

**Observations on the diseases which appeared in the Army on St. Lucia, in 1778 and 1779. To which are prefixed, remarks calculated to assist in ascertaining the causes, and in explaining the treatment, of those diseases. With an appendix, containing a short address to military gentlemen on the means of preserving health in the West-Indies / [John Rollo].**

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REPORT  
ON THE  
FISH AND SHEEP  
CULTURE IN THE  
MOUNTAIN DISTRICTS  
IN 1870

XXII,

OF LONDON. MEDICAL  
SOCIETY.

OBSERVATIONS

ON THE

DISEASES

WHICH APPEARED IN THE

ARMY ON ST. LUCIA,

In 1778 and 1779.

[ Price Two Shillings. ]



OBSERVATIONS

ON THE

ARMY ON ST. LUCIA

IN 1778 AND 1779

BY

JOHN BARRINGTON

ESQ.

LONDON

Printed by R. DODD

ARMY ON ST. LUCIA

In 1778 and 1779

BY

JOHN BARRINGTON

[Price Two Shillings]

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CALCULATED TO ASSIST IN ASCERTAINING  
THE CAUSES, AND IN EXPLAINING THE  
TREATMENT, OF THOSE DISEASES.

With an APPENDIX, containing  
A SHORT ADDRESS  
TO MILITARY GENTLEMEN,  
On the MEANS of PRESERVING HEALTH in the  
WEST-INDIES.

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LONDON:  
Printed for CHARLES DILLY, in the Poultry.  
MDCCLXXXI.

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LONDON,

Printed for Charles Dilly, in the Strand.

MDCCLXXIX.

TO HIS EXCELLENCY  
THE HON. JOHN VAUGHAN,  
GENERAL AND COMMANDER IN CHIEF  
OF  
HIS MAJESTY'S FORCES  
IN THE WEST-INDIES;  
COLONEL OF THE 46th REGIMENT OF FOOT;  
GOVERNOR OF FORT WILLIAM  
IN NORTH-BRITAIN;  
AND  
MEMBER OF PARLIAMENT FOR THE CITY  
OF BERWICK:

THE FOLLOWING OBSERVATIONS  
ARE MOST RESPECTFULLY INSCRIBED

BY  
HIS EXCELLENCY'S

MOST OBEDIENT SERVANT,

J O H N R O L L O.

TO HIS EXCELLENCY  
THE HON. JOHN VAUGHAN,  
GENERAL AND COMMANDER IN CHIEF  
OF  
HIS MAJESTY'S FORCES  
IN THE WEST-INDIES;  
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JOHN ROLL.

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## INTRODUCTION.

**T**HE CARIBBEE ISLANDS have always proved unhealthy and fatal to the European constitution, but to none so peculiarly as to the soldier. The nature of his duty exposes him to meridian heat and midnight air, to every species of fatigue, and to every cause which can possibly produce disease. The effects of this situation have been nowhere so unfortunately demonstrated, as on the Island of St. LUCIA.

The extensive sickness and mortality in the army a little time after our landing on that Island, did not fail to excite every medical effort. The want of pro-

per places for the reception of sick, distant posts which prevented a timely application, and something in the nature of the diseases which required a different treatment, by a more early and less timid exhibition of medicine, concurred in rendering the practice not apparently successful. We acknowledge, that we met with many difficulties, and often regretted our deficiency in experience. These we attempted to remove, by an assiduous attention to the nature and symptoms of the diseases which appeared, and to the effects of medicines. In this pursuit we were assisted by the observations of the justly celebrated CULLEN, LIND, CLEGHORN, and of Doctor MACKITTRICK, Antigua; and medical gentlemen will easily perceive how far we are indebted to them, even though we adduce no quotations.

The result of this attempt is now submitted to the candour of the Medical Gentlemen of the Army; and we sincerely

cerely hope it may induce gentlemen, whose abilities and long services have enabled them to ascertain the most effectual means of preventing and removing the diseases to which an army in all its various situations in the West-Indies may be subjected, to communicate them.

The OBSERVATIONS were made in DECEMBER 1778, JANUARY, FEBRUARY, MARCH, APRIL, and MAY, 1779, which takes in the period of the troops first landing on St. LUCIA. A bad state of health, and a departure from the Island, prevented us from prosecuting them any further. For these reasons, the plan we had laid down to ourselves could not be carried on to the extent originally designed. However, we have still retained it; and although subject to many defects, we trust it to the liberality and generosity of those whose knowledge and experience entitle them to the respect and esteem of every one convinced

vinced of the utility of the medical profession.

The Arrangement or Plan alluded to, follows :

I. A DESCRIPTION of DIFFERENT PLACES of ST. LUCIA, which were or may be occasionally occupied by the ARMY, with a GENERAL ACCOUNT of the ISLAND premised.

II. A REGISTER of the WEATHER from the 14th DECEMBER 1778, to the 31st MAY 1779, inclusive.

III. A TABLE, containing a LIST of the DISEASES, and an ACCOUNT of the NUMBER of MEN in HEALTH on the different SITUATIONS to be described.

IV. Of the SITUATIONS of the ISLAND on which the MEN specified in the TABLE were fixed, and an ENDEAVOUR to DETERMINE the MOST HEALTHFUL.

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VI. A

VI. A PARTICULAR DESCRIPTION of several CASES, selected from the TABLE.

VII. And, lastly, OBSERVATIONS ON the MEANS OF PREVENTING RELAPSES.

A Description of different Places of ST. LUCIA was thought necessary to assist in ascertaining the causes of its diseases, to enable more clearly to point out the parts of the Island on which the Men were fixed, and to determine the most healthy situations.

A Register of the Weather has been always thought useful, and from it many trace causes of disease: for these reasons we have given one. By being kept on board of a transport, it must be defective; however, it will serve to shew the state of the atmosphere, the direction and degree of winds, and the rainy days.

A Table, comprehending, 1. The patients we had an opportunity of attending to, with their diseases, and the different posts on which they were placed, annexed to each: 2. The number  
ber

ber of men in health, originally on each situation; the number of sick, relapses, and deaths. from each, will shew the extent of the practice, and assist in ascertaining the most healthy situations.

It was imagined the general Description of the Diseases would be illustrated by a minute Account of some Cases selected from the Table: this we have accordingly given, and the Cases will be described in the order observed in the History.

From the frequent opportunities we had when in America of examining the nature and cure of Dysentery, we were led to make some alterations in the common treatment of that disease. A successful practice approved the alteration made, and this has been more firmly supported by the trials we have given it in the West Indies. We shall, however, only mention it in very general terms, reserving a particular explanation to a future period.

We were naturally led into an enquiry on the means of preventing relapses, from their very frequent occurrence, from observing the different states of health of inhabitants and soldiers on different parts of the Island, and from the effects of a change of air.

In the course of these Observations it will be easily perceived, that they are chiefly drawn from Cases of Men under the immediate direction of Captain WILLIAMSON, commanding his Majesty's ROYAL ARTILLERY in the WEST-INDIES. The generous attention he bestowed on them in the hour of disease, and the readiness he always displayed to coincide with every reasonable request for their assistance, have not failed to endear his character to the soldier, and to constitute him one of the first ornaments of humanity.

Through the whole, we were very much indebted to the late experienced, generous, and humane Doctor BRUCE.

He



He was Physician to the Army ; and if a constant attendance to duty, a steady adherence to benevolence and justice in the performance of it, are the marks of a valuable public character, to him that appellation justly belonged, and on him it was universally conferred : and if sincere feelings of regret, in every department of the Army, and by every individual who had the most distant knowledge of him, are proofs of respect, esteem, and attachment, he had an extensive share of them. I know there is no person who recollects his name, but will be struck by his virtues, and many with me will drop a tear of gratitude :

Mon deuil me plait, et dois toujours me plaire,  
Il me tient lieu de celui que je pleurs.

P A R T I.

---

O B S E R V A T I O N S

CALCULATED TO ASSIST IN

ASCERTAINING THE CAUSES,

AND IN

EXPLAINING THE TREATMENT

OF THE

D I S E A S E S

Which appeared in the ARMY on St. LUCIA,  
in DECEMBER, 1778; JANUARY, FEBRUARY,  
MARCH, APRIL, and MAY, 1779.

B

PART I

OF THE HISTORY AND

PROGRESS OF

AGRICULTURE IN THE

WEST INDIES

IN THE

WEST INDIES

BY

JOHN

BARRETT

ESQ.

II

---

C H A P. I.

*A Description of different Places of St. LUCIA, which were or may be occasionally occupied by the ARMY; with a GENERAL ACCOUNT of the ISLAND premised.*

§ I.

*Of St. LUCIA in general.*

**S**T. LUCIA is situated betwixt Martinico and St. Vincent, and from it both are discernible; it is generally reckoned in North latitude 13 deg. 55 m. and West longitude 60 deg. 4 m.

This island represents a portion of ground, on which are every where placed perfect and imperfect cones of irregular heights, leaving in some parts a considerable flat, in many others deep vallies, covered with a stagnating water, impenetrable woods and poisonous shrubs, and generally the resort of noxious animals.

The sea-shore on both sides of the island is high, very rugged, and full of bays of various extents; the Windward side has its shore particularly bold and irregular, and in many parts of it a high white rugged beach.

The seasons are much the same here as in the other Caribbee Islands; the rainy periods continue longer, and appear in different times. We were told, that in December, January, and February, there was generally rain, but not so constant or of so long a continuance as in 78 and 79. The particular rainy season begins about the end of June, and continues several months. In the winter the mornings and evenings are chilly; summer months hot and sultry: May and June were exceedingly hot and disagreeable, especially when there was little wind, (*vide Register*) and in these months insects of the most troublesome kind overrun every place.

The winds generally blow from the N. E. to the S. E. feldom varying to the Westward. About the latter end of July, but more certainly in August and September, the winds blow very severe, sometimes forming a hurricane.

In the evening of the 5th of March, a slight touch of an earthquake was felt, both on Morne Fortune and in the Carénage, but it was of no continuance: these tremblings of the earth are now and then perceptible, but never of any severity or duration.

