small-pox in his youth, and bore the marks of it. The second was that of a British soldier, who said he had natural cow-pox in his youth, and that he had been repeatedly exposed to the contagion of small-pox. The third was that of a young girl, born in the island of British parents, who, there is no reason to doubt, had genuine cow-pox about ten years before, but in whose case the eruption bore a stronger resemblance to chicken than to small-pox—and the fourth was that of a child of European parents, who had been vaccinated about five years before, but in whom it is uncertain whether cow-pox was produced or not. The disease in this child's case was severe and well marked; but she passed through all the stages of it in the same house with four other children, who had cow-pox, but who escaped small-pox and every other eruptive disease. Of the four cases just alluded to one only proved fatal, and it was that of the soldier who, we were informed, had natural cow-pox in England.

“So much for the European part of the population of this colony, the circumstances connected with the health of whom, came as fully under the cognizance of the medical men of this Establishment as those of the same number of people in any other part of the world. We have not, unfortunately, the same grounds for judging of what takes place in the health concerns of the natives, whose accounts of themselves are in general unsatisfactory, and often perverted by design. In what relates to the business of vaccination among them, we have many difficulties to contend with; for they often disobey our injunctions, and occasionally put it out of our power to ascertain whether the genuine disease had been produced in them or not, consequently failures, and some uncertainty as to the efficacy of cow-pox, must be more common among even the same number of them than among that of our European population. The force of this remark has been fully experienced on the late occasion, for while we have heard but little of failures among Europeans, we have heard much of them among natives. Reports of several cases of small-pox after cow-pox, or what was supposed to be cow-pox, have reached me; but there were so many defects in the history of most of them, that they leave the question pretty much as they found it. I have taken much pains to come at the bottom of this subject, by visiting several suspicious cases, ascertaining their history and watching their progress. Of these I have seen about twenty, all of which had been vaccinated, and I have no reason to doubt, had passed through the regular stages of cow-pox. In six of them, the disease appeared to me to be what we have been accustomed to call chicken-pox, but in the remaining fourteen, I honestly confess that I am

unable to say whether it was chicken-pox, or a very mild form of small-pox.—In all, the symptoms of the disease were mild, except during the period of the eruptive fever, and not one proved fatal.

“It may not be out of place to remark here that I have lately seen four well marked cases of a variolous eruption, two of them of the confluent kind, which proved fatal, in natives, who acknowledged that they had natural small-pox, in the early part of their life, and even bore the marks of it on their skin.”

In his observations on the half yearly Return of diseases occurring in Ceylon, from June to December 1819.—Dr. Farrell remarks,

“The occurrence of no fewer than 108 cases of small-pox, 31 of which proved fatal, within the half year, is a very unusual circumstance in this island, and one that well deserves special notice. It appears that 104 of the cases occurred among our native troops, who being of the Hindoo or Mahomedan religion, were averse to vaccination, and could not have been induced by any persuasion or argument to submit to the operation. Such determined opposition to vaccination is not general, however, among the people of these religious persuasions in this country; for many of them, on the first introduction of cow-pox, soon got the better of their prejudices, submitted to the process for vaccinating, and sought afterwards, for their families, the security against small-pox afforded by that mild disease. Had not many thus given up their prejudices, and availed themselves of the protection offered, it is more than probable that the greater part of our native force would have been open to the assaults of small-pox on the late occasion, and that very many of them would have lost their lives by it.”

Again, “Were proof wanting of the security afforded by cow-pox against small-pox, it would be found in the comparative condition of our European and native troops on the late occasion. Of the latter 104, being almost the whole number unprotected by cow-pox, or who had not passed through small-pox, were attacked by variola; while of the former only four were attacked, and of the two of these that proved fatal, it would appear there is no very decisive evidence of the individuals having had cow-pox.”

At the conclusion of Mr. Marshall's paper we find the following “Return of the number of Native inhabitants, admitted into the hospital in Kandy, on account of small-pox and eruptions resembling that disease, during the prevalence of the epidemic which commenced in July 1819.

	Admitted.	Died.	Discharged.
Under the head Variola (small-pox)	931	525	406
Varicella (chicken-pox)	9	”	9”

3d Period, 1820 to 1829.

For the three years immediately following this frightful epidemic, the numbers vaccinated progressively diminished from 62,660 in 1819 to 14,542 in 1822. In 1823 the number increased to 17,755 and in 1824 it rose so high as 26,623. Though the natives well remember that small-pox prevailed to some extent in the last mentioned year, the only documents corroborating this fact, to be found among the records of the medical department, are a letter from Dr. Farrell, reporting to the deputy secretary to Government, the case of one unvaccinated child, next door to the Pettah hospital, and the sick Returns of the Native troops for the last quarter of 1824 and the first of 1825, in which together seven cases are mentioned. The same series of Returns, it may be here remarked, record the occurrence of the 104 cases mentioned by Dr. Farrell, all which were admitted in the two last months

of 1819; as well as of 39 in the first, and 1 in the second quarter, of 1820; 1 in the second and 3 in the fourth quarter of 1821; 4 in the fourth of 1824; 3 in the first of 1825; 1 in the first of 1828; 5 in the first, 8 in the second, 2 in the third and 3 in the fourth quarter of 1830; giving a total among the Native troops of 175 in twelve years; while, during the same period, the British sick Returns exhibit only eight cases, namely, four in 1819, of which one was fatal; one in 1820 which recovered; and 3 in 1830 (all in the 78th regiment in Kandy) of which two, though said to have marks of vaccination on their arms, died. The two last mentioned cases were reported to have had the disease in the most malignant form; the pustules never rose, but remained flat, pale, and flaccid, with a purple speck in the centre, and death occurred in both, on the 11th day of the eruption.

The number vaccinated in 1825 exceeded by 800 that in 1824, fell off again in 1826, and still more in 1827, increased a little in 1828 and rose in 1829 to 38,015, which was greatly superior to the number for any year subsequent to 1819; while during 1830 it went on increasing to 63,284.

Three cases of small-pox, as already noticed, appear in the Native sick Returns for 1825, and one in that for 1828. None of these proved fatal.

In the end of July 1829 five cases were received into the Jaffna hospital from the island of Ramisseram, and two others, of which the date is not mentioned had been previously admitted; but here the disease appears to have stopped.

*4th Period, Epidemic small-pox of 1830.**

The importation of the disease was traced, on four different occasions, previously to and during its prevalence in 1830.

1st—Into the south-west part of the island it was introduced so early at least as the first week in January; but the attempts made to conceal it by the relations of those first attacked were successful until the 21st of that month, when three cases were discovered in Colombo suburbs, two of them in Sea-street and one in Cotanchene. On the 22nd a fisherman, who had been carefully concealed and was only seen by a medical officer after death, died at Alikam near Caltura. The disease was reported to have commenced a fortnight before, immediately on, or during his, return from a short visit to Colombo. Whether this was the first, or only one among other cases that had been more successfully concealed, could not be ascertained; but our inquiries led to the conclusion that the earliest cases had been imported from the Coast near Caltura.

2nd—Two inhabitants of Morottoo caught the disease at Negapatam, and on their return were brought to hospital in Colombo on the 2nd February. They stated that they had left the very streets of Negapatam crowded with people labouring under small-pox, and that from 20 to 30 individuals from this island had there fallen victims to the disease.

3rd—On the 27th February, a man was attacked with small-pox on his passage from Adrianpatam, whence he arrived in a dhoney on the 1st March, and was sent to hospital on the 5th.

* The writer of this Report, though not then holding any appointment under the Civil Government, was requested by the superintendent general of vaccination to take charge of the Small-pox hospital, to enable the superintendent for Colombo to devote his whole attention to the promotion and extension of vaccination. This duty he performed gratuitously for seven months, and the present account of the Epidemic of 1830 is thereby founded, partly on his personal observation and inquiries—partly on the official documents placed at his disposal by Dr. Forbes.

4th—Various cases were imported into Aripo from the Coast, during the Pearl Fishery in February and March.

“Without the assistance of a map” observes Dr. Forbes in a communication to the Army Medical Board,* “it would be tedious and uninteresting to trace its progress minutely; suffice it, therefore, to say that though the district of Colombo, from the density of its population, might be regarded as its permanent head quarters, it spread sooner or later to most other parts of the island, and during the first 7 months or from the commencement of the disease to the 20th of August, 883 cases of a varioloid epidemic occurred, and 201 terminated fatally. The forms, which it assumed, were chiefly referable to three, viz. 1 severe and confluent, 2 mild, distinct and pustular, 3 mild, distinct and vesicular. The third form was, in all respects, what is known by the name of chicken-pox, and was often so called, in the Returns of medical officers; but the distinction was sometimes so difficult, betwixt it and the second, from the various intermediate forms, which the disease assumed, that it will be better, for the present, to abandon the employment of that term altogether. Of the 883 cases, 754 occurred in the Maritime districts and 129 in the Kandyan provinces; 130 of the former and 71 of the latter proving fatal; 526 cases occurred in the district of Colombo alone; 218 in all the other Maritime parts put together.

“Of the 883 cases just mentioned, as having occurred, throughout the island, previously to the 20th of August last, 414 or nearly one half, were admitted into the Pauper hospital in the Pettah, and into another temporarily established at Marandahn, about 2 miles from Colombo Fort. These cases having been immediately superintended by a staff assistant surgeon, I am enabled to give something like an analysis of them and, for more convenient examination, they may be arranged as in this

“TABLE I.

<i>Cases occurring in persons who were attacked under the following circumstances.</i>	<i>Small-pox.</i>		<i>Chicken- pox.</i>	<i>Total.</i>	<i>Fatal.</i>	<i>Proportion of Deaths to Admissions; 1 to</i>
	<i>Severe.</i>	<i>Mild.</i>				
1 Never vaccinated.....	90	33	8	131	58	2 $\frac{1}{4}$
2 Vaccinated, but without marks.....	37	19	8	64	18	3 $\frac{5}{9}$
3 Vaccinated, with unsatisfactory marks.....	34	23	12	69	15	4 $\frac{1}{2}$
4 Vaccinated, with satisfactory marks.....	3	73	51	127	1	127
5 Who had previously had Small-pox.....	2	2	19	23	2	11 $\frac{1}{2}$
Total....	166	150	98	414	94	4 $\frac{2}{5}$

* Sketch of the Medical transactions of the European and Native Troops serving in the island of Ceylon, from 21st December 1829 to 20th December 1830.

"Of the 414 cases here analyzed," observes Dr. Forbes, in another paper printed for distribution in the island in 1831, "it appears from the Table that 131 acknowledged they had never been vaccinated, and 58 of them died; 64 said they had been vaccinated, but could shew no marks, and 18 of them died;—69 had marks or scars, of one kind or another, on the arms, but not such as are left by vaccination, when undisturbed in its course, and 15 of them died; while, in those who had good marks of vaccination, the disease was rendered so mild that only one died. Nor can we allow this last case to throw any discredit on vaccination, when we find, immediately under it, that two patients died, who had previously passed through small-pox, thus furnishing evidence (so far as the limited number of facts go) that the vaccine disease has at least as much power in preventing *death* from small-pox, as a first attack of this disease has in preventing *death* from a second."

"From the 21st August 1830 to the 20th March 1831," Dr. Forbes continues in the communication first quoted, "besides a few cases in the interior and on the coast—263 have been observed by the native medical officers in the district of Colombo: of that number 187 have been treated in the Marandahn and Pauper hospitals, and the remaining 76, belonging to respectable families, suffered to reside at home in quarantine. Forty-one of these cases were reported as confluent, three as variola (without any more specific epithet), and 222 as either varicella, or distinct or modified small-pox. Seventy-six cases, or 1 in 10 terminated fatally. Seventeen of these admitted that they had never been either vaccinated or the subjects of natural small-pox; and of the remaining nine one is stated to have shewn good marks, two no marks at all, and six unsatisfactory marks of vaccination. Of fifteen confluent cases that recovered, five acknowledged that they had never had either small or cow-pox, and four that the operation of vaccination had failed. Of the remaining six, five had unsatisfactory and one no marks.

"Regarding the commencement of the febrile symptoms, as the most accurate point, from which to trace the progress of the disease, no interval longer than five days has elapsed, from the 21st August to the 20th March, without the occurrence of one or more cases; and only once, viz. from 25th to 31st October, has the interval been so long. Thrice only have four days intervened, betwixt the occurrence of two cases, viz. from 28th August to 2nd September, from 2nd to 7th January, and from 13th to 18th February. In the last 11 days of August, 9 cases occurred; in September 16; October 43; November 39; December 41; January 34; February 53; and the first 20 days of March 21. One or more cases occurred on 6 distinct days out of 11 in August; on 13 days in September; 20 in October; 21 in November; 18 in December; the same in January and February, and on 12 out of 20 days in March.

"The following Table exhibits a view of the numbers attacked and cut off by the disease, in different parts of the island, from its first detection in Colombo, on the 21st January 1830, to its final departure in March 1831:

"TABLE II.

Places at which the different cases were treated.	Admitted.			Died.	Proportion of Deaths to admission; 1 to
	Small-pox.	Chicken-pox and modified small-pox.	Total.		
Galle	3	0	3	0	0
Caltura and Barbelyn	33	25	57	11	5
Colombo and its neighbourhood ..	519	261	780	132	$5\frac{3}{10}$
Chilaw	17	0	17	5	$3\frac{2}{5}$
Pottam	10	0	10	2	5
Aripo	10	1	11	0	0
Jaffna	6	111	117	2	$58\frac{1}{2}$
Manar	6	4	10	2	5
Trincomalie	8	10	18	3	6
Poolmootie	7	0	7	0	0
Maritime Districts	619	411	1030	147	7
Maturatte	2	0	2	0	0
Four Korles	26	0	26	17	$1\frac{1}{2}$
Seven Korles	17	0	17	9	2
Mutele	93	0	93	59	$1\frac{1}{3}$
Madawaletenne	4	0	4	1	4
Fort McDonald	1	0	1	0	0
Kandy and Doombura	32	0	32	11	3
Treated in Hospital Kandy	23	0	23	13	2
Kandyan Provinces	198	0	198	110	$1\frac{3}{4}$
Whole Island	817	411	1228	257	$4\frac{4}{5}$

"There are several circumstances, in the above Table, that clearly shew the advantages of vaccination, particularly the small proportion of deaths in the Maritime districts, where vaccination is pretty generally practised, as compared with the great mortality in the Kandyan provinces, where the prejudices of the inhabitants have until very lately prevented vaccination from being carried to any extent. The proportion of deaths to the number attacked in the Maritime districts is as 1 to 7,—147 having died out of 1,030,—while in the Kandyan provinces the mortality amounts to one in $1\frac{3}{4}$ nearly, 110 having died out of 198 attacked.

"In the Maritime districts again, there is no district where vaccination has been carried to so great an extent as in that of Jaffna, and here the good effects of vaccination appear most conspicuous; for only six cases of severe small-pox occurred in 117, and only two deaths took place in the whole, proving in the most satisfactory manner that, even when vaccination does not

absolutely prevent small-pox, it almost always ensures the occurrence of a mild and harmless, instead of a highly contagious, virulent, and fatal disease.

"The protecting power, which the increase of vaccination has afforded is also well established by comparing the numbers attacked by small-pox, in 1819 and 1830, for every 10 persons attacked by the disease in 1830, nearly 100 were attacked in 1819; and for every 10 persons who died in 1830—176 died in 1819. Had the protecting influence of vaccination been universally diffused, throughout the island, at both the periods referred to—1819 and 1830, we have every reason to believe that 9,000 persons might have escaped the attack of a dangerous and painful disease; and that 3,000 of those, who fell victims to it, might have been at this moment alive and well in the bosoms of their families."

ABSTRACT OF THE TOTAL NUMBER SUCCESSFULLY VACCINATED IN CEYLON,
FROM THE FIRST INTRODUCTION OF COW-POX IN 1802, AND OF THE
NUMBERS VACCINATED ANNUALLY FROM THE BEGINNING OF 1807 TO
THE END OF 1834.

<i>Years.</i>	<i>Numbers Vaccinated.</i>	<i>Years.</i>	<i>Numbers Vaccinated.</i>	<i>Years.</i>	<i>Numbers Vaccinated.</i>
1802—1806	54,958	1816	19,539	1826	20,236
1807	21,870	1817	23,464	1827	16,735
1808	26,207	1818	13,563	1828	16,901
1809	25,697	1819	62,660	1829	38,015
1810	35,076	1820	34,492	1830	63,284
1811	30,491	1821	18,796	1831	42,180
1812	26,783	1822	14,542	1832	29,172
1813	20,509	1823	17,735	1833	24,556
1814	19,198	1824	26,623	1834	34,401
1815	17,214	1825	27,424		
	278,003		258,838		285,480
					258,838
					278,003
Number Vaccinated in 33 years.....					822,321

No. XIII.

RETURN OF THE POPULATION OF CEYLON, BY A CENSUS TAKEN IN 1833, AND OF THE MARRIAGES, BIRTHS, AND DEATHS FOR THAT YEAR. [From the Ceylon Almanac for 1835.]

County or District	Area in Square Miles.	Whites.		Free Blacks.		Slaves.		Total.		Population to the square mile.	Persons employed in			Births.	Marriages.	Deaths.
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.		Agriculture.	Manufactures	Commerce.			
Western Province	4,452	1,734	1,704	234,402	211,196	391	338	235,527	213,238	2,516	101,654,498	7,780	10,538	*10,278	*3,512	*9,156
Southern Do.	6,032	462	519	132,680	121,487	369	335	133,511	122,341	394	42	78,412	8,495	10,744	+1,076	+5,978
Eastern Do.	4,895	694	906	25,935	22,577	0	0	26,629	22,783	660	10	†9,733	†1,256	†2,610	†501	†948
Northern Do.	6,053	423	442	108,312	108,272	12,166	11,449	120,901	120,163	657	40	||59,908	||5,399	||20,829	||3,810	||6,298
Central Do.	3,016	65	55	64,577	56,352	440	511	65,082	56,918	4,488	42	41,608	2,087	No	Return kept,	
Total	24,448	3,378	2,926	465,906	519,884	13,366	12,633	582,650	535,443	8,715	46	354,459	25,017	47,102	8,899	22,380

POPULATION OF CEYLON—1,126,808.

* Excepting the Four Korles where no Returns have been kept.

† Excepting the Bintenne Division where no Returns have been kept.

|| Excepting the Nuwerakalawe Division where no Returns have been kept.

No. XIV.—See pages 11. 26.

NOTICES OF THE OCCURRENCE OF CHICKEN-POX AMONG THE TROOPS SERVING IN CEYLON, BETWIXT 1811 AND 1834, AND AMONG THE CHILDREN IN THE ORPHAN ASYLUM OF COLOMBO, BETWIXT 1817 AND 1834.

	<i>Total</i>
1811—In the 4th Ceylon regiment, Colombo, 4 cases occurred in August; 17 in September; 11 in October and 22 in December, making 45 in 5 months, from an average strength of 390 men. In a detachment of the 3rd Ceylon regiment, also in Colombo, 1 case occurred in October.	46
1812—In the 3rd Ceylon regiment, Galle, 4 cases occurred in April, 7 in June, and 1 in November; Pioneers, Colombo, 3 in May and 8 in June; Ceylon Cavalry, Colombo, 2 in June; and a detachment of the 2nd Ceylon regiment, Hambantotte, 1 in August.	26
1813—In the 2nd Ceylon regiment, Colombo, 1 case in April, 2 in July and 4 in August; in a detachment of the same corps at Jaffna, 1 in July; another detachment at Chilaw, 1 in December: 4th Ceylon regiment, Colombo, 1 in May, 4 in June, 10 in July and 2 in August: 1st Ceylon regiment, Galle, 1 in December*	27
1814—In the Malay invalids, Hambantotte, 1 in January: 2nd Ceylon regiment, Colombo, 1 in April.	2
1815—In the 1st Ceylon regiment, Colombo, 2 in June; a detachment of it at Hambantotte, 3 in July: Malay invalids, same station, 1 in July: Pioneer corps, Galle, 1 in December	7
1816—In the 3rd Ceylon regiment, Badulla, 1 in January, and 1 in March: 1st Ceylon regiment, same station, 2 in March, and 2 in April: 1st Ceylon regiment, Galle, 1 in March, 1 in April and 1 in May	9
1817—In the Pioneer corps, Colombo, 1 in January; same corps at Badulla, 4 in March, 20 in April, 7 in May, 2 in September, 1 in October; same corps, Kandy, 1 in October: 73rd regiment, Badulla, 1 in December: Orphan Asylum, Colombo, 17 in July, and 6 in August.†	60
1818—In the Pioneer corps, Kandy, 2 in January; same corps, 1 in Colombo, and 1 at Badulla in February: Native troops (corps not specified,) 1 in Kandy, and 1 at Kornegalle in March: Native troops, Ratnapoora, 1 in April: Native troops, 1 at Topetty or Kadregam in May.	8

* Two cases of small-pox occurred in February of the same year, at Chilaw, in recruits landed from the Coast.

† The strength of the Pioneers at Badulla varied from 300 in the beginning to 87 in the end of the year; the number admitted with chicken-pox, from March to October, was 34. In 1817 there were 70 children in the Orphan Asylum, of whom 23 were attacked with chicken-pox in July and August. The average number of children in the Asylum since that year has been 84.

Total.

1819—In the 1st Ceylon regiment, Colombo, 1 in March, 1 in April, 1 in August, and 2 in December; same corps, Kandy, 4 in September, 4 in November: Pioneers, Colombo, 1 in March, 2 in April, and 1 in August; same corps, Kandy, 3 in August, 1 in September, 5 in October, 5 in December: Bengal volunteers, Colombo, 1 in August: 45th regiment, Trincomalie, 1 in September: 2nd Ceylon regiment, Colombo, 2 in October; same corps, Kandy, 6 in October, 1 in November; same corps, Badulla, 7 in December: Armed Lascoryns, Colombo, 3 in October: Orphan Asylum, 4 in May, 2 in June, 10 in July, and 1 in August* 69

1820—In the 1st Ceylon regiment,† Kandy, 3 in January, 2 in March, 1 in May, 1 in November, and 3 in December; same corps, Colombo, 1 in May; Armed Lascoryns,‡ Colombo, 1 in January, 1 in April, 1 in August, 1 in September; same corps, Kornegalle, or Alipoot, 1 in February: Sepoy invalids,§ Hambantotte, 1 in January: 2nd Ceylon,§ Chilaw, Putlam or Negombo, 1 in April; same corps, Colombo, 1 in October: Pioneers, Kandy, 1 in January and 1 in May: Orphan Asylum, 4 in January and 1 in February 26

1821—In the Pioneer corps, Kandy, 1 in January, 2 in April, 1 in November: 1st Ceylon regiment, Kandy, 1 in January, 2 in February, 3 in March, 5 in April, 1 in May, 3 in June, 2 in July; same corps, Kornegalle, 1 in January: 2nd Ceylon, Colombo, 1 in January; same corps, Trincomalie, 1 in January: Armed Lascoryns, Hambantotte or Chilaw, 1 in April 25

1822—In the 1st Ceylon regiment, Kandy, 1 in December: Orphan Asylum, 1 in December 2

1823—In the 1st Ceylon regiment, Colombo, 1 in April, and 1 in July: Armed Lascoryns, Colombo, 1 in May, 2 in June: Orphan Asylum, 10 in January, and 11 in February 26

1824—In the 1st Ceylon regiment, Galle, Matura or Ruanwelle, 1 in January; same corps, Kandy, 1 in July 2

* Cases of small-pox in October, November and December 1819. In the 45th regiment 1, 83rd regiment Colombo 1, Royal Artillery Colombo 1, 78th regiment Trincomalie 1, 1st Ceylon regiment Kandy 13, 2nd Ceylon regiment Colombo 30, Pioneer Corps Kandy 60, Gun Lascars Colombo 1: Total—108

CASES OF SMALL-POX IN 1820.

† In the 1st Ceylon regiment, 5 in January, namely, 2 in Colombo, 1 Matura, 1 Fort King Amanapoora or Hettymolle, and 1 Kornegalle; 2 in February, namely, 1 at Hambantotte, 1 Alipoot or Fort King.

‡ Armed Lascoryns, 9 in January, namely, 1 in Colombo, 3 Cultura and Ratnapoora, 4 Alipoot.

§ Sepoy invalids Hambantotte, 1 in January.