The soil of this island, on the dry flats of land, and on the brink of hills, is in general composed of a good layer of black mould, clay, and sand. About Gros Islet, particularly to Windward of it, the soil is sandy, having but a very slight surface of black earth. Several Gentlemen well acquainted with the soil of our other Islands, assured me that the soil of St. Lucia was in general the

most rich and fertile. It produces cocoa, coffee, cotton, and sugar-cane, vegetables and fruit in plenty; they have cattle, poultry, and fish in abundance; but from the present behaviour of the natives and residents, the soldier and stranger find the reverse. These people consist of Europeans, Creoles, Negroes, and a few families of Caribbees: the two first classes are French, and of that extraction, except two or three individuals; the French manners therefore prevail. Very few of them, even Creoles, on the Leeward side of the island, arrive at any age: they live regular, and are in general cleanly: fish and vegetables, with a little wine, are their principal diet, especially those who have their residence in the Bays; they, at times, however, eat their mutton; and those in the interior parts of the island subsist chiefly on vegetables and fricassees. The French are remarkable

for their indolence, leaving every thing to be done by their female mulattoes, of whom they are particularly fond: you find them either asleep, lolling under a tamarind-tree, smoking, or engaged in the most trifling conversation.

St. Lucia is not destitute of medical productions; among the chief of which are simarouba, zinziber, cassia fistularis, and the castor-nut: ipecacuan, squills, jallap, sarsaparilla, and even bark, are said to be found here. We look forward with an anxious hope to the present Physician of the Hospital, whose known abilities and industry in this, as well as in every other part of his profession, have fully enabled him to favour the world with satisfactory and important accounts of every medical produce which can possibly be met with in any of the Caribbee Islands.



## § II.

*Of MORNE FORTUNE.*

MORNE FORTUNE is a high hill of a steep ascent, an extensive base, and a flat top; it gradually arises on one side from the bottom of the Carenage-Bay, and from Cul de Sac on the other; it is situated to Leeward of the island, having higher hills than itself to Windward. The sides of this hill were covered with thick, and (except a narrow path on one side, and a paved way on the other) almost impenetrable woods; these, however, became more clear, but not near so much as necessary; the paths were widened, and the ascent made less difficult. The top or summit of this hill is perfectly free of trees or shrubs, and is of considerable extent; on it the Governor's house, a building for barracks, and an hospital were

were erected, and these were found in tolerable good order: this building was entirely converted into the latter purpose; the rooms are large and well adapted, every convenience suitable, but the situation of it is by no means proper; it is fixed towards the leeward, or Cul de Sac side of the hill, and in the most hollow part of the whole, with a rising to windward of it, which nearly covers one half of the height of that side of the edifice.

On different parts of the top of this hill, soldiers formed to themselves huts of reeds, and thatched them with a long grass found in the vallies. The heavy rains soon penetrated these loose buildings; and the soldier, after being exposed to fatigue in the sun, or to long watching in the night, was under the necessity of accepting the refreshment a wet and cold habitation afforded. The greatest number of these huts was raised on the eastern

eastern part of the summit of the hill, which we imagine to be one of the best spots for that purpose, being partly to Windward, and receiving an air less intercepted by noxious woods.

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### § III.

#### *Of GRAND CUL DE SAC.*

GRAND CUL DE SAC is a large bay, of about one mile distance from the top of the Morne, and to the S. W. of it. It is surrounded on each side by an irregular chain of hills, and those beyond the bottom of the Bay are more particularly covered with wood, and have their tops in the clouds.

There is a flat at the bottom of this Bay, in the middle of which a river runs in a serpentine direction from the basis of the hills, and terminates in the Bay. This river is narrow, of some depth, and

and over its edges hang a number of trees and shrubs whose roots are covered with slime. The north side of the river, or north division of the flat, is covered with wood, which extends and runs along the beach. The soil among the trees and shrubs is moist, and of a slimy and clayish appearance. The other division of the flat has several pools of a dark-coloured water, covered with a greenish scurf, and on the beach are placed a few despicable huts, the habitation of fishermen.

The south side of Cul de Sac is high, and, towards the Bay, clear of wood; it is exactly in the direction of the winds which pass over those parts we have just described.

The north side of Cul de Sac is rather higher than the south; it is not in the direction of the winds which pass from the bottom of the Bay, being rather to windward of it, but this side has the  
air

air which passes through and over the neighbouring woods.

At the sea extremity of the north side of Cul de Sac is a low situation, on which a temporary battery was formed; a constant dampness or moist earth distinguished the place, and it was subject to a rush of air, from a kind of valley, and a marshy ground nearly to windward of it.

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§ IV.

*Of the CARENAGE.*

CARENAGE-TOWN is a small place, formed at the bottom of the Bay from whence it has its name, consisting of a few insignificant houses, but not irregularly disposed: the streets run in the disposition of the town, which has the exact figure of a cross; the frequent rains overflowed the streets, and you always met with a stagnating puddle.

This

This place is situated on a flat piece of ground, is more to windward and more to the northward than Cul de Sac, and is immediately at the bottom of the Morne, on its north side: it is surrounded by hills, and on the windward side of it is an extensive bare marsh, which gives its unsalutary effects with every breeze of wind to the inhabitants; and on the leeward side of the town a river runs, from a good way back in the country, and terminates in the Bay. The hills to windward form a ridge, at the back of which are higher hills covered with thick woods, whose bottoms make vales, where are pools of stagnating water and marshy ground.

The north side of the Carenage-Bay is formed by a kind of peninsula, which is almost separated from the island by a narrow creek running from the Bay. This is a high neck of land, termed Morne Vigie: it is but little covered  
with

with wood, and not much in the direction of breezes from the island.

The south side of the Bay is a high hill, gradually declining from the bottom of the Bay, until it terminates in a flat: the whole is in the direction of the marsh and stagnating water of the town. At the uttermost point of this side of the Bay stands a rock of a circular figure, of some height, and nearly perpendicular; it is separated from the land by some low rocks covered with sand; on it are placed guns, and a small hut for the accommodation of a few men: it receives an air pure and untainted, seldom passing over any part of the island.

Carenage-Bay is narrow and long, and the greatest part of it in the direction of the wind passing over the land: a clear and wholesome air can only be claimed in that part of it, betwixt the  
Vigie

Vigie and Rock-Battery, which form the mouth of the Bay.

From the particular make of this Bay, and the disposition of the surrounding hills, it never fails of having a large proportion of the rain which falls in this part of the island.

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§ V.

*Of GROS ISLET.*

GROS-ISLET-BAY is capacious, being of considerable width and length; it is formed by an isle on the north side, by St. Lucia on the East and South, and is situated at the northern extremity of the island.

On the bottom of this Bay are a number of houses similar to those in Carenage; Marshes, stagnating water, and woods, are but trifling here in comparison with some of the other places we have mentioned. The country around



is pretty clear, and the air which regales the inhabitants passes over but a small part of the island.

The isle which forms the north side of the Bay, is known by the name of Pigeon Island; it is very high and steep, and any appearance of flat is on the windward side. The Navy have sick on this part, huts and tents being erected for the purpose.

The air circulating in this Bay receives little or no impression from the land; the situation here is more cool and agreeable on board of ship than in the Carenage.

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### § VI.

*Of SOUFFRIR and to Windward of it.*

SOUFFRIR is a small town resembling those described, situated at the bottom of a bay towards the Leeward extremity of the island: like Carenage,  
it

it is surrounded by hills covered with trees; but here, the declivities of the hills, and every part capable of produce, are cultivated, and afford good sugarcane. This place has its marshes, but not so extensive, or so much to windward as those about Carenage.

The extremity of the south side of Souffrir-Bay runs into two steep hills of a conical figure, which are nearly perpendicular: they are reckoned the highest on the island, and are known by the name of the Sugar-Loaf Hills. From their height and straightness it is impossible to ascend them: we were told it was once attempted by two negroes, but they never returned. They are covered with trees and shrubs, and are the shelter of goats, several of which sometimes descend, and are shot by the natives.

After you pass the hills to windward of Souffrir, a fine clear and level coun-

try presents itself. From the back of the Sugar-Loaf Hills, and all along the sea-coast, to the distance, we suppose, from fifteen to twenty miles, this flat or level extends: it is all cultivated and divided into rich estates, affording sugar-cane equal to any in our Islands. This beautiful spot is intersected by many rivers of very clear water, and these are conducted by art to the purpose of sugar-making. The rains, in this part, are less frequent than on any other part of the island; however, they have often a proportion more than sufficient. The wind here blows from the sea, or nearly so.

We cannot finish this description without taking notice of a volcano, in the neighbourhood of Souffrir. You pass over one or two small hills to the southward of the town, and before any mark of the place is perceived, you are sensible of the smell of sulphur. The  
first

first thing you discern is a rivulet of a black running water, sending forth steams as if near boiling. From the prospect of this you soon open on the volcano, which appears in a hollow, surrounded close on every side by hills. There are only two openings; the one we entered, and another almost opposite to it on the north side. In the hollow there are many pits of a black and thick boiling matter, which seems to work with great force. Lava is slowly thrown out, and in the centre of the hollow there is a large mass of it forming a kind of hill. This we ascended, but were soon obliged to return, from the excessive heat. The lava is a sulphur, mixed with a calcareous earth and some saline body. We found small quantities of alum in a perfect state. In the opening, at the north side of the hollow, there is a rivulet of very good water. On stirring the bottom over which this water runs,

we were surpris'd with feeling it very hot; and on placing a tumbler filled with some of the water close to the bottom of the rivulet, it soon became so hot as not to be touched. The liquid which runs from the pits is strongly impregnated with sulphur, and resembles a good deal the preparation sold in the shops, known by the name of *aqua sulphurata*, or *gas sulphuris*. Before St. Lucia was in our possession, two or three vessels were loaded with the crude sulphur of this volcano, for the use of America.

## C H A P. II.

A REGISTER of the WEATHER, from the  
14th of DECEMBER, 1778, to the 31st  
of MAY, 1779, inclusive.

**I**N stating the account of the weather,  
we intend, 1. to mark the month;  
2. the rainy days; 3. the clear; 4. the  
cloudy; 5. the thick and foggy; 6.  
the degree and direction of the winds;  
and 7. add some remarks.

It will be necessary to premise an ex-  
planation of some terms we shall have  
occasion to use. The *frequent rain*, is  
intended to denote short showers fre-  
quently repeated, with intervals of clear  
or cloudy sky; and by *constant rain*,  
more frequent showers, of longer dura-  
tion, and of shorter, or little or no in-  
tervals. We would wish to give the  
idea by *clear*, of a mild and serene at-  
mosphere, with few or no clouds, or, in  
other words, pleasant weather: *thick*,

*bazy*, or *foggy*, and *cloudy weather*, the reverse. By *moderate winds*, we mean all the degrees from calm to light and gentle breezes; *strong*, the degree upwards to the severest winds we had, which came in squalls, and were often very severe, but of no continuance: they generally accompanied showers, or rather ushered them in, and went off with the rain.