§ 2nd Ceylon regiment, 1 in January in Kandy or Ruanwelle; 4 in February, namely, 1 in Kandy or Ruanwelle, 1 at Alipoot or Fort King and 2 at Negombo, Chilaw or Putlam; 3 in March, namely, 1 at Kandy or Ruanwelle, 2 at Alipoot or Fort King: Pioneer Corps, 11 in January, namely, 8 in Kandy, 1 Ruanwelle, 1 Kornegalle, 1 Hambantotte or Trincomalie; 1 in February at Attepity or Ruanwelle; 1 in March at Kandy: 45th regiment, 1 in April: Gun Lascars, Kandy, 2 in January, 1 in May: Total—42

	<i>Total.</i>
1825—In the Ceylon corps, Trincomalie, 1 in June; same in Kandy, 1 in November: Pioneers, Kandy, 1 in December: Orphan Asylum, 1 in July, 9 in August, 9 in September.	22
1826—In the Armed Lascoryns, Putlam, Matura, or Manar, 2 in February: 83rd regiment, Kandy, 1 in March and 1 in April: Ceylon regiment, Kandy, 1 in March; same corps, Colombo, 1 in June: Pioneers, Colombo, 1 in April; same corps, Kandy, 2 in April, 1 in May	10
1827—In the Gun Lascars, Interior, 1 in February: Pioneers, Kandy, 4 in April; same corps, Colombo, 1 in October: Armed Lascoryns, Colombo, 2 in April; same corps, Hambantotte, 1 in November: Ceylon corps, Hambantotte, 1 in November	10
1828—In the Armed Lascoryns, Colombo, 1 in January: Pioneers, Kandy, 1 in February; Ceylon corps, Galle, 1 in May; same, Kandy, 1 in July	4
1829—In the Pioneer corps, Kandy, 1 in March: Ceylon regiment, Colombo, 4 in May, 3 in June, 1 in July; same corps in Kandy, 1 in May; in Trincomalie, 1 in August; Galle or Matura 1 in December: Armed Lascoryns, Colombo, 5 in May, 2 in June, 1 in July, 1 in August: Orphan Asylum, 14 in December	35
1830—In the Ceylon regiment, Colombo, 1 in March, 3 in April, 5 in May, 2 in July, 4 in August, 18 in September, 19 in October, 7 in November, 1 in December; same corps in Trincomalie, 1 in May: Armed Lascoryns, Colombo, 3 in April, 1 in August, 3 in September, 5 in October, 2 in November: Gun Lascars, Jaffna, 1 in August; Colombo, 1 in November: Pioneers, Colombo, 1 in August, 1 in November: Light Dragoons, Colombo, 1 in October, 1 in November: Orphan Asylum, 6 in January	87
1831—Gun Lascars, Colombo, 1 in January, 2 in February: Lt. Dragoons, Colombo, 1 in January: Pioneer corps, Colombo, 1 in March, 1 in April, 1 in December; same in Kandy, 1 in May; Ceylon regiment Jaffna, 1 in April, 1 in May; Armed Lascoryns, Colombo, 1 in August, 2 in September, 2 in October; same Putlam or Manar, 1 in December	16
1832—Gun Lascars, Colombo, 2 in January: Armed Lascoryns, Hambantotte, 1 in January, 7 in March; same in Colombo, 1 in February: Pioneers, Colombo, 3 in February, 4 in March	12
1833—Armed Lascoryns, Putlam or Manar, 1 in April: Ceylon regiment, Colombo, 1 in May	2
1834—Ceylon regiment, Colombo, 1 in January, 1 in March, 1 in May, 7 in June, 20 in July, 13 in August, 2 in September; same Badulla, 1 in July, and 1 in August; same Galle or Tangalle, 1 in July: Gun Lascars, Badulla, 1 in July: Orphan Asylum, 2 in August, 5 in September, 5 in October, 2 in November, 4 in December....	67

No. XV.—See page 4.

EXPERIMENTS ON THE DISTANCE TO WHICH THE INFECTIOUS MATTER
OF SMALL-POX IS COMMUNICATED THROUGH THE AIR.

"The short distance, to which the poison" of small-pox "is communicated through the air, is demonstrably proved," (observes the writer of the article Contagion, in *Rees's Cyclopaedia*,) by the following experiments of Dr. O'Ryan, professor of physic in the college at Lyons. "I placed," says that physician, in the words of Dr. Haygarth's translation, "a large dossil of cotton, soaked in variolous matter, on the middle of an oval table, whose least diameter was three feet. I seated six children around it, three on each side of the table, in such a manner that all were situated within half a yard of the infectious cotton. This experiment was sometimes made in the open air, sometimes in the house. I took care to renew, every second day, both the variolous matter, and the substance which contained it. I alternately used the poison taken from the inoculated and from the casual small-pox; and I copiously impregnated with it balls of cotton, wool, and silk. This operation, repeated during a whole week, morning, noon, and night, for an hour at each sitting, produced no effect.

"I then sent away the children, desiring the parents to acquaint me, in case any indisposition appeared, and to bring them to me a fortnight afterwards, although no alteration should have taken place in their health. I declare that not only for that term, but for many succeeding months, during which I took care frequently to visit them, they all enjoyed perfect health. It was not till nine months after this time, that four of these children had a mild kind of small-pox.

"Having concluded from these experiments, that the children could not have escaped infection, but because the variolous matter might have lost that spring and that degree of energy, which perhaps it may possess on arising immediately from the human body, I placed a person, in the eruptive fever of the small-pox by inoculation, at the distance of about half a yard from four children properly prepared: each exposure continued one hour, and was repeated daily for a fortnight, reckoning from the commencement of the fever till the pustules were become perfectly dry. Not one of the four received the infection. Two months afterwards, I inoculated three of these children: they had the distemper in a very mild manner, and recovered without difficulty." Dr. Haygarth's Sketch of a Plan to exterminate small-pox, quoted in *Rees's Cyclopaedia* article Contagion.

No. XVI.—See page 10.

ON THE OCCURRENCE OF SMALL-POX AFTER VACCINATION, AND ON THE
DISTINCTIVE CHARACTERS OF MODIFIED SMALL-POX AND CHICKEN-POX.

"The peculiarities of certain constitutions with regard to eruptive fevers, form a curious subject of medical history. Some individuals have been more than once affected with scarlet fever and measles, others have been through life exposed to the contagion of these diseases without effect; many have resisted the inoculation and contagion of small-pox for several years, and have afterwards become susceptible of the disorder; and some have been twice affected with small-pox.

"Among such infinite varieties of temperament, it will not appear extraordinary, that vaccination, though so generally successful, should sometimes fail of rendering the human constitution unsusceptible of small-pox, especially since it has been found, that in several instances small-pox has occurred to individuals over whom the small-pox inoculation had appeared to have produced its full influence." Report of the National Vaccine Establishment for 1811, quoted in *Edinburgh Medical and Surgical Journal*, of the same year, v. vii. p. 480.*

"Two years ago, when variolous eruptions in vaccinated persons were talked of, almost every practitioner was accustomed to ascribe them either to the contagion of chicken-pox, accidentally co-existing with that of small-pox, and mistaken for it, or to imperfect or spurious vaccination. At present, we believe, there is hardly a practitioner in Scotland who is surprised, and we rejoice to think, that there is no one who, in ordinary circumstances, need be alarmed, at meeting with cases of fever and eruption, certainly proceeding from the contagion of small-pox in persons regularly vaccinated. The occurrence of small-pox for the second time in the same person, which was doubted by some, and held to be quite marvellous by almost all, has been shewn by the accurate observations and learned researches of Dr. Hennen, and by the more extended and laborious inquiries of Dr. Thomson, to be, though a rare, by no means an anomalous event. The occasional occurrence of a milder febrile eruption, in one who had previously gone through small-pox, in consequence of re-exposure to the infection of that disease, that is, the existence of a modified small-pox after small-pox, which was some time since pointed out by Mr. Bryce, to be a more common occurrence than has been generally imagined, has now been fully illustrated. The distinctive marks which have been thought by many sufficient to characterize chicken-pox, particularly the vesicular form and short duration of the eruption, have been found inapplicable to various cases that have occurred, even in constitutions altogether unprotected."—p. 226.

"The general effect which the occurrence of this epidemic has had on the minds of the practitioners, who have witnessed it, has been, *to limit our confidence in the preventive power of cow-pox over small-pox*, but, at the same time, *to extend and confirm our knowledge of its modifying power.*"—p. 242. 'The comparison of small-pox in their modified and unmodified forms,' says Dr. Thomson, as quoted in the paper referred to, 'has often forced a conviction of the advantages of cow-pox inoculation on the minds even of the most ignorant and prejudiced, and induced them to seek protection for themselves and their offspring in a practice which they had formerly neglected or despised';—p. 43; "and it is stated distinctly, both by Dr. Mudie, of St. Andrews', and Mr. Gibson, of New Lanark, that 'the occurrence of modified small-pox after vaccination has had the very best effect in completely establishing the credit of vaccination.'—pp. 244-253." "It would appear from the facts hitherto recorded, that the *preventive* power of the small-pox is greater than that of cow-pox; but, on the other hand, that the *modifying* power of the cow-pox is superior to that of small-pox.—p. 242."

* The remainder of this article of the Appendix, including the quotations from the writings of Dr. Thomson, Mr. Bryce and Dr. Abercrombie, consists of extracts from the excellent review, in the *Edinburgh Medical and Surgical Journal* (v. xvi. p. 225,) of Dr. Thomson's *Account of the Varioloid Epidemic of Edinburgh in 1818*, a work which the writer regrets he has not been able to procure in this island.

"It now appears distinctly, that the diagnosis of chicken-pox and small-pox, to which many practitioners have trusted, founded on the short duration and *vesicular character* of the eruption in the former case, is, in many cases, not applicable. On this point we believe all the practitioners, who have seen much of the modified small-pox in the late epidemic, are now agreed. Dr. Thomson has been so strongly impressed with this observation, that he has been induced to question the separate existence of chicken-pox, being persuaded, that all the appearances described under that name may be produced by the contagion of small-pox. Mr Bryce and Dr. Abercrombie, though they still believe in the existence of two separate contagions, bear testimony to the correctness of this observation, that the eruption of the modified small-pox often answers to the description of chicken-pox, in being short in its duration, and *vesicular in its character*;—contending, at the same time, however, that there are certain *distinctive marks* by which the vesicles of modified small-pox may be known from those of chicken-pox."—"Of late," says Mr. Bryce; 'the eruption (of modified small-pox) has been more numerous, and it has approached nearer in its progress to cases of mild and distinct small-pox, having been, in many cases, papular, *vesicular*, and frequently pustular in succession.*' "Dr. Abercrombie states more explicitly in regard to the modified small-pox;—'The eruption appears in the form of small inflamed papulæ, which, in the course of three days, begin to assume a *vesicular appearance*. They increase to the fourth or fifth day, and then die away into clear horny crusts, &c. A few of them sometimes stand out for a longer period, and advance to a partial or complete suppuration.† There are, however, "instances of unequivocal modified small-pox becoming vesicular, at least in part, as early as the first day;" "but still in all the cases we have seen in this early stage, sufficient marks of distinction have existed, the vesicles being much less prominent and much smaller both absolutely and relatively to the inflamed bases on which they stood than in the chicken-pox." "In general we believe that the eruption of modified small-pox, at least when distinct, is *papular*, shewing little or no fluid for two days after it appears, while in the eruption here called chicken-pox, the *vesicles appear from the first*, and constitute by far the larger portion of the elevations of the cuticle on the second day."—p. 252. "If," says Dr. Abercrombie "one of the vesicles of the horn-pox (or modified small-pox) be opened on the third day, so as carefully to discharge all the fluid which it contains, and the finger then be carried over it, there is found remaining a *firm tubercular base, considerably elevated above the surrounding integuments*." "The contagion of true small-pox occasionally produces, in the *unvaccinated*, particularly in very young children, an eruption, which is merely papular and vesicular, forming into crusts within four or five days, and never becoming pustular.—p. 243.

"This eruptive disease," says Mr. Bryce, speaking of the vesicular disease, to which he conceives the name of chicken-pox ought to be restricted, 'as I have observed it, generally attacks with little or no fever; the *appearance of vesicles* on the shoulders, neck, and breast, being often the *first symptoms observed*. The vesicles are often, when first seen, *about the size of a split pea*, perfectly transparent, and covered only by the *cuticle, as thin as that separated by a scald* or a blister; they generally have at first an inflamed areola, but this seems also to be confined to the cuticle, and there seems to be *little, if any, hardness* in the true skin beneath or around

* Thomson p. 63.

† Ibid. p. 58.

them. *On puncturing the vesicle, the clear lymph is wholly evacuated, the cuticle falls down, and very little, if any, hardness is perceived on passing the finger over the collapsed vesicle.* &c. 'The vesicles generally increase in number for several days, and while new vesicles are appearing on some parts of the body, those which had first come out are beginning to shrivel, and the fluid contained in them has become somewhat milky. Many of them are broken by the second or third day, and have a small crust formed in the centre, which adheres to the skin beneath, and is surrounded by an opaque or milky fluid, confined by the shrivelled cuticle. When the eruption is numerous, the body has the appearance of having been exposed to a shower of boiling water, each drop of which has occasioned a vesicle or blister: and these are generally on the second or third day, when turgid, broader at the summit than at the base. When the vesicles remain unbroken for four or five days, as is sometimes the case, the covering of cuticle, as well as the contained fluid, become opaque, and the latter purulent. The vesicle is then much flattened, and in this stage of the disease is hardly to be distinguished from small-pox, unless by the very thin, delicate and shrivelled appearance of covering cuticle.'—Mr. Bryce quoted from Dr. Thomson.—p. 64."

"Dr. Abercrombie's account of the disease, to which he thinks the name of chicken-pox should be restricted, is this: 'This eruption is preceded for a day or two by fever, generally slight. When a single specimen of the eruption is minutely examined, it is found to be *from the earliest period a watery vesicle*, covered by a *thin pellicle of skin*, which usually has a loose shrivelled appearance. The vesicles increase in size for three or four days, and *then generally burst*, the fluid drying into loose scaly crusts, of a light yellowish colour. In some constitutions, and on some parts of the body, where the cuticle is unusually strong, the vesicles may continue unbroken for a longer period, perhaps to the sixth or seventh day, and in these they assume a *yellow puriform appearance*, considerably resembling the pustules of small-pox. *If one of the vesicles of this eruption be punctured on the second or third day*, so as carefully to discharge all the fluid, the *pellicle which covered it falls down, and the finger being then carried over it, it is found to be correctly on a level with the surrounding integuments.*'—Thomson, p. 184."

No. XVII.—See pages 80.85

INFLUENCE OF SITUATION AND TREATMENT ON THE CHARACTER OF SMALL-POX.

"The particular circumstances in which individuals are placed, who are exposed to the contagion of small-pox, may perhaps have some influence in modifying the character of the eruptive fever, and the appearance of the eruption itself; but this influence is, I suspect, far less powerful than has usually been imagined. For how often has it been observed, during the prevalence of small-pox, in any particular situation, that the individuals affected with this disease have had it in degrees and forms so different, as to induce practitioners to believe that such diversities could not have proceeded from the same source; but must have originated from the existence of at least two specific poisons. In the same family, it has often been remarked, that one takes small-pox in a malignant and fatal form—another has them coherent, but not fatal—a third in a distinct and less severe form—a fourth in a form so extremely mild, as to be considered as spurious rather than as genuine small-pox—a fifth has smart variolous fever without an eruption—and a sixth a copious eruption, with little, if any fever,

"The same observation will be found applicable also, I believe, to the influence of the mode of treatment which is followed in small-pox. The violence of the eruptive fever, and, of course, the degree of its danger, may unquestionably be influenced by the employment of a hot or cool regimen, but I doubt much whether the character or type of this fever is in any degree altered by the different modes of treatment that are pursued. Whether the eruption shall occur at all in the disease, and whether it shall consist of one pustule or of several thousands; whether this shall be confluent or distinct, mild or malignant, filled with pus, with water, or with blood; whether they shall arrive at their height by the 4th or 5th, or not before the 11th day, are circumstances over which the medical treatment, has, I am convinced, little, if any influence. By judicious management we may alleviate particular symptoms, or relieve the general distress; but the type of the fever, and the kind as well as the number of the pustules in natural small-pox, and the occurrence of secondary fever, from which danger chiefly arises, are circumstances also over which art appears to have little if any control." (Thomson's Historical sketch of small-pox.—p. 7.) "So true is that common observation that there is one sort in which a nurse cannot kill; and another which even a physician can never cure."—Dr. Wagstaffe, quoted by Dr. Thomson, p. 35.

No. XVIII.—See page 26.

H——y's LETTERS IN THE COLOMBO OBSERVER.

It is impossible to conclude this Report without adverting to a series of letters, arraigning and condemning the Government, and the officers employed under Government, for the measures recommended and adopted with the view of arresting the progress of small-pox. These letters are three in number, and appeared in the *Colombo Observer* of 18th and 28th March, and 1st April 1834; the first under the signature of "H——y, *Not quite a Plebeian*," the second and third under that of "H——y," alone. To enable the reader to compare these letters with the Report, and thereby form his own opinion of the value and justice of the strictures contained in them, the letters themselves are herewith re-printed. The cases forming the groundwork of the second letter have not been specially alluded to in the Report; nor is it indeed easy to recognize the simple facts from which these cases are drawn, in the exaggerated and distorted picture of them presented by H——y; but we think we have succeeded in identifying seven out of the nine cases, to which he refers; and, after placing the true statement of them by the side of his misrepresentations, we shall leave to the impartial reader to pronounce on their relative claims to public confidence. Sincerely as we cannot help sympathizing in the sufferings of the victims of small-pox, whose fate the writer of the letter signed H——y deploras, our sympathies would have been deeper had he condescended to address one or two of his appeals to the understanding, and not the whole merely to the passions; had he succeeded, for example, in proving (what he does not even aver) that a single individual among those unhappy persons had ever been vaccinated, or in shewing that it would be wise, prudent, or justifiable, in any Government to leave the protection of its subjects (a million in number) from a disease bringing in its train pain, deformity, and death, to the precautionary measures deemed adequate by a minute fraction of that million, which fraction had, moreover, displayed so little prudence and foresight in providing for its own safety, as to have dispensed with the most obvious and accessible and only certain security against it.

H——Y'S LETTERS:

[Re-printed from the "Colombo Observer"]
18th March 1834.

References to
parallel passages
in the REPORT.

LETTER I.

SIR—Although Cinnamon and Pearls, Miss Martineau and Monopoly, seem to be the reigning subjects of discussion in your paper, I will venture to intrude another on your notice and that of your readers, one however, that will doubtless be considered by some of *infinitely less importance*; inasmuch as it merely concerns the health of the *ignoble* portion of the community.

I might as well mention by the way, that even in the article of *health*, there is, and always has been an endeavour at *Monopoly* among the *immaculate exclusives* of this fragrant isle: so that after all Mr. Editor, my letter will not be *mal-a-propos* it will be but another branch of the subject already before you.

In your paper of the 4th instant you remarked that the small-pox was reported to prevail in an alarming degree. Is it possible that you could have been ignorant of this fact before, that in a public Journal like your's, it was not thought of sufficient importance to have made any mention of it, that the abuses which power has exercised, and the pitiable but vain remonstrances to prevent them, have not hitherto reached your ears?

This dreadful malady, this scourge of mankind has been making its ravages in Colombo for the last three months, and tho' a public calamity, not the slightest mention of it has been made in the public papers, nor any suggestion offered for its prevention, or melioration; and no notice given to warn the public here, or the inhabitants of other provinces of their danger. That the Government Gazette should have taken no notice of it, I am not at all surprised: but *you*, Mr. Editor, the Organ, as it were, of a suffering public, your paper the channel for giving light to every grievance, so long as that public upholds you; I regret to find you backward in bringing to open view a subject in which we are all vitally concerned, and which I conceive to be your peculiar province. Page 15, Div. III. 4.

But let us not quarrel I mean not to accuse you: it is but a gentle hint for the future, you have redeemed your credit, and we will be friends again.

It will naturally occur to every one interested in the inquiry, to ask, whence did this dire disease originate in the present instance, and what caused it to spread in the alarming degree it has done? I will tell you: A moorman, who probably landed from, or caught the infection on board of some vessel from the opposite coast, was the first and only person found to be infected. I suppose by the vigilance of the police and the interference of the medical supervisor, whoever he may be, this person was secured, And where was he taken? You will doubtless, think, to some remote place, far from the "busy haunts of man," and every precaution taken to prevent contagion. No! no. Doctors who have passed their degree are wiser than you or I, our reason is mere animal instinct compared to their's, and our opinion as a grain of mustard seed in the weighty scale of wisdom, Pages 1 to 5.

LETTER II.

This man was taken to the very *heart* of the *Pettah*, there to spread the baneful infection, to cause (though innocently) the parent to be robbed of his child, many a family to be deprived of their only protector, to sever families and friends, making life and death equally hideous, spreading fear and desolation around, and changing a peaceable, healthy town into a hospital! some may fancy this highly coloured but alas! it is too true, and too generally known to be such to admit of a doubt. It is now too late to repair the Evil, the work is done and doing! We cannot recall to life the dead and dying, and give back to the suffering however,* what obstinacy, self conceit and brutal apathy have robbed him of. I fearlessly speak of those, whoever they may be, in whose power it was to have remedied the Evil, and who could tamely look on without yielding to remonstrance, obstinately persist in opinions, which were at variance with common experience, and inconsistent with, and diametrically opposed to the very measures they were taking for future Security. Surely those persons (whether medical or otherwise, it is not for me to say,) whose mere advice or opinion seems in these respects to be a law to the whole community, can have no ties of kindred, no wife or children to call them Husband or Father? I think we shall find upon inquiry, that these sounds never blessed their ears, or methinks their opinions would either have changed, or that they never would have indulged in them. And surely, those in power must be far removed from the dreaded influence of this disease, or they would look with more sympathy on the devoted inhabitants of the town of Colombo! Aye, truly, they would never think of admitting a small-pox Hospital in the Fort, or to approach the *elect* and *sacred* Mansions of Colpetty! But even should such a dreadful calamity befall the mighty ones of this favored isle, as to be threatened with such a visitation in common with the *plebeian herd* (for *then* the mere *threatening* would be a dreadful calamity indeed!) have they not the purifying regions of Kandy and Nuwera-Ellia to waft themselves to, and thus be far removed from the noisome pestilence? And so can the inhabitants of the *Pettah*, can they not? The tradesmen, or Clerks, for instance? 'Hoot awa' man!' those regions are like the North-Country, fit only for Superior beings of purified blude—a kind of *Monopoly* for their sole health and pleasure. If a clerk were to ask for leave to go there, he would be laughed at for his presumption, and perhaps mulct besides!

Have I convinced you Mr. Editor, of the *Monopoly of Health* (if I may so express myself) or the *Endeavour* on the part of the *Elect* to secure it at the expence of the *Many*? If not I shall trouble you again on the same subject the moment I have a little leisure time on my hands, till when,

I remain, Your friend in truth,

H———v.

Not quite a *Plebeian*.

28th March 1834.

References to parallel passages in the
REPORT.

LETTER II.

MR. EDITOR—Shortly after my last letter to you had been dispatched, it occurred to me that Proclamations had been published, requiring all persons strictly to conform to the small-pox Regulations. This fact I ought to have mentioned, and therefore take the earliest opportunity of frankly declaring the oversight on my part; although it is not the kind of notice to which I

* However, in the original, is probably a misprint for *survivor*.

LETTER II.—*continued.**References to parallel passages, &c.*

intended to allude. I am still of opinion, that the official notification which has appeared is not *all* the information, nor the *kind* of information that is to be expected under such circumstances the public ought to be made fully acquainted with all that concerns them; but they have been and still are (at least a great portion) kept in the dark as to the real state of the disease, as well as of many deplorable facts connected with it. Permit me therefore to enlighten them through the only channel by which the *real state of things*, in reference to the subject before me, can appear: but in so doing, I disclaim all intention of laying the blame to any one or other person in particular. Of this however, there can be no doubt—that power in the hands of some-one or more has been cruelly abused, and that the proper authorities have unheededly left thousands of sufferers under the merciless controul of *minions* in office, without turning to inquire if all were right, or taking the trouble to render things so, when they must have known that much was going wrong.

That the *intentions* of Government to prevent the spreading of this disease are benevolent, I unqualifiedly admit; but the course adopted and pursued has proved as fallacious as it is cruel and unjust.

I will now, as briefly as I can, lay before you a *few* of the *many* small-pox cases of a *similar* nature, that have recently occurred, of which I am enabled to give you the correctest information.—Many of your readers, though not *all*, would have heard of them before, and will acknowledge the truth of what *some* may consider ought not to be told a few would have been eye witnesses to one or other of the instances mentioned, and others will doubtless recognise the *parties* concerned—I mean the dead and their unhappy survivors.

1. The first I had occasion to notice was a servant, a strong healthy man, who resided with a family at the back of the Hospital (the proximity to which beyond a doubt caused his be-

Pages 15 to 21.

Page 23, Div. IV. 3.

Pages 21 to 26.

*Cases here referred to:**a.—Cases of SMALL-POX.*

1. Mrs. Smith, the widow of a Treasury clerk, residing in No. 5, 1st Cross-street, has a kitchen garden that passes behind the Pettah hospital's back wall (see plan of the Pettah No. 79.) One of

LETTER II.—*continued.*

ing infected :) much against his own will and that of his Mistress, who promised to take every care of him, he was conveyed to the Hospital, where he died; but not the slightest information was given of his death. The attentions of the family in sending him such nourishment as was usual, were ill and even contemptuously received, and inquiries after his health were never attended to, nor did the family know of his death till some days after his interment. Could not this poor man have been *as safely* kept where he was? did his removal to the Hospital prevent his death? are its walls more secure than those of any other building in the town, against infection?