## D E C E M B E R, 1778.

## RAINY DAYS.

(a) Frequent rain, 16, 17, 18, 19, 20, 21,  
22, 27, 28, 29.

(b) Constant rain, 26, 30.

CLEAR DAYS, 14, 23, 24, 25, 31.

## CLOUDY DAYS.

THICK AND FOGGY  
DAYS.

## WINDS.

## 1. Direction.

Varying from the North East to the South East points; but generally East North East, seldom to the Southward.

## 2. Degree.

(a) Moderate, From the 14 to the 29  
inclusive, and the 31.

(b) Strong, 30.

REMARKS. The evenings of this month were cold and chilly; the mornings of the clear days, and days of Frequent Rain, were in general pleasant and agreeable; but in those of Constant Rain, a different aspect was exhibited.

JANUARY, 1779.

RAINY DAYS.

(a) Frequent rain, 1, 2, 13, 21 to 29 inclusive, and 31.

(b) Constant rain, 4, 6, 7, 14, 15.

CLEAR DAYS, 2, 5, 8, 9, 12, 18, 19, 27.

CLOUDY DAYS, 10, 11, 17, 20, 30.

THICK AND FOGGY DAYS.

WINDS.

1. Direction. Nearly the same as in last month, rather more to the Southward.

2. Degree.

(a) Moderate, 1 to 5, 8 to 11, 13 to 20, 22, 26, 27, 30.

(b) Strong, 6, 7, 12, 14, 21, 23, 28, 29, 31.

REMARKS. The 7th of this month is marked Constant Rain, but it was only for the first twelve hours of the day.



In the cloudy days, the weather was close and sultry; evenings and mornings, particularly after rain, disagreeably chilly and cold. The clear days were pleasant and agreeable in the shade.

## F E B R U A R Y.

## RAINY DAYS.

(a) Frequent rain, 3, 8 to 12, 23, 27, 28.

(b) Constant rain, 22, 25.

CLEAR DAYS, 4, 7, 13, 15 to 20, 26.

CLOUDY DAYS, 1, 2, 5, 6, 14, 21, 24.

THICK AND FOGGY  
DAYS.

## WINDS.

1. Direction, To the northward of East.

2. Degree.

(a) Moderate, 3 to 7, 13 to 17, 19, 20,  
21, 25.

(b) Strong, 1, 2, 8 to 12, 18, 22, 23,  
24, 26, 27, 28.

REMARKS. The wind blowing so strong, and so constantly to the northward in this month, only two days to the southward of East—the 22 and 28—and having fewer rainy days than in the last month, the weather was more equally

equally cool and pleasant. The 22d day is marked Constant Rain, but it was only for eleven hours.

M A R C H.

RAINY DAYS.

(a) Frequent rain, 1, 8, 19, 20, 21, 28, 30.

(b) Constant rain.

CLEAR DAYS,

3 to 7, 10, 12, 13, 15 to 18, 23 to 26, 29.

THICK AND FOGGY DAYS,

9, 14, 19, 21.—The two first unaccompanied with rain, the latter frequent showers.

WINDS.

1. Direction,

To the northward of East.

2. Degree.

(a) Moderate,

2, 4 to 10, 16 to 25.—

This last day was a perfect calm.

(b) Strong,

1, 3, 11 to 15 to 26, to 31.

REMARKS. This month was in general cool and agreeable. Tenth day, the morning and forenoon calm; afternoon the wind was strong, and the evening was attended with thunder and lightning. The wind only varied from the north-

northward the 5 and 16; and the 11, varied from the eastward to the westward of North.

## A P R I L.

## RAINY DAYS.

(a) Frequent rain, 4, 5, 9, 11, 12, 13, 22,  
29, 30.

(b) Constant rain.

CLEAR DAYS, 2, 3, 7, 16, 17, 19 to 27.

CLOUDY DAYS, 1, 6, 8, 10, 14, 15, 18,  
28.

THICK AND FOGGY  
DAYS.

## WINDS.

1. Direction, To the northward of East.

2. Degree.

(a) Moderate, 1, 2, 5, 9, 10, 12 to 17,  
20, 21, 22, 25, 26, 27,  
30.

(b) Strong, 3, 4, 6, 7, 8, 18, 23, 24,  
28, 29.

REMARKS. The weather was more hot and sultry in this than last month. The wind only varied one day to the southward of East—the 13. The frequent rainy days in this and the succeeding month, generally began in the afternoon, and often continued through the

the night. The mornings of these days were clear; tho' there was, for the most part, a shower early in the morning.

M A Y.

RAINY DAYS.

(a) Frequent rain, 3, 10, 12, 14, 16, 30.

(b) Constant rain, 2, 31.

CLEAR DAYS, 7, 8, 9, 15, 17 to 25.

CLOUDY DAYS, 1, 4, 5, 6, 13, 22, 23, 26 to 29.

THICK AND FOGGY DAYS.

WINDS.

1. Direction, To the northward of East.

2. Degree.

(a) Moderate, 2, 3, 4, 7, 8, 15, 17 to 21, 24 to 27.

(b) Strong, 1, 5, 6, 9 to 14, 16, 22, 23, 28 to 31.

REMARKS. The weather, in this month, notwithstanding the frequent winds, was more hot and sultry than the last: all kinds of insects were more numerous and troublesome. Second day, marked Constant Rain, was calm. The wind was two days to the southward of East—the 3 and 26.

## GENERAL REMARKS.

I. The wind, in the latitude of St. Lucia, generally decreases towards evening, and encreases or renews its strength in the morning, an hour or two after sun-rising. I have heard, however, frequent squalls in the night, which were always accompanied by rain.

II. In the clear days, the wind is generally more to the northward than in the other days; in the cloudy, the wind is more to the southward; and in the rainy days, the wind inclines to the eastward.

## C H A P. III.

*A TABLE containing a LIST of the DISEASES, and an Account of the Number of MEN in HEALTH on different SITUATIONS to be described.*

**T**HIS Table is formed of two Parts.

The First Part marks the diseases, and is divided into nine columns.

First column specifies the number of sick from each different post, by 1, 2, 3, &c. The mark \* denotes those who have relapsed, or who have been formerly affected by disease.

Second column specifies men's name.

Third marks the disease; and in tracing this column with the first, you will find the frequency of relapse, and the alterations which may have happened

pened in the second or third appearance of the disease in the same patient.

Fourth points out the situations of the island on which the men were fixed: in this column of the Table frequent recourse must be had to the description of each of the places mentioned.

It is necessary here to observe, that the patients marked from the Ridge of Hills to windward of Carenage, were for two or three weeks, at our first landing, on the Vigie; and that towards the end of March, they removed from the hills, and again occupied that post.

Fifth and sixth columns give the age and colour of the hair. It was thought necessary to particularize them. Many determine much from the age; and the idea of temperament, with many, has weight; to distinguish

tinguish which, the colour of the hair we imagine to be the best general characteristic.

Seventh, eighth and ninth columns mark the periods of admission, discharge and death, from which you ascertain the duration of the disease as favourable or unfavourable.

The patients who are neither marked as discharged or dead, were removed from the Island.

The Second Part of the Table is divided into five columns.

First column marks the situation of the island on which the men were placed.

Second gives the number of men in health originally on each of these situations.

Third specifies the number of sick :

Fourth, the number of relapses :

Fifth, the number which died.

By



By an attentive review of both Parts of this Table, and the different states of health of the inhabitants and natives, we may, with some degree of certainty, point out the healthy and unhealthy situations.

TABLE.

## T A B L E.

## P A R T I.

No. &c.	Men's Names.	Diseases.	The Situations of the Island on which the Men were fixed.	Age	Colour of their Hair.	When admitted.	When discharged.	When died.
1	Peter Thomson	Dysentery	Morne Fortune	22	Black	18 Jan.	31 Jan.	
2	Charles M'Ginnes	Ditto	ditto	23	Dark	26	ibid.	
3	John Smith	Diarrhoea	ditto	28	ditto	27	ibid.	
4	Robert Simpson	Dysentery	ditto	24	Black	12 Feb.	24 Feb.	
5	John Best	Ditto	ditto	29	Dark	16	28	
6	John Jordan	Ditto	ditto	22	ditto	19	4 March.	
7	Thomas Best	Remittent	ditto	22	Black	20	ibid.	
8	Davidson Peebles	Dysentery	ditto	29	ditto	23	ibid.	
9	William Brown	Diarrhoea	ditto	27	ditto	19 March	1 April.	
10	Peter Irvine	Remittent	ditto	24	Fair	25	11	
11	George Tate	Dysentery	ditto	22	ditto	29	17	
12	Robert Hislop	Remittent	ditto	21	Dark	ibid.	19	

P A R T I. C O N T I N U E D.

No. &c.	Men's Names.	Diseases.	The Situations of the Island on which the Men were fixed.	Age	Colour of their Hair.	When admitted.	When discharged.	When died.
13	James Ranton	Remittent	Morne Fortune	25	Dark	29 March	15 April	
14	John Shields	Tertian	ditto	21	ditto	31	13	
15	Robert Clark	Remittent	ditto	24	Black	3 April	21	
16	John Brown	ditto	ditto	26	Red	9	ibid.	
17	George Davies	Tertian	ditto	41	Dark	18	25	
18	William Maddox	Quotidian	ditto	14	Fair	9 May		
*	John Smith	Dropical	ditto			26 Feb.	8 March	
*	George Davies	Remittent	ditto			17 March	30	
*	John Jordan	Diarrhœa	ditto			22	10 April	
*	William Reid	Remittent	ditto			25	19	
*	William Brown	Diarrhœa	ditto			17 April	22	
*	Joseph Waters	Quotidian	ditto			25	19 May	
*	Alexander Taylor	Remittent	ditto			ibid.		27 May
*	Robert Hill	Tertian	ditto			3 May		
*	Peter Irvine	Dysentery	ditto			ibid.		
*	George Tate	Diarrhœa	ditto			15		
1	Daniel Mackie	Tertian	South Side Cul de Sac	22	Red	19 Jan.	31 Jan.	

P A R T I. C O N T I N U E D.