2. A decent young man adopted and brought up from his infancy by a very respectable elderly Lady at Grand Pass, who was as tenderly attached to him as the fondest mother could have been. All her intreaties, joined with his own, to prevent his removal were fruitless: she lived in a garden away from the road side, had no other inmates to whom the infection could have been imparted, promised to bestow all her care upon him, offered to pay any person to guard her door to prevent ingress or egress; but all to no purpose! He was dragged to the Hospital, where the disease was beginning to prevail in its most

a.—Cases of SMALL-POX.

her servants, named Samuel, was attacked with febrile symptoms on the 19th February—*two months and seven days after the admission of the first small-pox patient into that hospital*; and the eruption appeared, in a confluent form, on the 14th; he was removed to Marandahn hospital on the 16th; and died on the 22d February. Another of Mrs. Smith's servants attended him in hospital, and went home, *the day after he died*. Her gardener came to ask if she might send him food, and was told in reply that nothing of the kind was wanted, as the patients were provided with every thing at the expense of Government. The same person came twice or thrice afterwards to inquire for him, and, on the last occasion, was informed that little hopes were entertained of his recovery. In answer to the first query, appended in the *original* to this case, it may be replied: Possibly *he* might; but, is no consideration due to the safety of Mrs. Smith's family and visitors? To the 2nd: No; but you have said nothing to make it probable his removal hastened it. To the 3d: Its walls were less easily passed than those of most buildings in town, being well guarded by police peons. When this case occurred small-pox had already appeared in every street of the Pettah, which it afterwards visited, and had attacked no fewer than 16 persons, in the very street, in which the patient resided; one of them being in quarantine, on the same side, and only the breadth of two houses distant; another on the opposite side, with three houses intervening.

2. Adrian Jansen or Jansz, a young man residing in the house of Mrs. Roosmalecocq, at Grand Pass, was attacked with fever on the 19th February, with the eruption of confluent small-pox on the 21st, taken to hospital on the 25th, and accommodated in a cajan hut, *appropriated to his sole use, and (as it so happened) distant 280 feet by measurement (see plan of the hospital, hut b.) from the main building, which contained at the time every severe case with the exception of No. 8. of this Letter*. In the face of these facts H—v asserts that “he was dragged to the hospital, where the disease was begin-

LETTER II.—*—continued.*

malignant form and literally died (as all who are aware of the circumstance are assured) from having been removed there, and not from the influence of the disease.

3. This was a person who died, even before the usual symptoms had completely made their appearance, *solely* from intense anxiety and terror of mind, at being taken to the Hospital, the appalling scenes in which he had previously heard of, he begged, he prayed, he intreated, till he was forced away almost senseless to the Hospital, when he expired *the same night*.

a.—Cases of SMALL-POX.

ing to prevail in its most malignant form, and literally died, from having been removed there, and not from the influence of the disease.* That the disease had assumed the confluent form before this poor lad came near the hospital, and that there were no fewer than *four other inmates* of the house, to whom the infection might have been imparted,† is proved by the Report of the medical sub-assistant (Appendix No. IX) sent in the day of his admission,—which has been referred to at page 16 (Div. III. 6.), as an example of those made to the superintendent of vaccination on the discovery of cases of small-pox. The patient was indeed so ill that a son of Mrs. Roosmalecocq requested permission to send two servants to attend him: he died three days afterwards, and never approached nearer those malignant cases, to the prevalence of which his death is so confidently ascribed, than the distance already specified.

3. Phalies Felsianus, a Slave descendant, was carried into the Pettah hospital from Dam Street, on the 21st January, with confluent small-pox, having been attacked on the 17th—"with strong fever, accompanied with violent headach, sickness of stomach and general pains over the body &c." The eruption appeared on the 20th; on admission "he had hardly slept any for three days and complained of pain in the right side, difficulty of breathing, redness of both eyes &c."‡ He was bled, with temporary relief; but the symptoms returned in the evening; he became delirious and died at 2 P. M., the day after admission || On the morning before his death, it was remarked that the eruption had not risen, and was quite

* See Appendix No. XVII.

† The four individuals referred to were vaccinated the same day on which the young man was taken to hospital, and in all of them the operation succeeded—a sufficient proof that previously they had enjoyed no adequate protection from the infection of small-pox.

‡ These extracts are from medical sub-assistant De Zilwa's account of the case, as entered in the Hospital Register, the same day on which the patient was admitted.

|| H—y says he died the same night; but no patient, in either the one or the other hospital, died in the night of the day on which he was admitted.

LETTER II.—continued.

a.—Cases of SMALL-POX.

4. A man who died, not from the small-pox solely, but rather from the effects of the struggle to remove him, between the people employed for this purpose under the orders of the Constable and others, and the relatives of the deceased. This poor fellow was so dreadfully mauled, that he died a very few days after his removal to the Hospital. His head and arms were held by one party and his legs by the other, and he was dragged to and fro till *the men in power* prevailed, not to save, but solely actuated by a jealous feeling at the attempt to thwart the power with which they supposed themselves vested, and which they so brutally exercised.

5. This was a case from the country, the patient having been brought from a considerable distance, followed by the cries of his relatives, through several villages, and *through the town of Colombo* the bearers resting themselves at every Tavern, and the patient meanwhile permitted to avail himself of these intervals to creep out of the Dhooly and spread his mat in the open air to refresh his feverish body. This man died, leaving a large family who had vainly sought to inquire after the health of their only protector, but were as often rudely repulsed: daily one or other of them came, till at length they were coldly informed that the person after whom they had inquired, had been buried eight days before.

6. The case I am about to mention will prove how much quicker the infection is spread by the removal of patients from one place to another, than by allowing them to remain at their own homes.

Between two and three months ago, before the disease was generally known to prevail, a patient was conveyed from

flat, a symptom which is well known to indicate the most malignant form of small-pox. His sister, who attended him in hospital, disturbed the whole establishment in abusing the medical sub-assistant, during the short time she was there, and afterwards attacked him in the public street.

4. and 5. No date, place, or peculiarity is mentioned, by which either of these cases can be identified: But, an incident is stated in No. 5. which may be regarded as conclusive against its accuracy. The patient is said to have been taken from "a large family, who had vainly sought to inquire after the health of their only protector; but were as ~~often~~ rudely repulsed; daily one or other came, till at length they were coldly informed that he had been buried eight days before." Now, when we remember that there was hardly a single patient brought to hospital, who was not accompanied by his nearest and dearest relation, as an attendant, can we believe that this "protector of a large family," tenderly attached to him as the persons composing it must have been, and one or other of whom gave proof of this attachment by daily inquiries for his health, should have been permitted to enter the hospital, without one volunteer of his own family to attend and nurse him there?

6. This was the case of a child in Prince-street Pettah, daughter of Mr. Barber, head clerk in the deputy adjutant general's office, who had been allowed to attain the age of two years and ten months unvaccinated. We have already noticed it at some length (page 3,) and have only now to refer to that notice to shew that H—y's conclusion

LETTER II.—continued.

some distance through the Pettah to the Hospital; a fine, healthy, interesting child was playing in the street, and this innocent bud was in a few short days despoiled of all that a fond mother's wish could make her proud of! It caught the infection and died very soon after. In her ravings, the mother (the wife of a respectable person, I believe a clerk, who was absent from Colombo) blamed the authorities for killing her child, but alas! her cries were unheeded! her Husband's rank was not high enough, and she lived among the "despised and rejected."

7. A woman residing at Wellewatte (about five or six miles from the Pettah) was forcibly removed from her House, and having been brought to the South-barrier gate, was *not allowed to be conveyed through the Fort*, but was ordered to be taken back round Slave Island, on her approaching the high road with a view to pass to the spot for the purpose of crossing the Lake to the Pettah, she and the people who brought her there were driven back, and were ultimately obliged to traverse the Cinnamon Gardens, altogether a distance of eight or ten miles, in the broiling sun. This poor creature died from intense suffering owing to the treatment she received, only two days after she reached the Hospital. Those who are interested in stating the reverse, will say, that she died of the *small-pox*.

8. A youth who was brought up by a family in the Pettah:—he was removed as usual, and the Lady who was very solicitous about him, actually prevailed on herself to accompany him, and having succeeded in getting a separate place for him, she attended him herself with the assistance of a servant. No sooner had he been removed to the Hospital, than the disease assumed the very worst appearance, insomuch that his death was hourly expected. His having been kept apart however, together with the constant attention and care bestowed upon him, added to the ease which the presence of those he desired, gave to his mind, happily con-

a.—Cases of SMALL-POX.

derives no support whatever from the facts when fairly stated.

7. Three cases of *chicken-pox* were admitted from Wellewatte, the first of them on the 14th June, long after H—y's second letter had been published, but no case of *small-pox*, either before or after that date. The only case, to which H—y can refer was that of Jeboohammy, a female 53 years old, from the neighbouring village of Kirlepane, five miles from Colombo and near Kalooboville. The case nearly resembled No. 3, being one of those malignant or "*smothered*" cases, in which the pustules, instead of gradually rising and filling, remain flat and empty throughout and generally cut off the patient very soon after the attack. She was brought to hospital, by the Cutchery peons on the 24th January and made no mention of the way she had been treated on the road. She died on the evening of the 27th, which was *three* and not "*two* days" "only after she reached the hospital," as H—y asserts.

8. This young man named Isdor August, the adopted son of an old lady in the Pettah, was visited by the superintendent of vaccination before his removal to the Marandahn hospital, and instructions were sent to the medical sub-assistant in charge, to prepare a hut for him at a distance from the principal building, which he never approached until he was convalescent, and able to walk about in the garden. His hut (see plan, *cajan building e*, near Marandahn road,) was 270 feet distant from the main building, light, airy and shaded; and no unprejudiced observer could for a moment doubt that his chance of recovery was increased a hundred

LETTER II.—*continued.*

tributed to his recovery:—whilst others less fortunate, though with more favourable symptoms, were dying around him; but which he had not the pain of witnessing.

9. A member of a family was attacked at Negombo—a deposit of thirty rixdollars (*par anticipation*) was required for the privilege of being allowed to remain where he was, and to pay the peon to watch him, which was *expected* to occupy three months. This person, I am informed, is recovering.

Need I mention any more instances? Were I to recite all I have, they would occupy more than your columns could hold—I fear I have trespassed too much upon them already. I cannot however refrain from mentioning, that many an unhappy creature affected only with the chicken-pox (usually so called) have been dragged to the Hospital, and no sooner have they recovered from this, than they have there caught the small-pox, and died. Numerous instances of the kind have occurred.

I anticipate many an answer to these my letters on this painful subject, and many a spiteful, but in my mind *impotent* attacks, for bringing these grievances to light. But depend on it Mr. Editor, they will be made by those who are interested in screening either themselves,

b.—Cases of SECONDARY FEBRILE ERUPTIONS, &c.

fold by his removal—to the cool and spacious garden in which it stood—from the hot and close apartment he had occupied in First Cross-street. His friends having represented, the morning after his admission, that the female who attended him was not strong enough to give him all the assistance he required, were at once permitted to send him a male servant besides.

9. The district judge of Negombo had authority to build a temporary hospital; but none to defray the expence of guards placed over private houses, containing small and chicken-pox patients. Two cases having occurred on Dowa, a small neighbouring island, and been ordered into hospital on the 7th February, the relations of both entreated the district judge to permit them to remain secluded in their own houses, and expressed their readiness to pay the expence of guarding them: their prayer was granted, and a deposit of *ten* rixdollars required from each party to pay the guards: no other deposit was ever made or demanded. The guards were withdrawn from one of the houses on the 7th, and from the other on the 10th March, after the recovery of the patients.

b.—Cases of SECONDARY FEBRILE ERUPTIONS following Small and Chicken-pox.

In reference to the concluding part of the second letter, out of 305 cases, comprising the whole number admitted into both hospitals, a secondary eruptive disease, preceded by febrile symptoms, occurred in four of them and in four only.

1. The first was that of Simon, a shopkeeper's servant, on Slave island, who was seen by the superintendent of vaccination, and was then covered with the eruption of distinct *small-pox*. He was reported on the 28th December, and sent to the Pettah hospital the same day, with the hearty concurrence of his master who appeared impatient for his removal, lest he should frighten customers from his shop. The eruption had appeared on the 26th, was at its height on the 3d January, and on the 10th most of the scabs had fallen off. When ready to be discharged on the 27th, he was again seized with febrile symp-

LETTER II.—*concluded.*

those above them, or immediately below them! A considerable portion of the public will know, and acknowledge that what I have stated (and more, much more might be stated) is "the truth, and nothing but the truth,"—Adieu! till my next.

Your's as Ever,
H——Y.

b.—Cases of SECONDARY FEBRILE ERUPTIONS, &c.

toms, to which succeeded a secondary eruption of small-pox, in the confluent form; but not severe and he was ultimately discharged well.

2. The second case was that of a child, named Gisbert who was admitted, with an eruption of ten days standing, on the 9th February. On admission the eruption is described by the medical sub-assistant as having been already "crusted with a black scale." It was put down on the day of admission by the same officer, as a case of distinct small-pox. On the 21st February, before his discharge from hospital, the child was seized with fever, followed by a variolous eruption which attained its height in nine days, and proved fatal. The eruption was of too long standing, on the first admission of the patient, to permit us with confidence to pronounce on its true character originally.