Men's Names.	Diseases.	The Situations of the Island on which the Men were fixed.	Age	Colour of their Hair.	When admitted.	When discharged.	When died.
2 John Fitchet	Remittent	South Side, Cul de Sac	21	Fair	21 Jan.	11 April	
3 Robert Brodie	ditto	ditto	30	Black	ibid.	28 March	
4 James Wallace	ditto	ditto	26	Fair	22	17 Feb.	
5 John Hutton	Dysentery	ditto	30	ditto	28	11	
6 Joseph Waters	Tertian	ditto	24	Red	6 Feb.	17	
7 John Benny	Remittent	ditto	21	Black	14	4 March	
8 William French	Quotidian	ditto	24	Fair	ibid.	23 Feb.	
9 Alex. Richardson	Tertian	ditto	30	ditto	22	28	
10 Alex. Buchapan	ditto	ditto			ibid.	ibid.	
11 Alex. Taylor	ditto	ditto			25	2 March	
12 John Gardiner	Remittent	ditto	23	Black	11 March	27	
13 John Reid	ditto	ditto	28	Dark	ibid.	28	
14 John Gate	Tertian	ditto	20	Red	18	ibid.	
15 John Preston	Remittent	ditto	25	Dark	31	17 April	
16 Alex. Ormond	ditto	ditto	20	ditto	8 May		22 May
* Daniel Mackie	Tertian	ditto			14 Feb.	24 Feb.	
* James Wallace	ditto	ditto			22 March	30 March	

P A R T I. C O N T I N U E D.

No. &c.	Men's Names.	Diseases.	The Situations of the Island on which the Men were fixed.	Age	Colour of their Hair.	When admitted.	When discharged.	When died.
*	John Reid	Remittent	South Side Cul de Sac			29 March	19 April	
*	Alex. Taylor	Tertian	ditto			31 ibid.	15	
*	John Gate	Quotidian	ditto			ibid.	19 ibid.	
*	Daniel Mackie	ditto	ditto			ibid.	15	
*	William French	ditto	ditto			17 April		
*	Alex. Richardson	ditto	ditto			ibid.		
*	James Wallace	ditto	ditto			19		
*	Alex. Buchanan	Remittent	ditto			3 May	1 May	
*	Daniel Mackie	Quotidian	ditto			16 Jan.	27	
1	Alex. Warden	Dysentery	Low Bat. N. Side Cul de Sac	29	Black		31 Jan.	27 May
2	Thomas Tudars	Remittent	ditto	28	Dark	20		31 Jan.
3	Robert Grace	ditto	ditto	34	Black	24		
4	Thomas Hogg	ditto	ditto	25	Dark	28		
5	Thomas Archer	Tertian	ditto	24	Black	31	11 Feb.	
6	John Little	Remittent	ditto	24	ditto	ibid.	8	
7	George Smith	ditto	ditto	27	Dark	4 Feb.	23	
8	William Reid	Quotidian	ditto	21	ditto	6	17	

P A R T I. C O N T I N U E D.

Men's Names.	Diseases.	The Situations of the Island on which the Men were fixed.	Days	Colour of their Hair.	When admitted.	When discharged.	When died.
9 John Grant	Quotidian	Low Bat. N. Side Cul de Sac	22	Black	6 Feb.	12 March	
10 William Badenoch	ditto	ditto	24	Dark	ibid.	17 Feb.	
11 John Pickard	ditto	ditto	21	Fair	10	20	
12 George Davie	Remittent	ditto	23	Dark	23	8 March	
13 James Bruce	ditto	ditto	25	Fair	13 March	19 April	
14 Isaac Buchanan	ditto	ditto	25	Brown	17	17	
15 William Rawson	Quotidian	ditto	21	Red	20	30 March	
16 Samuel Chapman	ditto	ditto			9 April	21 April	
* John Pickard	ditto	ditto			28 Feb.	8 March	
* John Little	ditto	ditto			1 March	25	
* William Badenoch	ditto	ditto			4	17	
* Thomas Hogg	Remittent	ditto			19	30	
* John Grant	ditto	ditto			22	11 April	
* Samuel Chapman	Quotidian	ditto			1 May	15 May	
* William Badenoch	ditto	ditto			1	24	
* George Davie	ditto	ditto			9	27	
1 John Arden	Dysentery	High N. Side Cul de Sac	23	Fair	25 Jan.	12 Feb.	

P A R T I. C O N T I N U E D.

No. &c.	Men's Names.	Diseases.	The Situations of the Island on which the Men were fixed.	Days	Colour of their Hair.	When admitted.	When discharged.	When died.
2	Walter Buchanan	Quotidian	High N. Side Cul de Sac	31	Red	9 Feb.	17 March	
3	Robert Culbertson	Remittent	ditto	22	Fair	13	<sup>4</sup> ibid.	
4	Samuel Wilks	Quotidian	ditto	24	ditto	18		
5	George Pettigrew	Remittent	ditto	27	Red	30 March	27 May	
6	John Wilson	Tertian	ditto	26	Black	26 Feb.	2 March	
*	Alex. Warden	ditto	ditto			9 April	17 April	14 April
*	Walter Buchanan	Remittent	ditto			22 March		15 June
*	Samuel Wilks	Diarrhœa	ditto			31		
*	Robert Culbertson	ditto	ditto			15 April		
*	John Wilson	Quotidian	ditto			28	15 May	
1	William Seabrook	Remittent	Carenage Town		Black	3 Feb.	12 Feb.	
2	Edw. Hultzinger	ditto	ditto	47	ditto	28	18 March	
3	Jacob Niece	ditto	ditto	26	ditto	11 March		17 March
4	William Rowning	ditto	ditto	32	ditto	25	15 April	
*	William Seabrook	Quotidian	ditto	28	ditto	22 Feb.	8 March	
1	Robert Maccoull	Dysentery	Hills Wind. Carenage	27	ditto	3	12 Feb.	
2	William Allen	Remittent	ditto	25	ditto	31 Jan.	15 March	

P A R T I. C O N T I N U E D.

No. &c.	Men's Names.	Diseases.	The Situations of the Island on which the Men were fixed.	Age	Colour of their Hair.	When admitted.	When discharged.	When died.
3	Jonathan Bell	Remittent	Hills wind. Carenage	40	Black	11 Feb.	15 March	1 March
4	Thomas Hilton	Diarrhœa	ditto	23	Dark	27	20	
5	James Cunningham	Remittent	ditto	21	Fair	28	18	
6	Thomas Adams	Dysentery	ditto	24	Black	ibid.	ibid.	
7	Joseph Brownlow	Quotidian	ditto	21	Fair	ibid.		
8	James Falconer	Remittent	ditto	24	Black	1 March	20	
9	Alexander Scot	Dysentery	ditto	27	ditto	ibid.	22	
10	Andrew Brown	Remittent	ditto	20	Dark	3	25	
11	John Drummond	ditto	ditto	26	ditto	9	23	
12	George Robertson	Quotidian	ditto	21	Fair	11	25	
13	Selba Crawford	Dysentery	ditto	25	Black	12	24	
14	William Clements	Remittent	ditto	27	ditto	16	28	
15	William Innes	Tertian	ditto	22	ditto	17	1 April	
16	John Hederwick	Quotidian	ditto	23	Dark	22	10	
17	Alex. Mackie	Remittent	ditto	24	ditto	24	ibid.	
18	Robert Hill	ditto	ditto	21	Black	ibid.	11	
19	Robert Hamilton	Tertian	ditto	25	ditto	ibid.	14	



P A R T I. C O N T I N U E D.

No. &c.	Men's Names.	Diseases.	The Situations of the Island on which the Men were fixed.	do	Colour of their Hair.	When admitted.	When discharged.	When died.
20	John Lawrence	Quartan	Hills wind. Carenage	28	Dark	10 April	23 April	
21	John Aitken	Quotidian	ditto	27	ditto	12	21	
22	James Rutherford	ditto	ditto	22	Black	13	26	
23	Daniel Storie	ditto	ditto	20	Fair	8	20	
24	William Parr	Tertian	ditto	38	Black	11	24	
25	William Nielson	Quotidian	ditto			12	27	
26	Ralph Young	Tertian	Vigie	28	Black	9	17	
27	John Chambers	ditto	ditto	27	ditto	11	ibid.	
28	William Millar	ditto	ditto	30	Dark	9	27	
*	Andrew Brown	ditto	Hills wind. Carenage			21 March	5 April	
*	George Robertson	ditto	ditto			26	11	
*	James Falconer	Headach	ditto			29	15	
*	Thomas Adams	Tertian	ditto			9 April	17	
*	Robert Hill	ditto	Vigie			9	ibid.	
*	Andrew Brown	Quotidian	ditto			14	25	
*	William Clements	ditto	ditto			14	27 May	
*	Robert Hamilton	Tertian	ditto			17	26 April	

No. &c.	Men's Names.	Diseases.	The Situations of the Island on which the Men were fixed.	Age	Colour of their Hair.	When admitted.	When discharged.	When died.
*	James Falconer	Quotidian	Vigie			17 April	27 May	
*	John Drummond	ditto	ditto			23 ibid.	26 April	
*	George Robertson	Tertian	ditto			25	27 May	
*	John Benny	Quartan	ditto			27	13	
*	Selba Crawford	Quotidian	ditto			27	22	
1	James Coombes	Remittent	South Side Carenage Bay	23	Black	27 Jan.	17 Feb.	
2	Philip Gibbon	ditto	ditto	25	Fair	31	12	
3	John Cleland	ditto	ditto	26	Dark	ibid.	28	
4	George Inglis	Headach	ditto	26	Black	ibid.	3	
5	David Caldwell	Remittent	ditto	22	ditto	1 Feb.		7 April
6	William Mitchell	Quotidian	ditto	22	Dark	5	17	
7	Geo. Bourtholm	Remittent	ditto	23	ditto	ibid.		15 Feb.
8	Joseph Elliot	Quotidian	ditto	22	Fair	12	22	
9	John Todd	ditto	ditto	22	Black	ibid.	ibid.	
10	Joseph Anderfon	Tertian	ditto	21	Fair	25	8 March	
11	John King	ditto	ditto	22	ditto	5 March	22	
12	Samuel Parr	Quotidian	ditto	24	Black	17	28	

P A R T I. C O N T I U N E D.