3. The next case was that of Simon Appoo, who was attacked with the eruption of chicken-pox on the 21st February. Having finished its course, the patient was vaccinated successfully, and discharged from hospital 25th March. On the 28th he was attacked with fever; on the 31st a varioloid eruption appeared and he was brought back to hospital on the 1st April: the eruption attained its height on the 7th day, and he was convalescent on the 22d.

4. The last case is that of Juanis Appoo, who was attacked with the eruption of chicken-pox on the 17th March, and admitted on the 19th, with an unsatisfactory scar of vaccination. On the 14th April, before the scales had completely fallen off, he was seized with fever and an eruption appeared on the 16th, which attained its height on the 20th, and began to dry up on the 22d.*

Of the four cases now referred to one only proved fatal, and two only had occurred when H——y affirmed that "many an unhappy creature affected with chicken-pox (usually so called) have been dragged to the hospital, and no sooner had they recovered, than they caught the small-pox and died. Numerous instances of the kind have occurred."

* For cases of secondary febrile eruptions, occurring like the above during the progress of the first, the professional reader is referred to Thomson's *Historical Sketch of Opinion on Small-pox* pp. 18—40. and 46; and to Marshall, in the paper already quoted, *Edinburgh Medical and Surgical Journal*, vol. xix. p. 76.

1st April 1834.

LETTER III.

References to parallel passages in the REPORT.

MR. EDITOR,—I find that I have rightly anticipated “spiteful but impotent” is the attack of *Fiat Justitia*, to whose Letter I think it unnecessary to reply. Thanks to Verax, I may now say “*Judex damnatur, delinquens absolvitur*,” for doubtless in the eyes of *Fiat Justitia*, I was even worse than a criminal at the bar. I therefore pursue my subject, which however is far from being congenial to my taste, nor perhaps very palatable to the majority of your readers; but as we are all interested in it (particularly those who have families) I hope the result of my endeavours will prove beneficial, and amply reward my pains, I can have no selfish interest to gratify in pursuing the inquiry before me, such as probably lurks in the mind of *Justitia* in endeavouring to suppress it: the public good and the correction of abuses are my sole aim.

It was my intention to have forwarded to you the Small-pox Regulations for publication in your columns, but I find you anticipated me: so much the better! it convinces me that you are not indifferent to the subject. Let us now analyze these Regulations, and examine into the wisdom of them: that their results have proved to be far from beneficial, there can be no doubt, that the intentions of the framers were benevolent, I have already admitted; but the sense of the public ought to have been taken, before they were passed. The first of these Regulations declares, that it shall be lawful for either of the functionaries therein named, on receiving notice that *any* person has been seized with small-pox, instantly by *warrant under his hand*, to cause such person to be removed from any place where he may be, to a *proper*, convenient, separate building, to be provided by the Collector or Agent of Government, and to detain such person there under proper care, until such infected person shall be completely cured.

Pages 21 to 26.

The wisdom, as well as justice of this enactment is very questionable, and I would like to have seen the framers or their friends submit, by way of example, to its operation, as far as regarded their own families; for it makes not the slightest distinction. It might operate effectually, were its provisions confined to the *poorer classes of persons*, without friends or home, or having them, are found in the streets with the disease upon them, neglecting themselves or neglected by their family. But for a person not so situated, (having perhaps a medical person who has been in the habit of attending him, and a family who for their own sakes would endeavour to prevent any spread of the infection) to be dragged to a public Hospital, separated from those in whom he confides, and forcibly placed under others, of whom he has no knowledge, it is not only cruel, degrading, unjust but contrary to all feelings of humanity and of civil liberty, it has a direct tendency to increase the virulence of the disorder. The knowledge of its treatment is not confined to the medical world: I have known many instances of its having been cured without any medical assistance whatever, all We know that cleanliness, attention, fresh wholesome air, and the mind of the patient kept free from every thing that may agitate it, tend more to his cure than the whole *materia medica* can effect! The reverse of these is the consequence of his being taken to a Hospital. There, from the number of persons af-

Page 15, Div. III. 6.

Page 16, Div. III. 6.
2nd paragraph.

Appendix xvii. page 74

Page 16, Div. III.
8. 9.

LETTER III.—*continued.*

fects (some by a more virulent and dangerous species but all crammed together or near enough to each other, to become equally affected) the air he breathes is rendered so pestilential, that it must unavoidably tend to increase the disorder: added to this, the want of that tender care which a hired person could not so well bestow as one's own family, the thought of their absence at such a season, his witnessing daily numbers writhing with agony, and others dying around him, what must be the state of his mind? must not all this necessarily cause the disease to assume a more malignant form, and thus carry off numbers who might otherwise have been saved? The very method pointed out by the Regulation, namely, the removal from place to place, which is considered as a preventative of the contagion, actually tends to spread it the more. If the infected person were on the contrary *prevented from being removed*, except under particular circumstances, the Evil would be partial and confined within much narrower bounds.

Pages 79 and 82,
Letter II. a. 2 and 3.

Page 13, Div. III.
11.

The 2d enacting clause of this Regulation declares that any person *having had the small-pox or having been effectually vaccinated*, who shall disobey, neglect or obstruct the execution of the order of such Collector, Provincial Judge &c., shall be punished.

One would have thought, that if this were a wholesome and proper Regulation, *any person* who disobeyed or obstructed its operation, should be punished: whereas the punishment is confined to those alone who have either had the small-pox or have been *effectually* vaccinated! The proof of one or other of these facts would in some instances, puzzle the wisest judge, or the most discriminating jury! Admitting however, that such absurd distinction were made, would I be so much influenced by the fear of punishment, howsoever severe as to allow my wife, my child, or my parent to be removed from under my roof, and exposed to the uncertain perhaps barbarous treatment of strangers? To have a daughter or a sister, for instance, under the plea of their being affected with this disease, torn from my protection, and subjected to the indelicate and painful situation to which their sex might expose them uncertain of their fate, and agitated by *other* fears, as well as those which the disease itself might create! And I am to be *punished* forsooth! for endeavouring to avert such an evil!

Pages 15 and 18,
Div. III. 6 and 11.

The remaining clause enacts, that the respective functionaries mentioned shall in *every* instance, where they find it necessary to act under this Regulation, *report the same to Government*.

Have they done so?—I leave them to answer the question. And now let us inquire whether they have in any one instance, issued a *warrant under their hand*, as required, for the removal of any person seized with small-pox? If this can be answered in the affirmative, I can at least, confidently say, that it has been done but once in a hundred or more instances? And what is the consequence of this neglect? Why the petty officials,

* The humane object of the *second* enacting clause obviously was to protect from punishment persons who, having passed through neither small nor cow-pox, could not have obeyed the *first*, without incurring the risk of contracting small-pox.

LETTER III.—concluded.

such as, Aratchies, Vidahns, Constables and the newly created, self important Police establishment usurp the power, and fancy themselves legally vested with it, by virtue of their office. But though these functionaries are so grossly neglectful of this Regulation themselves, and thereby cause an immensity of mischief they would unblushingly inflict a penalty (and some have done so) upon the unhappy parent of a dying child, for unconsciously transgressing the same law, although the latter had caused no mischief thereby.

With reference to the other Regulation on the same subject, I would observe, that the abuses caused by the former would in a great measure prevent a compliance with the latter, or at least, excuse its non-compliance, on the part of the public.

In conclusion, I have to ask a question, which resolves itself into a grave charge against some one or more persons, whoever they may be. It is of a most serious nature, though some may think lightly of it; and not put wantonly but with due reflection. Who is guilty of the numberless deaths that have lately occurred in Colombo, which have been erroneously, I may say *falsely* attributed to the small-pox? This question ought to emanate from another quarter: it *involves a charge*, or rather a number of charges, of the gravest nature * * *

* * * Some may think them *peccadilloes*, and that they ought to be hushed up. Be it so, if they be so considered! But is it not revolting. Does it not raise a feeling of indignation to think, nay to *know* that such things are? Are they permitted, because this is not England? Are British subjects to be differently treated here from what they are there? Are a free people to be treated so *anywhere*? And, let me ask, is this the way to raise the standard of native feeling now so much talked of by exhibiting specimens of British humanity, such as have been described in my last letter? Picture to yourself an unfortunate sufferer forcibly torn from his home and his family, fancy the last moments of a fellow creature so situated! having friends and kindred, the nearest and dearest! within call, but who are not permitted to close his dying eyes, nor take a last farewell of him! No not even to follow his remains to the grave! even christian burial denied him! wrapped in a mat, and buried like a dog, on the sea shore! Then go to the house of mourning, and witness the grief mounting to indignation, of the unhappy survivors, on learning the fate of their departed one and the manner he was huddled into his grave of which they were kept in ignorance. It may have been that he was one of those unfortunates who had caught the disease at the Hospital, after recovering from the chicken-pox, for which he had been removed there that he was his family's fondest hope their comfort perhaps their only support! then paint, if you can, their maddening grief; and turning from this scene of misery, think of the source of this evil of those who have helped to minister to it! of mistaken zeal of power abused cruelly, shamefully abused! of neglected power on the part of some, and assumption of it by others then will your feelings change to disgust and indignation!

I have now closed my task, and will bid you adieu! May your paper never have again to tell similar unhappy truths!

Yours as Ever, H——r.

Appendix No. II, p.

36.

Pages 21 to 26.

Page 18, Div. III.

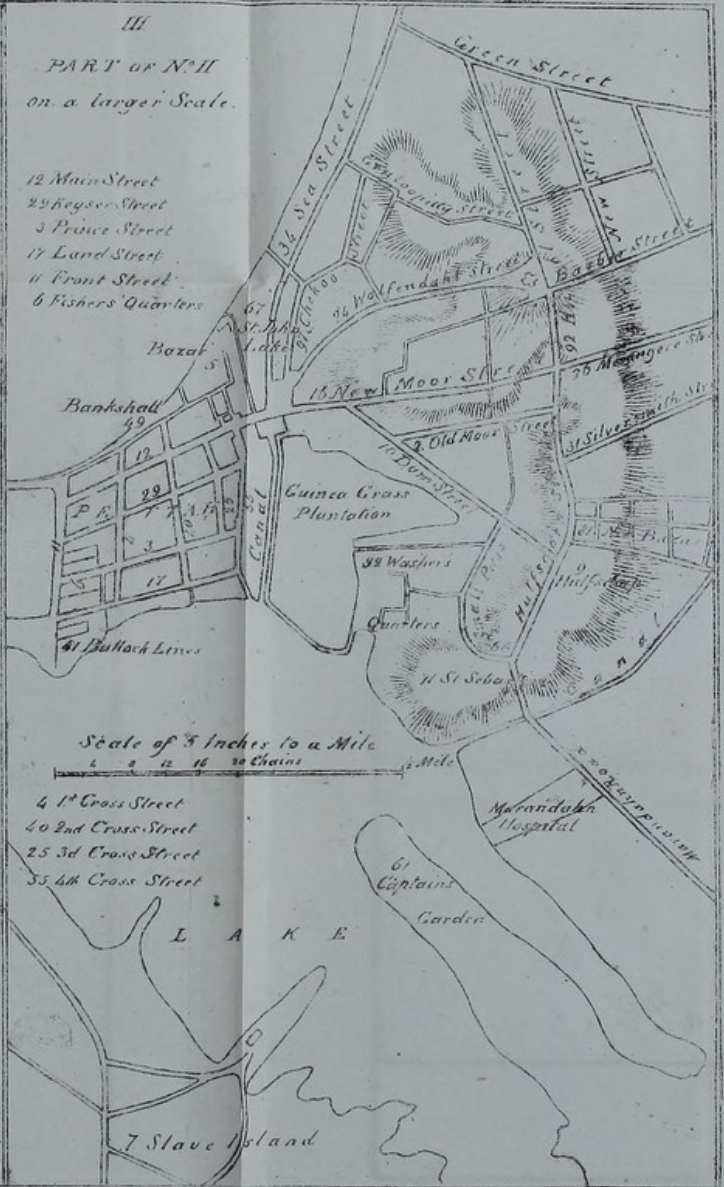
11.