No. &c.	Men's Names.	Diseases.	The Situations of the Island on which the Men were fixed.	Age	Colour of their Hair.	When admitted.	When discharged.	When died.
13	Edward Rofs	Remittent	South Side Carenage Bay	28	Black	21 March	15 April	
14	James M'Cloy	ditto	ditto	20	Dark	29		
15	William Carr	Quotidian	ditto	26	ditto	12	29	
16	Alex. Mitchell	Remittent	ditto	24	Black	14 April	14	
17	John Dodds	Quotidian	ditto	24	Black	21	30	
*	George Inglis	Tertian	ditto		Dark	24 Feb.	8 March	
*	William Mitchell	Quotidian	ditto			25	4	
*	Joseph Elliot	Remittent	ditto			1 March	25	
*	Philip Gibson	Quotidian	ditto			8	21	
*	John Todd	Remittent	ditto			15	26	
*	Philip Gibson	Quotidian	ditto			29	27 May	
*	James Coombes	Remittent	ditto			ibid.		10 May
*	John Hutton	ditto	ditto			3 April		9 April
*	Samuel Parr	ditto	ditto			8	21 April	
*	Joseph Elliot	Quotidian	ditto			11	15 May	
*	John Todd	ditto	ditto			ibid.	16	
*	William Mitchell	ditto	ditto			22	3	

P A R T I. C O N T I N U E D.

No. &c.	Men's Names.	Diseases.	The Situations of the Island on which the Men were fixed.	50 V	Colour of their Hair.	When admitted.	When discharged.	When died.
*	Samuel Parr	Quotidian	South Side Carenage Bay			30 April	19 May	1 July
*	William Carr	Diarrhoea	ditto			15 May		28 May
*	William Allen	Remittent	ditto			27		2 June
*	John Dodds	ditto	ditto			25		I
*	Edward Rois	ditto	ditto			28		
1	John Law	Tertian	Rock Battery	20	Black	23 Jan.	31 Jan.	
2	John Hyde	ditto	ditto	21	Red	26	ibid.	
3	Ebenezer Brown	Remittent	ditto	27	Dark	30 March	15 April	
*	John Law	ditto	ditto			8 April	21	

T A B L E.

## T A B L E.

## P A R T II.

The Situations of the Island on which the Men were fixed.	Number of Men in Health, originally on each Situation.	Number of Sick from each.	Number of Relapses.	Number of Deaths.
Morne Fortune	Eighty-Six	Eighteen	Ten	One
South Side of Grand Cul de Sac	Seventeen	Sixteen	Eleven	One
Low Battery, North Side Cul de Sac	Sixteen	Sixteen	Eight	Two
High Ground North Side Cul de Sac	Thirteen	Six	Five	Two
Carenage Town	Four	Four	One	One
Ridge of Hills to Windward of Carenage and Vigie. Vide TABLE, Part I.	Forty-Two	Twenty-Eight	Thirteen	One
South Side of Carenage Bay	Twenty-Three	Seventeen	Seventeen	Eight
Rock Battery, situated at the Extremity of Carenage Bay	Seven	Three	One	

## C H A P. IV.

*Of the SITUATIONS of the ISLAND on which the MEN specified in the TABLE were fixed; and an ENDEAVOUR to DETERMINE the MOST HEALTHFUL.*

## § I.

*Of the SITUATIONS on which the MEN were fixed.*

**T**HE first landing of the army was in Cul de Sac, on the South side of the Bay; and forty Artillerymen with four field-pieces landed towards the North side. They had to drag their guns up very steep hills, and with all the quickness they were masters of, in order to join that part of the army to which they were detached: next day those men took their stations on the Vigie. The remainder of the artillery were disembarked.

The whole army now occupied the South and North sides of Cul de Sac, Morne Fortune, and both sides of Carenage-Bay. Those who were on the Vigie lay exposed to severe rains, and had no change of linen for upwards of ten days. Indeed, the army in general was exposed to bad weather ; but having a communication with the transports, which those on the Vigie were deprived of, they did not so particularly feel it.

About the middle of January the army was much in the same situation. The Grenadiers, Light Infantry, Fifth Regiment, and the forty Artillery who landed the first night, and were altogether on the Vigie, changed ground and took possession of the ridge of hills to windward of Carenage. At this time we had Artillery as expressed in the TABLE, on both sides of Cul de Sac, on Morne Fortune, and on the South side of Carenage-Bay ; and from the end of

April, and during May, the Artillery were placed on the North side of Cul de Sac, on Morne Fortune, and on both sides of Carenage-Bay. The men originally on the South side of Cul de Sac were removed to the Morne; and those in the last months on the North side of Carenage or Vigie, were the forty men formerly mentioned.

Soon after our first landing we had some provision and artillery tents erected on the beach, at the bottom of Cul de Sac Bay.

We here remark, that when the men changed ground from the Vigie to the hills to windward of Carenage, and when they returned again to their first position, they were under the necessity of erecting huts every change they made.



## § II.

*Of the* MOST HEALTHY SITUATIONS.

IT is universally admitted, that every country has its healthy and unhealthy spots; to ascertain which is a matter of importance to strangers, and even to natives. Soldiers, who are liable to be removed from one country to another, and who are subject to every inconvenience of a change, ought, as far as the circumstances of war will admit, to be placed on those parts of an island, or country, which, from appearance, and the healthiness of its inhabitants, are apparently the most salutary.

When active operations are carrying on, either in defence or attack, it is impossible to attend to the healthy or sickly state of any place, every consideration giving way to security or success; but the moment we are free from danger, the health of the army becomes the principal

principal

principal object ; and the first thing to be attended to, is the particular parts on which soldiers are to be fixed.

St. Lucia, like other islands, has situations in which a remarkable difference of health and sickness is evident. To ascertain the healthy situations, we shall take a view of the state of the soldiers and inhabitants on those parts we have described.

*Of the SOLDIERS.*

On Morne Fortune the troops were in general healthy. From eighty-six artillery men on this situation, we had only eighteen sick, and the most of these had been on service from the Morne : the death which happened here, was a case originally on the south side Cul de Sac. The thirty-fifth regiment, which was placed on the south side of Cul de Sac, had before the middle of January more than fifty sick with fevers, and

many of them dangerous. From seventeen artillery on this situation, we had sixteen, during this and the succeeding month, in the hospital, with a bad remitting fever. Those who were in the tents at the bottom of the Bay, had intermittent attacks, and one of our Gentlemen died of a fever on the ninth day, with putrid symptoms.

The artillery and troops on the high ground north side Cul de Sac were sickly, but not so much as on the south side: from thirteen men we had six sick, and of these two died. The men at the Low Battery on the same side of Cul de Sac, were more unhealthy: we had every man sick, and lost two.

In Carenage Town, the four men placed there were all sick.

From the Vigie, or north side of Carenage-Bay, we had at first no sick; but after the troops changed ground, to  
the

the high hills to windward of the town, in the months of February and March, we had many sick : several officers of the army died in six or seven days illness, and numbers of men. The fifth regiment, which changed ground again to the Vigie, its original situation, and our detachment of artillery, continued sickly ; but in the end, the severity of their diseases abated, while those of other parts encreased.

On the south side of Carenage-Bay, two-thirds of our men were sick, and here we lost the greatest number. The Rock Battery of seven men had only three sick, and these were slight cases.

Upon the whole, the worst cases were from the south side, and the Low Battery on the north side of Cul de Sac, Carenage Town, the Ridge of Hills to windward of it, and the south side of

the Bay. On the contrary, the fewest and slightest cases were from Morne Fortune, high ground north side Cul de Sac, Vigie, and the Rock Battery.

*Of the INHABITANTS.*

At Carenage Town the people are short-lived, have annual attacks of fever, yellow and meagre countenances, small legs, except when œdematous; in a word, their appearance is as if they were worn out by disease. At Gros Islet the inhabitants live longer, are not so subject to disease, at least not of the same degree or duration; they are more full in the face, and more hearty.

At Souffrir the inhabitants have chearful countenances, and are nearly in a state of health with those of Gros Islet; but this may be attributed to a better diet rather than situation. On the  
extensive

extensive plain to windward of this place very few diseases appear, and they are mostly intermittents : the countenances here of the women, of the children, and even of the men, have some degree of resemblance to those of the European ; the female has the red on her cheek, and the child has all the marks of health.

From this view of soldiers and inhabitants on different situations, we imagine the following particular parts of the Island, in the state we have described them, are the most favourable for an European constitution : We shall place them according to their superior degree of healthiness :

1. Windward of Souffrir.
2. Morne Fortune.
3. Vigie and Rock Battery.
4. Situations about Gros Islet.

In general, we believe those who reside in the Windward parts of the Island, and those parts not exposed to the noxious effluvia of marshes and woods, are in the most salutary places of abode.

END OF THE FIRST PART.

P A R T II.

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O B S E R V A T I O N S

O N T H E

D I S E A S E S

Which appeared in the ARMY on St. LUCIA,  
in DECEMBER, 1778; JANUARY, FEBRUARY,  
MARCH, APRIL, and MAY, 1779.



THE UNIVERSITY OF CHICAGO

OFFICE OF THE DEAN

CHICAGO, ILLINOIS

1950

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## C H A P. I.

*Of the HISTORY of the DISEASES which appeared in the MONTHS specified.*

\* \* We divide the Diseases into INTERMITTING and REMITTING FEVERS, and DYSENTERY. We shall narrate the Manner of Attack, and describe the Symptoms of each; then subjoin some General Remarks.

### § I.

*Of the HISTORY of the INTERMITTENT.*

**T**HE intermittent fever appeared in its various types; quotidian, tertian, and quartan. The quotidian was the most frequent, and we had only one or two cases of the quartan.

Patients were attacked with languor, prostration of strength, and shivering, followed by heat; and an universal sweat terminated the paroxysm. The shivering went off as the heat encreased; but

but the languor and prostration of strength continued until a perfect solution of the fever took place; and even in the apyrexia, or interval of attack, some degree of these was observable, particularly in the quotidian.

A yellowness of the skin, costiveness, and a high-coloured urine attended, and these were more evident in the quotidian than tertian.

The paroxysms were, in general, perfect, but of different durations, especially in the quotidian, which was often a prelude to the remittent fever, and then the attacks became irregular and imperfect.

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## § II.

### *Of the HISTORY of the REMITTENT.*

THE remittent fever was sometimes the consequence of an intermittent, particularly if neglected on its first attack;

but we generally found this fever making its appearance in a different manner, and, in its turn, it often ran into the intermittent.

Languor, prostration of strength, chilliness, livid colour of the lips, a particular dejected look, and nausea, were the first marks of this disease; and these were soon followed by anxiety, headache, pain of the back and loins, heat, thirst, often a vomiting, and an encrease of the nausea, languor, and prostration of strength.

After the first remission, which generally happened towards morning, all the preceding symptoms encreased, with the addition of a foul tongue, a yellowness of the eyes, and, in some cases, an universal tinge, delirium, urine in small quantities and very high-coloured, imparting an offensive smell, often a difficulty in voiding it, which sometimes came to a perfect stoppage.

The

The pulse, in the first states of this fever, was seldom encreased, or in any unnatural feeling, but was considerably altered in the last mortal stages of the disease.

A remission was perceptible from an abatement of the severity of symptoms, a gentle moisture on the skin, a free discharge of urine, and a diminution of the yellowness.

A comatose disposition, remarkable dejection, coldness of the skin, partial cold sweats, hiccup, involuntary stools, *subfultus tendinum*, loss of speech, &c. were certain signs of danger.

An eruption about the mouth and ears, with a swelling of the upper lip, either in this or the intermittent, happening when the fever was going off, was a certain sign of recovery; but if it appeared when dangerous symptoms were present, it greatly assisted in the unfavourable prognostic.

When

When flies became numerous about a patient's bed, in any period of the disease, and adhered to his lips and eyes, without his being sensible of their attachment, a certain mark of danger was exhibited. Indeed, these insects never made their appearance in any number, until danger, by other signs, was too apparent.

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### § III.

#### *Of the HISTORY of the DYSENTERY.*

THE dysentery, in its attack, progress, and terminations, resembled that disease as it appears in the army in America, except more remarkably assuming the form of the intermittent and remittent. A fever often preceded the proper dysenteric symptoms, and was always coeval with them, though varying in its degree of severity.

When

When we left St. Lucia, very few dysenteries had made their appearance, the common season not being advanced.

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#### § IV.

#### GENERAL CONTINUATION *of the* HISTORY.

UNTIL the latter end of April, the fevers, for the most part, terminated in death about the seventh day; and when the termination was favourable, ran on to about the fourteenth, though we had some cases which continued to the twentieth. After this period, the fatal termination was from the third to the seventh day; and those who died on the third, went off suddenly—were at once seized with a convulsive motion, (*vide* Case VI.) loss of speech, cold extremities, burning skin, which assumed in many places a dark livid colour, breath fœtid, in some a foaming at the mouth; and

and they generally finished existence half an hour or a little more after the convulsive attack, which always ceased some minutes before death.

We cannot be very exact about the length or days of the disease, some patients coming in to us with all the marks of fever; and respecting its continuance, we could not trust to their report so much as to found an observation.

In May, the cases of fever which terminated fatally on the seventh, were attended with a looseness; and twenty-four hours before death, the stools were very foetid, and ran involuntarily. In most of the fatal cases which terminated on the seventh, a hiccup appeared about the fifth day: this, however, occurred in cases which ended favourably; but in these cases the power of medicine was more discernible. The cases which terminated fatally on the third, had no  
yellow



yellow appearance on the skin; but those on the seventh had a deep tinge all over their surface. In several fatal cases where blisters were applied, the discharge was black and foetid; this particularly happened in the month of May: earlier the discharge was less foetid and yellow. In the later months, the appearance of putrefaction, both before and after death, was more rapid.

We had cases that recovered which were of a deep yellow tinge. One was peculiar (*vide* Case V.): a sudden and universal yellowness appeared, and in thirty-six hours it went off by some loose stools, and a large discharge of thick and high-coloured urine. We had four cases of fever which run on from the fourteenth to the twentieth day, and continued afterwards in the hospital some months; one of them was fatal (*vide* Case IV.), and three recovered.

In general, the cases of a fatal termination had very indistinct remissions. Those which proved mortal on the third, had no marks that we could discern of a remission at all; but the cases which recovered had sensible remissions; though some, at the beginning, assumed the appearance of a continued fever.

In the early months, pectoral complaints followed the tedious fever; and in the later months, these became more troublesome, and were often conjoined with a dropical disposition. Some had a diarrhoea; others, a costiveness and a looseness alternately: a weak state of the stomach with flatulence was likewise an attendant. Sometimes a swelling of the face, feet and hands, and even of the whole body, took place, more especially in those who had quotidians for a length of time—Any of these circumstances made the recovery very tedious

and uncertain. In the early months we seldom met with relapses; but in the later months, they were frequent, and the recovery was always slow, being generally attended with some of the preceding appearances.

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## C H A P. II.

*Of the CAUSES of the DISEASES  
described.*

**T**HE diseases of the West-Indies are generally supposed to arise from heat, cold, moisture, and the effluvia or vapor of marshes; a combination of which can often be traced, and indeed are generally together in different degrees, as causes of every disease with which Europeans are affected. The operations of these causes are induced and rendered

rendered more active in their effects, by circumstances of constitution, living, and employment.

We have formerly observed, that part of the Artillery, the Grenadiers, Light Infantry, and Fifth Regiment, were on their first landing, and for some time after, exposed to fatigue, constant rain, changes from heat to cold, and they had no proper nourishment. When these troops removed from the Vigie to the ridge of hills to windward of Carenage, they became very sickly, and had many deaths; but in this situation, to the former causes of disease were added the humid vapor from extensive woods, and the effluvia of marshes to windward of them. On changing ground again to the Vigie they became less sickly, and their diseases proved less fatal.

The men who were placed in the direction of the marshes at Carenage and Cul de Sac were most unhealthy, and had

those diseases which terminated so quickly in death; while those men who were on Morne Fortune and Rock Battery were more healthy, and the diseases of a milder aspect and less mortal.

From these circumstances we must suppose, that although heat, cold, and moisture, in certain degrees and combinations, may produce diseases of considerable severity, they were not the common causes of the diseases we have described; but, that they were chiefly the consequence of marsh effluvia. It is evident, however, that the former causes operated so far as to induce and facilitate the action of these effluvia, and to make them more universal and active in their effects.

The duties of fatigue to which soldiers in every part of the army were necessitated to comply with, aided in producing those diseases with which they were affected. They had their own  
huts

huts to erect, and when finished, they were not a shelter from the rain. Beside this work, they were employed in raising batteries, in carrying up provisions to the Morne, in making and levelling a road from it to the Carenage, and, in short, they were subjected to every species of hard labour. Mornings and evenings were not set apart for duties of this kind, but the whole day, even when the sun was in his meridian violence. That these things greatly assisted the natural causes of the Island, was evident from those who were engaged in them having the most frequent and speediest deaths.

It has been generally remarked, that the effluvia of marshes are most active when the water drains off and the earth appears, which certainly was the case in St. Lucia. The greatest part of the regular intermittents we had happened when the rains were most frequent, and

before the stagnating pools discovered their bottoms; and the most dangerous remittents appeared when the marshes had no water, but a slimy matter on their surface.

Upon the whole, the different states and combinations of the causes we have enumerated, the difference and peculiarity of constitution, and the order observed in the seasons, will explain the appearance of the three general diseases we have described.

CHAP.

## C H A P. III.

*Of the TREATMENT of the DISEASES  
described.*

## § I.

*Of the TREATMENT of the INTERMITTENT.*

## Q U O T I D I A N.

**I**N the absence of the paroxysm we exhibited a solution of tartar emetic, in small quantities, and at short intervals, to excite vomiting. After this was effected, we generally gave it in smaller doses, in order to produce a few stools; but this depended much upon the state of the patient's belly, and on the continuance of the disease. If he was apparently much weakened and had a loose belly, which was sometimes the case before they were sent to us, we deferred the tartar emetic, and gave a small dose of ipecacuan, which seldom produced stools.



We always found it necessary to give an emetic at the commencement of the disease, and often during its progress. After the operation of the emetic, we immediately gave the bark, in as large doses, and in substance, as the stomach could bear. This method was prosecuted even though we had only time to throw in one or two doses of the bark before the period of the next paroxysm; at the termination of which we began again: and for the most part we put a stop to the disease in two or three paroxysms from the first exhibition of the bark. If the bark was not given in this manner, and in very large doses, we often found our fever assume a more dangerous form—the remittent.

### *T E R T I A N.*

THE tertian was treated in the same manner as the quotidian, only we took more time in clearing the stomach  
and

and bowels, and in attending to particular symptoms.

In the paroxysm of both, after the cold stage began to disappear, we always gave a combination of tartar emetic and opium in solution: opium was given alone, if the stomach was very irritable: and to a careful exhibition of these in this state of the disease, we attributed the success we met with. The severity of symptoms abated, the duration of the paroxysm shortened, and the intermission made longer and more perfect, were the constant effects of this method; and we found them more certain, if the stomach permitted the combination of tartar emetic.

The diet of our patients, in the presence of fever, was thin gruel; and towards its termination, was made grateful by the addition of a little wine: in the intermission, broths, thick gruel, and wine in small quantities, with water or  
by

by itself, were allowed: in the cold stage, liquids were generally avoided; but on the approach of the sweating period, free dilution was recommended, as lemonade, toast and water, barley-water, &c.

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## § II.

### *Of the TREATMENT of the REMITTENT.*

THIS fever required the earliest exhibition of medicine; for whether it appeared as a distinct disease immediately in its own form, or as preceded by the intermittent, it was always attended with danger; and two or three hours delay proved fatal; but this more particularly happened in the first case of the disease. In the History we observed, that cases terminated in death three or four days from the attack; and in these, tho' the remissions were scarce discernible, there

was

was so much resemblance in other respects, as induced us to comprehend them under the same general character, remittent.

If the remittent had been preceded by an intermittent, where evacuations were used, and the disease of some continuance, we seldom found it necessary to repeat an emetic or laxative. When any of these operations were wanted, the smallest quantity of an antimonial or ipecacuan was given, and common injections were used. Our chief attention here was to procure a distinct remission, or, if possible, an intermission. The most effectual means for this purpose we found to be nauseating doses of tartar emetic; and at the time of the usual exacerbation of fever, an opiate by itself, or combined with an antimonial, according to the state of the stomach, in the same manner as after the cold stage of an intermittent. If the febrile symptoms

toms ran high before the remission was expected, a large blister, applied to the back, particularly if any degree of delirium was present, greatly assisted to bring about that desirable event.

When a remission was effected, we directly threw in bark, in a form we thought most eligible for the state of the stomach, and in quantities as it would bear. If the interval allowed us to give only two or three drachms, or even less, in the next exacerbation the good effects of it were evident; and more so in the succeeding remission, which was longer and more perfect. In this way we continued until we removed the fever, or brought it into the intermittent form, and then we observed the treatment as directed under that disease. But if our attempts failed, and we had the greatest reason to dread the termination, we continued the bark, without regarding the existence of fever,  
and

and added to it the use of snake root. If the stomach could not retain the bark, we gave a strong infusion of snake-root alone, and ordered wine, in proportion to the state of the disease. By this method, we have often altered the dangerous appearance, and given a favourable turn to the complaint.