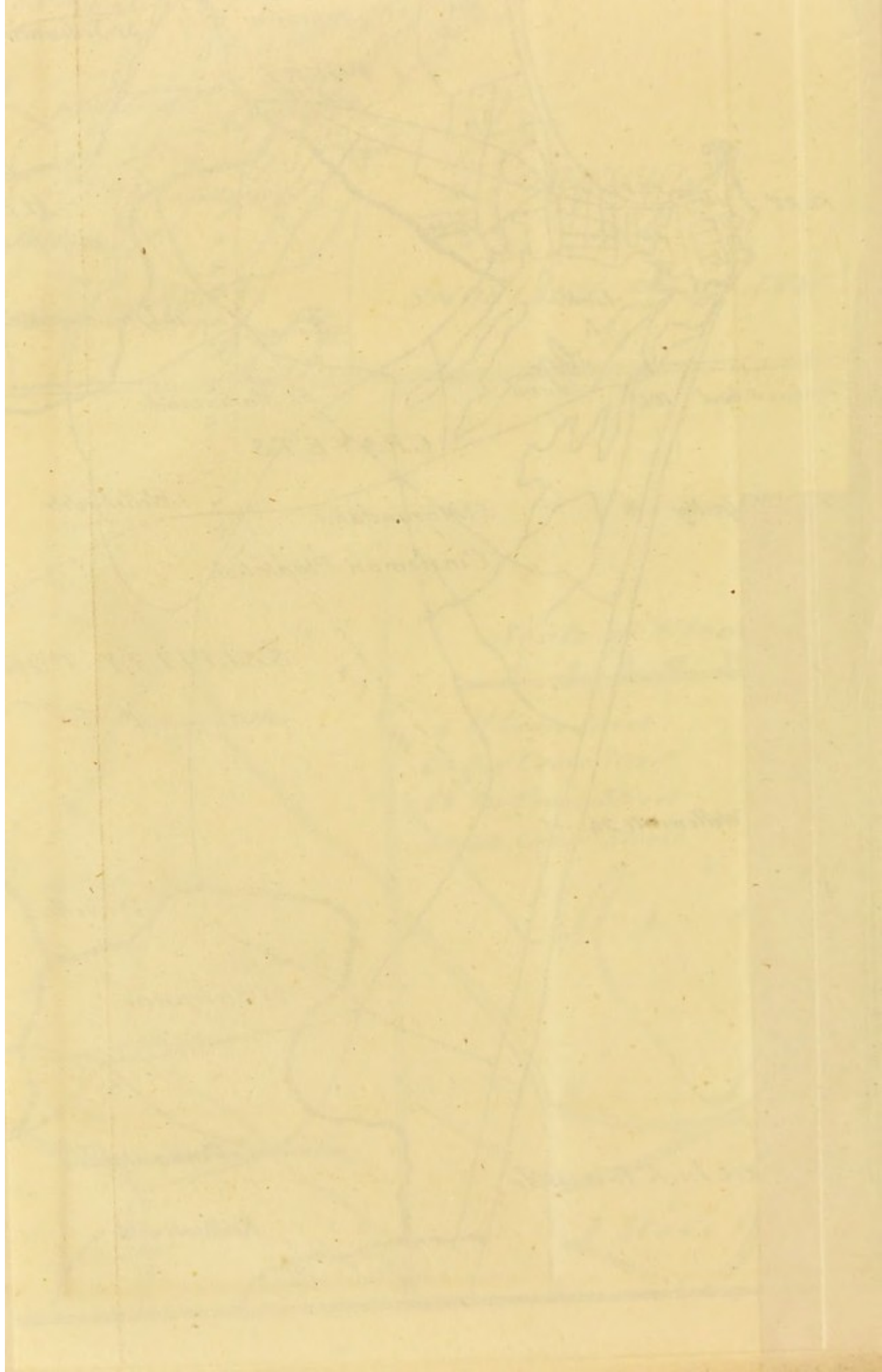
Page 19, Div. III.

15. 16.

Page 81, Letter II. b

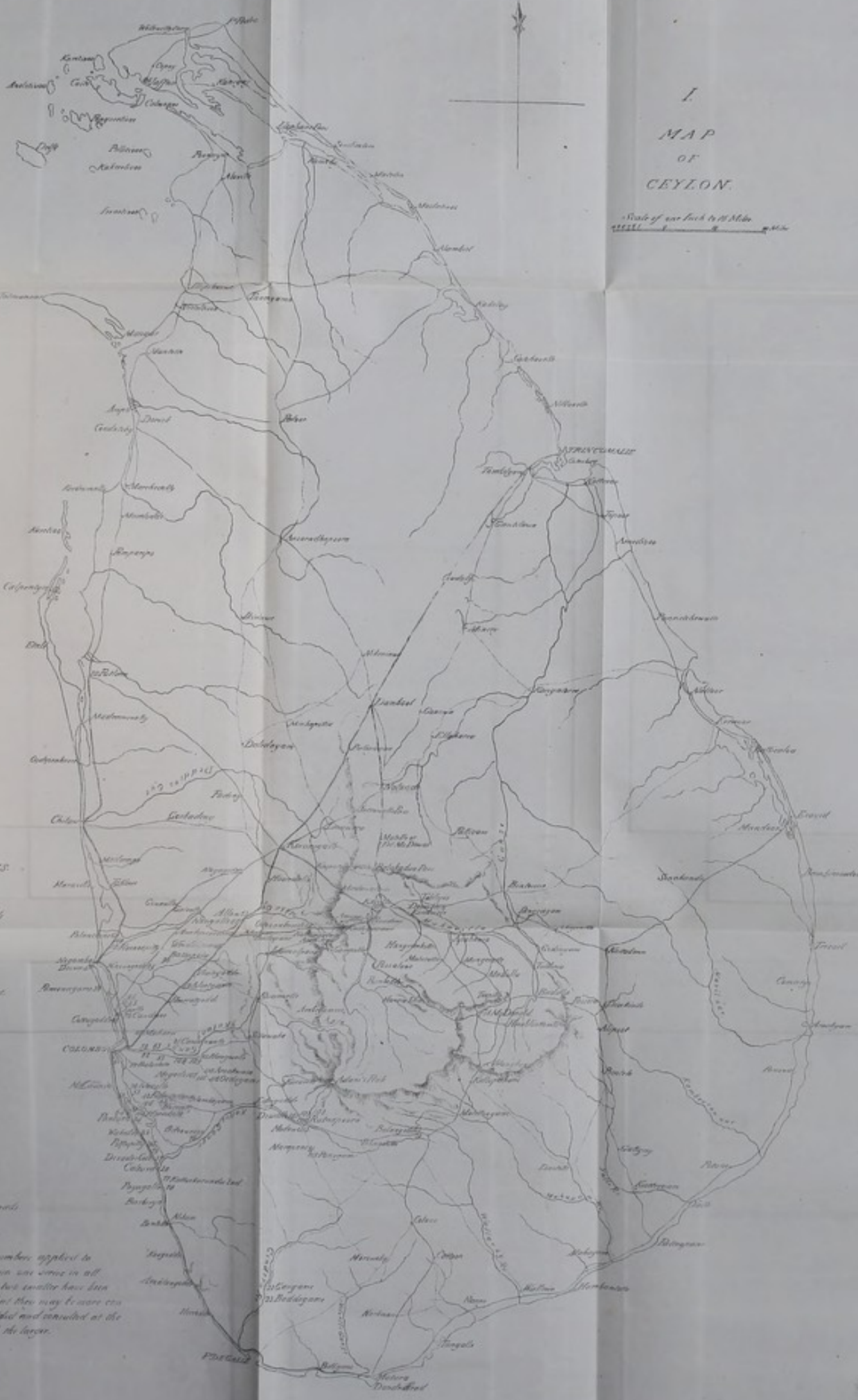
It now only remains for us to invite the Reader to take a general retrospect of the various topics discussed in this Report, and to compare the subject matter with the virulent and anonymous charges of H—y, supported in the pages of the *Observer*. He will be then prepared to form an impartial opinion of the conduct of the Government and of the officers of Government—whether they may deserve censure or praise, for the efforts which they have made to arrest the progress and mitigate the severity of the late painful visitation of the terrific malady the SMALL-POX.





I. MAP OF CEYLON.

Scale of one inch to 10 Miles

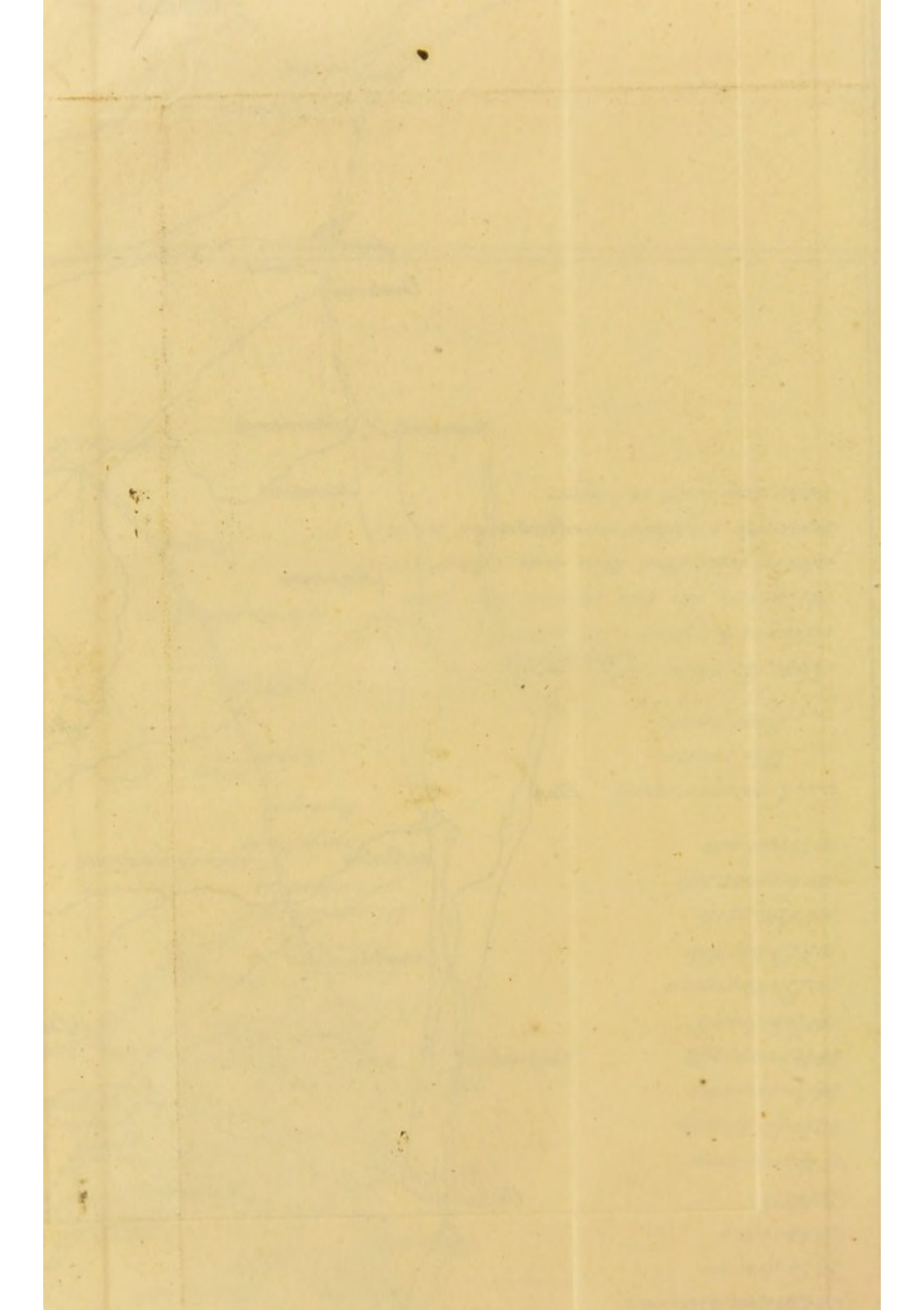


REFERENCES

- 1. Kandy
- 2. Maroon
- 3. Angkor
- 4. Nong
- 5. Kandy
- 6. Battaramulla
- 7. Battaramulla
- 8. Battaramulla
- 9. Battaramulla
- 10. Battaramulla
- 11. Battaramulla
- 12. Battaramulla
- 13. Battaramulla
- 14. Battaramulla
- 15. Battaramulla
- 16. Battaramulla
- 17. Battaramulla
- 18. Battaramulla
- 19. Battaramulla
- 20. Battaramulla
- 21. Battaramulla
- 22. Battaramulla
- 23. Battaramulla
- 24. Battaramulla
- 25. Battaramulla
- 26. Battaramulla
- 27. Battaramulla
- 28. Battaramulla
- 29. Battaramulla
- 30. Battaramulla
- 31. Battaramulla
- 32. Battaramulla
- 33. Battaramulla
- 34. Battaramulla
- 35. Battaramulla
- 36. Battaramulla
- 37. Battaramulla
- 38. Battaramulla
- 39. Battaramulla
- 40. Battaramulla
- 41. Battaramulla
- 42. Battaramulla
- 43. Battaramulla
- 44. Battaramulla
- 45. Battaramulla
- 46. Battaramulla
- 47. Battaramulla
- 48. Battaramulla
- 49. Battaramulla
- 50. Battaramulla
- 51. Battaramulla
- 52. Battaramulla
- 53. Battaramulla
- 54. Battaramulla
- 55. Battaramulla
- 56. Battaramulla
- 57. Battaramulla
- 58. Battaramulla
- 59. Battaramulla
- 60. Battaramulla
- 61. Battaramulla
- 62. Battaramulla
- 63. Battaramulla
- 64. Battaramulla
- 65. Battaramulla
- 66. Battaramulla
- 67. Battaramulla
- 68. Battaramulla
- 69. Battaramulla
- 70. Battaramulla
- 71. Battaramulla
- 72. Battaramulla
- 73. Battaramulla
- 74. Battaramulla
- 75. Battaramulla
- 76. Battaramulla
- 77. Battaramulla
- 78. Battaramulla
- 79. Battaramulla
- 80. Battaramulla
- 81. Battaramulla
- 82. Battaramulla
- 83. Battaramulla
- 84. Battaramulla
- 85. Battaramulla
- 86. Battaramulla
- 87. Battaramulla
- 88. Battaramulla
- 89. Battaramulla
- 90. Battaramulla
- 91. Battaramulla
- 92. Battaramulla
- 93. Battaramulla
- 94. Battaramulla
- 95. Battaramulla
- 96. Battaramulla
- 97. Battaramulla
- 98. Battaramulla
- 99. Battaramulla
- 100. Battaramulla

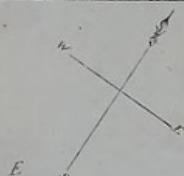
— Carriage roads.
— Old roads.
— Footpaths.