If the remittent fever appeared in its own form, and was not preceded by an intermittent, we gave the tartar emetic in doses, to produce vomiting and purging, taking care to encourage the latter no farther than to procure an effectual discharge of the contents of the intestines, and not to weaken the patient. If the exacerbation succeeded these operations, we generally gave an opiate, and, some time after, re-assumed the tartar emetic in nauseating doses, frequently encreasing the quantity so as to produce a gentle rejection of the stomach; and then, in every other respect,

we proceeded as formerly directed. But here, as the danger became sooner apparent, we were more anxious, by every possible means, to throw in a proper quantity of the bark ; and when it was rejected by the mouth, we attempted it in clysters: but we seldom found the good effects, as the disease, in general, in this state, was beyond the power of medicine.

Towards the termination of fever, or in the last stages of the disease, we found, when the patient was much reduced, the best effects from wine. When bark was rejected, and every bad appearance present, we have been sensible of benefit from this valuable article ; but it was given from one to two pints in the course of twenty-four hours, in small doses, and at proper intervals.—We are convinced many, by a proper use of it, have escaped death. However, we are aware, that it has been imprudently used  
by

by a too early exhibition, and by being given in too great quantity. The continuance of the disease, the degree of weakness and danger, regulated us; and we had some regard to the proportion used by the patient in a state of health.

In every stage of the disease, the patient was allowed weak wine and water, gruel, acidulated water, and chamomile tea: they generally preferred acidulated water, but many were fond of the chamomile tea, or an infusion of the wood of the simarouby. When they wished for something more substantial, panada, sago, thick gruel, and roasted fruit, were permitted them. For some time after the appearance of recovery, they had no animal preparation, except small quantities of very thin broth.



## § III.

*Of the TREATMENT of the DYSENTERY.*

WE always begun by an immediate discharge from the stomach and bowels; to effect which, we found a solution of tartar emetic to be the best medicine. However, if the patient was much reduced, or had been two or three days ill before we saw him, we generally preferred small doses of ipecacuan, and a weak solution of Glauber or cathartic salt: after the operation of these medicines, we gave an opiate, which we often repeated in two hours.

Next morning, we gave a combination of tartar emetic and opium, sometimes in a solid, but oftener in a liquid form: we have given to the quantity of three or four grains of opium in this way, in the course of the day, and the general consequences were large stools;  
an

an abatement of the griping and tenesmus, and a remission of the febrile symptoms. These good effects were more certain, if the medicine was given so as to excite nausea, which we always attempted and endeavoured to maintain.

At the commencement of the treatment, we often used fomentations to the lower extremities and to the abdomen, which we continued until a remission of the pain was effected. When the griping or pain of the belly was very severe, we have derived good effects from the application of volatile liniment and blisters.

When this disease assumed the intermittent form, we treated it in much the same manner as that disease; and when it put on a dangerous appearance, our principal dependance was upon the bark.

As astringents, we have tried the different preparations of earths, infusions and decoctions of simarouba and bark;

but we found opium to be the best, assisted by diet, air, and cleanliness.

We formerly observed in the INTRODUCTION, that we meant to describe this disease in very general terms. To this resolution we have certainly adhered. However, we shall, on another occasion, have it in our power to give a particular discussion of this subject, from Observations and Cases collected in America.

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#### § IV.

#### *Of the TREATMENT of PARTICULAR SYMPTOMS.*

IT will be observed, that we have only mentioned the general mode of treatment, and have not particularised symptoms, which often make a material variation in the practice. We shall here briefly take notice of several appearances which were troublesome, often dan-

dangerous, and required the most delicate attention. These are,

1. *VOMITING,*
2. *LOOSENESS,*
3. *COMATOSE DISPOSITION,*
4. *HICCUP.*

I. *V O M I T I N G.*

Vomiting was very often met with in the remittent fever, and sometimes in the quotidian. Beside preventing the exhibition of medicine, it was always accompanied with pain, and an encrease of every attendant symptom; and when it occurred after the disease had been of some continuance, it was a constant mark of danger.

When vomiting appeared at the commencement of the disease, it generally went off by encouraging it either with chamomile tea, or small doses of an antimonial, or a few grains of ipecacuan. If costiveness attended, a stool was pro-

cured by clysters. If this symptom continued, or appeared in a later period of the disease, with pain in the situation of the stomach or liver, a blister applied the whole extent of the epigastric region, was in general attended with very good effect. This application was assisted by the use of saline draughts, given in the act of effervescence; or, as Dr. Mackittrick observed, a solution of an alkali, followed by some diluted vegetable acid. We think that we have seen some advantage from a small quantity of opium, abstaining for some time after from liquids. When vomiting succeeded the use of the bark, it was for a while omitted, or tried in a different form. In cases of this kind, an opiate given in a solid state, about an hour or two before we again begun the bark, seldom failed to prevent it. We have sometimes found it necessary to encourage this vomiting, a little before we gave the opiate.

In those cases of quotidian or remittent fever which were attended with an irritable state of the stomach, emetics (either ipecacuan or antimonials) were given with the greatest caution.

## 2. L O O S E N E S S.

This symptom either arose from a neglected state of the belly at the beginning of the disease, or from a particular weakness of the intestinal canal; or from a mortification of some part of it; or from a general dissolution (if we may use the expression) of fluids and solids.

If evacuation was neglected at the beginning of the disease, or the belly allowed to be costive for some days, a looseness appeared, and often became dangerous. If the patient was not much weakened, it was cautiously encouraged by thin drink; but if the disease was too far advanced, and danger threatened

from its continuance, we have found a free use of opiates combined with bark to succeed better than any other thing we tried. When a looseness was spontaneous, it was always a mark of danger, and hurried us to throw in as much bark as was possible: and here we allowed wine with spices.

### 3. *COMATOSE DISPOSITION.*

A Large blister, applied over the whole scalp, immediately on the appearance of the comatose disposition, has checked its progress, and given a favourable change to the disease: at the same time, if the degree of danger was great, another blister was applied to the back, or one to each ankle; and internally we gave a bolus of camphor, from five to eight grains, in a strong infusion of snake-root, or in a thick solution of extract of bark, every two or three hours.—This method of treatment was generally

generally profecuted in the last stages of fever, when *subsultus tendinum*, delirium, and hiccup, were present; and, though seldom, yet we could trace some advantage.

#### 4. H I C C U P.

We have tried the effects of musk in large doses in hiccup, but never observed any benefit; and we have given it, joined with camphor, with similar success. When this symptom appeared early, a gentle emetic removed it; and when it was united to other symptoms of danger, the bark was the only medicine from which any good effect was derived.

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#### § V.

*Of the TREATMENT of APPEARANCES, the EFFECT of the DISEASES described.*

THE appearances, or, more justly, the diseases, which often succeeded those



we have pointed out, may be reduced to,

1. *PECTORAL COMPLAINTS,*
2. *HYPOCHONDRIAC AFFECTION,*
3. *ABDOMINAL SWELLINGS,*
4. *ŒDEMATOUS SWELLINGS IN THE LOWER EXTREMITIES,*
5. *A WEAK STATE OF THE STOMACH, WITH FLATULENCE,*
6. *COSTIVENESS,*
7. *DIARRHŒA.*

These complaints were generally in patients whose disease had been of a long continuance, as in the fever which ran to the fourteenth or twentieth day: they were likewise the followers of a tedious intermittent. As these symptoms often appeared distinct, we shall consider each of them. Sometimes, however, two or three of them were seen together: for example, the weak state of the stomach and bowels, the hypochondriac affection,

affection, and the costiveness, were frequently associated.

### 1. *PECTORAL COMPLAINTS.*

These were very frequent. The application of blisters, small doses of ipecacuan, occasionally repeated, with gentle opiates, in the form of Dover's powder, or antimony and laudanum, a milk and vegetable diet, and gentle exercise, were found to be the best method to remove these complaints.

### 2. *HYPOCHONDRIAC AFFECTION.*

A Careful attention to prevent the patient from being by himself, a change of situation, exercise, chalybeate preparations, and cold bathing, if no topical affection existed, were the means we found most successful.

### 3. *ABDOMINAL SWELLINGS.*

These either proceeded from flatulence, from an enlargement of the liver,  
or

or from water : if from the first, we refer to the treatment of a weak state of the stomach.

On examination, if we found the liver sensibly enlarged beyond the natural size, accompanied with pain on pressure, we begun the removal of it by the application of a blister, and gave neutral salts to keep the belly gently open. When the pain went off, we anointed externally with a scruple of mercurial ointment, morning and evening, which we thought more effectual than calomel internally, although this medicine was more commonly used. During this procedure we continued the use of neutral salts, varying the quantity as occasion required, to procure a lax state of the belly, and promote urine. If the swelling of the abdomen was evidently occasioned by water contained in its cavity, we adopted a different practice; but for this, and the treatment of (4) œdematous

matous swellings in the lower extremities, we refer to Observations on Dropsy as occurring in the Army, which are intended for another occasion, and may soon make their appearance.

5. *AWEAK STATE OF THE STOMACH, WITH FLATULENCE.*

Chalybeates, mineral acids, aromatics, bitters, absorbents (among the best of which we found to be lime-water, or a weak solution of salt of tartar, though magnesia was often useful), abstinence from vegetables, exercise and a free air, were the most certain means of restoring tone to the stomach, and removing the flatulence. Infusions of chamomile, or of the wood of simarouba, were found to be attended with good effect in complaints of this kind.

6. *C O S T I V E N E S S.*

Aloetic preparations, solutions of alkaline salt, and a laxative diet, soon procured a regular state of the belly.

7. *D I A R R H Œ A.*

This was a very troublesome consequence of disease, and often baffled every effort of medicine. We have tried all the common remedies, but in general without any good effect. Opium freely used was found to be the best astringent: we have given it to the quantity of three or four grains a-day, and we are convinced of having saved many valuable lives by this medicine. Until I was obliged to acknowledge the good effects of opium from experience, I had my doubts about its utility. Dr. Clifton, a Gentleman well known in St. Christopher for his medical abilities, confirmed me in the idea I had formed

formed of its efficacy, by a candid account of the happy advantages he had received in this disease from its exhibition. Though we have continued giving opium for weeks, we never met with any bad effect or any difficulty in discontinuing it. Milk, starch gruel, and preparations of sago, were found to be the best articles of diet.

## C H A P. IV.

*A DESCRIPTION of several CASES selected from the TABLE, in the Order observed in the HISTORY of the DISEASES.*

## § I.

CASES of the INTERMITTENT.

## C A S E I.

JOSEPH WATERS\*,

Admitted the 6th of FEBRUARY, 1779.