Note: As the numbers applied to villages &c. from 1 to 100 in all the maps, the two smaller have been placed first, that they may be more conveniently unfolded and consulted at the same time with the larger.



See pages 3, 45

PETTAH OF COLOMBO



Road from the fort

Note The points betwixt and on each side of the numbers are inserted to shew the relative situation of the houses indicated by these last, a distinct house or building being enclosed between every two points

RACKET COURT

BURYING GROUND

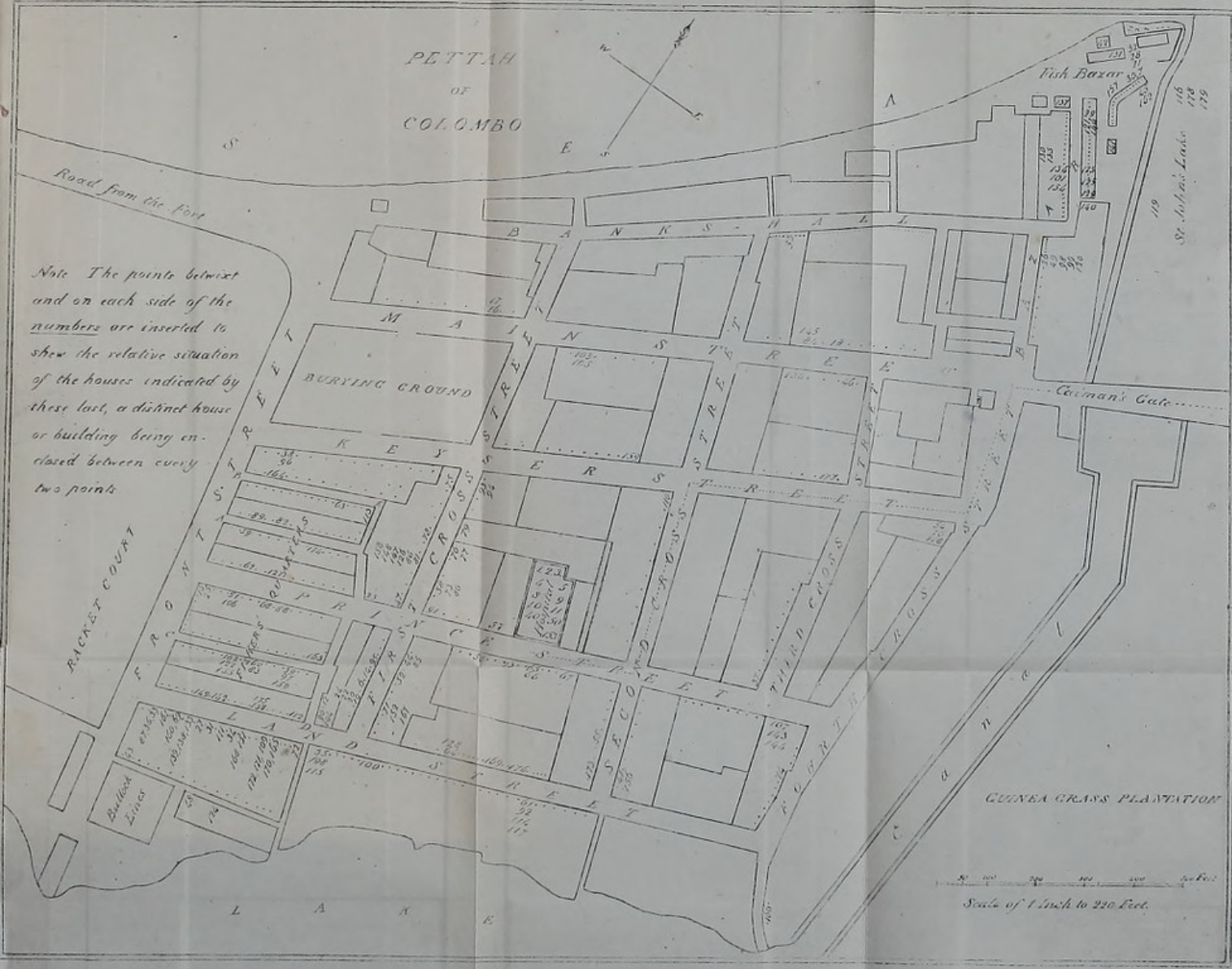
Fish Bazar

St. John's Lake

Calman's Gate

GUINEA GRASS PLANTATION

Scale of 1 inch to 220 feet



100M

100.35

76.22 V. 29.20
30.22

REFERENCE

for the Sick. respectively 15 ft by 14, 13 by 12, 5 by 13.

ed as a surgery 12 by 10.
warm congee and water were kept for
sick, 10 by 4.
as for cases of confluent small pox.

keep firwood.

by B.
to the remains of Patients who died
and arrangements had been made
ad.

used as a privy by the female.
Mr
during for the inspection of the sick
medical.

assigned by the medical Officer
side for the Filter Room.
things for the accommodation of the
sick Patients, respectively 18 and 25 by 10.

and 25 by 9 and 7.
buildings used as convalescent wards 16 by
2.

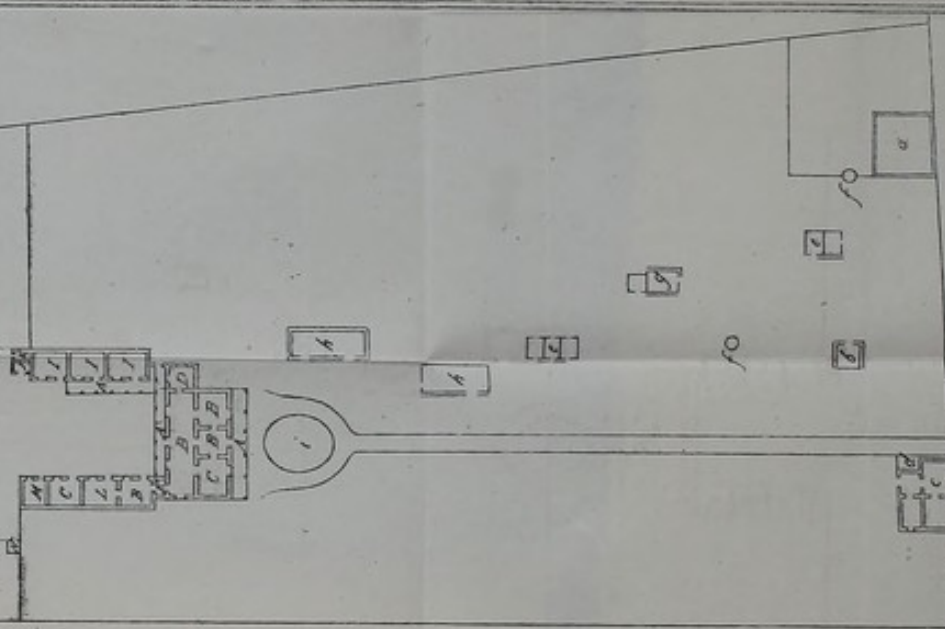
planted with flowers.

ery region buildings were lighted and
indicate which are represented in the Plan
outside of the walls. One of the two marked
three windows

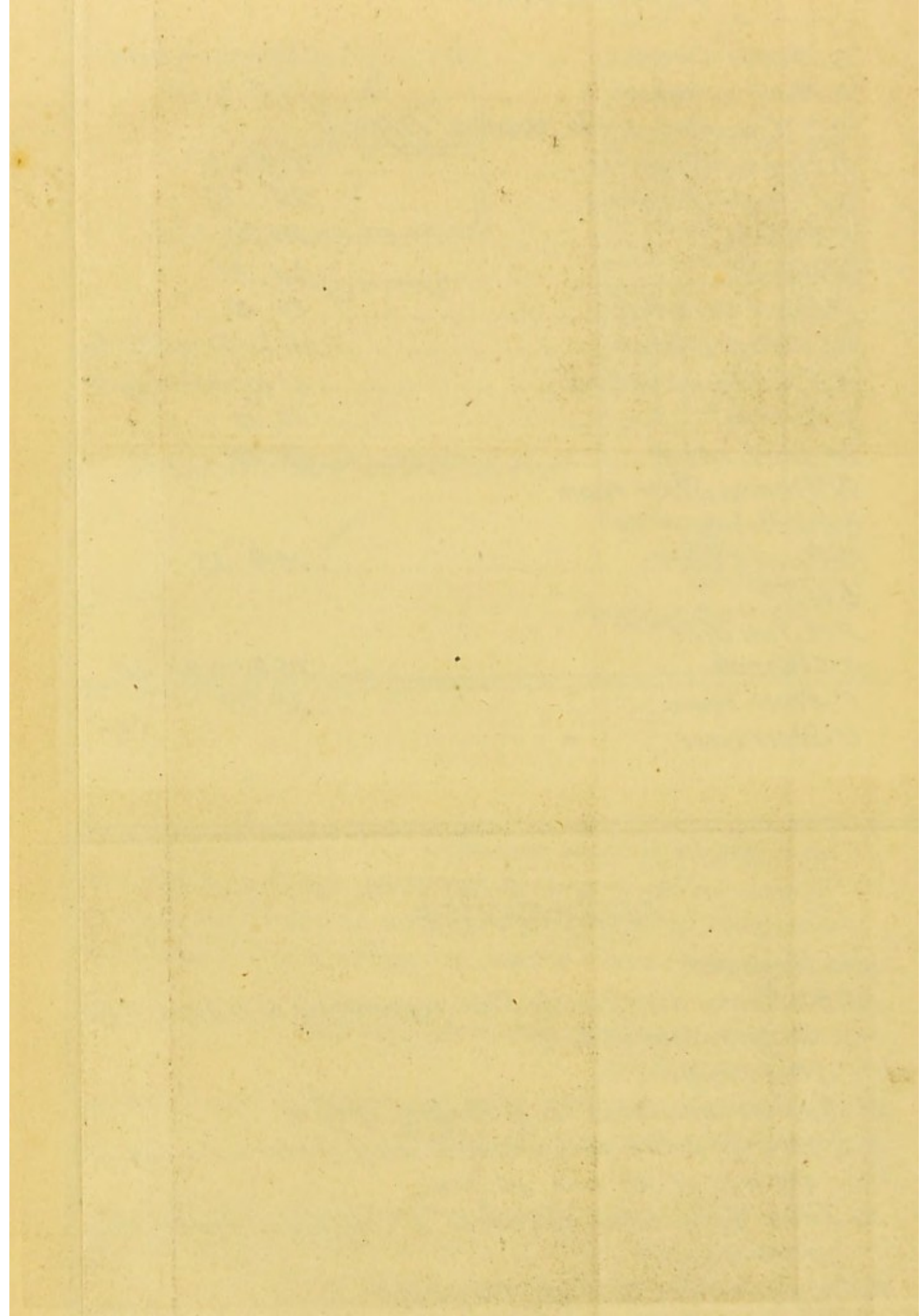
1/4 of 1/8 foot to an inch

of
H.

MARANDAHN HOSPITAL.



Marandahn Road.



ERRATA.

Page 10, last line, *before in, insert*, among the Native troops.

—— 68, first line, *for 26, read 23.*

—— 71, line 10 from bottom, *for page 10 read pages 6, 10.*