Has been four Days ill.

**A**FFECTED with a fever of the tertian stamp. Costiveness, and a yellowness of his eyes and over the surface, are the only particular appearances. He expects a return of his paroxysm to-day about ten o'clock A. M. To have, on the disappearance of the cold stage, the following draught, and

\* *Vide* TABLE, Part I.

in the evening, after the paroxysm is over, half an ounce of Glauber salt, dissolved in a large proportion of water, and taken at intervals.

(a) THE DRAUGHT.

Take of Tartar Emetic, half a grain;  
Liquid Laudanum, thirty drops;  
Common Water, one ounce.

The Tartar Emetic is to be dissolved in the Water, then the Laudanum added, and the whole mixed.

7th. As expected, he had yesterday a return of fever. The paroxysm commenced about half past ten A. M. The first stage of it continued one hour. As directed, he took the draught, which facilitated the sweating stage, and abated the severity of symptoms. Before four o'clock P. M. there was a perfect intermission of fever, and he took his salts, which procured him three large stools, and a plentiful discharge of urine. This morning he has no particular complaint: the yellowness of his eyes is dimi-



diminished, and his tongue is moist and clean. He is ordered one drachm of powdered bark in a glass of chamomile tea every hour, and to continue it until next morning. One pint of weak broth and one glass of wine are allowed for dinner.

8th. He has taken ten doses of bark; had a good night; belly is regular; and this morning he feels no mark of a return of fever. The bark to be omitted; and if the paroxysm keeps off, to have the same allowance for dinner to-day as yesterday, with the addition of another glass of wine.

9th. No return of paroxysm yesterday, and this morning is free of complaint. He is ordered to take the same quantity of bark as before, but only once in two hours, and to be omitted next morning by ten o'clock.

11th. Continues free of fever; belly regular; good appetite. Medicines to  
be

be discontinued, and to have for dinner three ounces of fresh meat, one pint of broth, and two glasses of wine.

17th. Apparently in good health, and was discharged.

This man changed his situation from south side Cul de Sac to Morne Fortune, and he had a quotidian attack on the 20th of March.

C A S E II.

G E O R G E I N G L I S\*,

Admitted the 24th of FEBRUARY.

Has been three days ill.

A tertian intermittent, whose paroxysms are severe and of long continuance, forms his disease. The only thing remarkable is an uneasiness in the epigastric region, a bad taste in his mouth, and costiveness.

In the beginning of this month, he was affected with a head-ach, which went

\* *Vide* TABLE, Part I.

off in two or three days by gentle evacuations.

He had a paroxysm yesterday, which commenced about eleven o'clock A. M. The cold stage continued one hour, the hot four hours, and the sweating stage terminated the fever two hours after.

(b) ANTIMONIAL SOLUTION.

Take of Tartar Emetic, six grains ;  
Common Water, one pint.

The Tartar Emetic to be dissolved in the Water.

Of this solution he is ordered to take one ounce every half-hour until vomiting is produced, which he is to encourage by an infusion of chamomile. If he has no stools two hours after the operation of the emetic, he is directed to take half an ounce of the solution every two hours until one or two are procured.

25th. Eleven o'clock A. M. The paroxysm commenced to-day about nine : the shivering stage is now over ; fe-

vere head-ach, parched tongue, and intense heat, characterise the hot period. He is to take immediately the draught (*a*), which is to be repeated an hour after, if the severity of the symptoms does not abate; and when the sweating stage approaches, he is desired to drink freely of any cool diluting liquid. The antimonial yesterday produced vomiting, and gave several large stools: the matter thrown up was of a bitter taste, slimy, and of a dark yellow colour.

26th. The fever terminated yesterday sooner than was expected. About half an hour after taking the draught, the intense heat and head-ach abated, and a moisture on the surface took place; in half an hour more the sweating stage was perfect: the draught was not repeated, and about three o'clock P. M. he found himself chearful, and free of fever. He has slept sound, had one stool this morning, feels pretty well.

well.—Ordered to begin directly and take two drachms of bark every hour, if his stomach can possibly retain it; if not, the dose to be diminished, and taken at longer intervals. To have some broth and a glass of wine for dinner.

27th. Twelve o'clock meridian. No return of fever this morning, nor any mark of its approach. He took yesterday six doses of bark, and as he is presently free of fever, and being two hours after its usual appearance, he is directed to begin and take it in the same manner, and to have yesterday's allowance for dinner.

28th. Free of complaint; belly regular; appetite returning, and had no return of fever. The bark to be discontinued to-day, but to take to-morrow morning, at six o'clock, one drachm, and to repeat it every hour until ten. To have a little meat and two glasses of wine for dinner.

MARCH 1. Has taken his bark ; no appearance of fever ; medicines to be entirely discontinued. The same diet to be allowed.

8th. Was discharged.

C A S E III.

WILLIAM REID\*,  
Admitted the 6th of FEBRUARY,  
Has been six Days ill.

A quotidian.—Anxiety, prostration of strength, and an uneasiness in the epigastric region, are the most remarkable symptoms.—Belly bound. He had a paroxysm yesterday, about nine o'clock, which continued till near evening. It is now the hour mentioned, and he has feelings of an approaching fit. After the commencement of the hot stage to have the draught (*a*), and to be allowed a free use of lemonade.

7th. Seven o'clock A. M.—The paroxysm attacked him betwixt ten and

\* *Vide* TABLE, Part I.

eleven o'clock yesterday forenoon; was less severe than usual, and its periods more distinct and regular; the intermission is rather imperfect, a slight head-ach continuing; his tongue foul, but skin cool, and pulse regular. He is ordered immediately ten grains of ipecacuan, and in the paroxysm to have the draught as directed yesterday.

8th. Eight o'clock A. M. The paroxysm appeared yesterday about the same hour as in the day before; the head-ach and heat were not so intense; the sweating stage came on sooner, and there is a good intermission. He is directed to have three drachms of bark immediately, and after the paroxysm, to take a weak solution of Glauber salt, not having had a stool for two days past. The emetic yesterday operated, and threw off a great quantity of bilious matter.

9. Eight o'clock A. M. Had a return of the paroxysm at the usual hour, of shorter duration and more severe; he  
took

took the draught as before ; the bark was retained, and the salts procured him two large stools in the evening. Ordered half an ounce of bark immediately, and after the paroxysm a little weak broth and a glass of wine.

10th. No return of paroxysm yesterday, and he feels nothing of its approach today. The same quantity of bark to be repeated ; and one pint of broth and two glasses of wine for dinner.

11th. The fever has not made its appearance ; he continues weak, but free of any particular complaint. He is directed to take two drachms of bark this morning, and the same allowance for dinner continued.

12th. Appetite returning, belly regular ; no mark of a return of fever. Bark to be omitted. Diet as before.

14th. Allowed four ounces of meat, one pint of broth, and two glasses of wine at dinner.



17th. So well as to be discharged ; but on the 28th he relaps'd.

MAR. 1. The paroxysms are now more irregular and more severe than at first ; the head-ach in the time of the paroxysm is intolerable ; tongue very foul ; and the uneasiness in the epigastric region is more remarkable than formerly ; to these a constant languor and dejection are added. No stool for two days past. He is directed to take half an ounce of the antimonial solution (*b*) every half-hour, until it excites vomiting, and in the paroxysm to have the draught (*a*).

2d. Seven o'clock A. M. The emetic operated, and he had two stools. The paroxysm appeared about an hour after the vomiting ; the sweating stage came on earlier, and the termination was more perfect. From his present feelings the fit is expected more early to-day. After the termination of fever he is desired

fired to take two drachms of bark every hour in a glass of wine and water.

3d. Eight o'clock A. M. It was eleven o'clock before the fever returned yesterday; in the paroxysm he took the draught, which lessened its duration and severity; the intermission is more perfect. He took two doses of bark last night, and one this morning: he is to take another in an hour, and then to discontinue it until the evening.

4th. Eight o'clock A. M. The same hour yesterday he had a slight return of fever; his tongue now is clean and moist; belly regular; appetite returning. Medicines to be continued, and to have some broth, and two glasses of wine.

5th. No return of paroxysm this morning, nor any particular complaint. He is ordered to take three doses of bark in the course of the day, and to have his broth and wine.

7th.

7th. Every appearance of fever gone. He feels a hardness and swelling of his belly, and has been without a stool for two days : he took no medicines yesterday. Ordered this morning the following bolus, which is to be repeated in the evening :

Take of Tartar Emetic, one grain ;

Calomel, four grains ;

Lenitive Electuary, one scruple :

To be intimately mixed.

8th. The boluses procured three large stools, and the swelling of his belly is entirely removed. Medicines are to be omitted, and he is to have for dinner three ounces of meat, with the usual quantity of broth and wine.

18th. Has been free of complaint since the last report, and he is now in so much strength as to be discharged.

§ II.

CASES of the REMITTENT.

C A S E IV.

T H O M A S T U D A R S\*,

Admitted the 20th of JANUARY.

Has been three Days ill.

ANXIETY, and a remarkable prostration of strength, a parched tongue, vomiting, costiveness, head-ach, pain of the back and loins, encreased heat, and an irregular pulse, characterise his disease.

These symptoms were preceded by shivering, and the common fore-runners of fever; and they have continued in nearly their present state, though always in the morning there is a sensible remission.

\* *Vide* TABLE, Part I.

Saline

Saline draughts in the act of effervescence are ordered, and a blister to be immediately applied over the stomachic region, and his legs occasionally fomented.

21st. The vomiting has ceased, and there is an apparent change for the better, by an alleviation of every symptom; the head-ach however continues—no stool.—Injections of warm water with a little salt and oil, to be thrown in until one stool is procured; the fomentations to the lower extremities to be continued, and the saline draughts repeated.

22d. A very uneasy night; restless, with some degree of delirium. This morning the head-ach is severe, tongue parched, great thirst, intense heat, and an irregular quick pulse. He retains his drink; had two stools by injection yesterday afternoon, but none since; urine  
very

very high-coloured, and in small quantity. The injections to be repeated in the afternoon, if he has no stool before that time, and the fomentations continued. Half an ounce of the following preparation is to be given every hour, in order to excite and maintain a gentle nausea; barley-water or toast and water for common drink, taking care to give small quantities at a time:

(c) Take of Tartar Emetic, one grain;  
 Saline Julep, eight ounces:  
 To be formed into a solution.

23d. Yesterday afternoon he had two stools. The antimonial and fomentations excited a gentle diaphoresis, and in the evening he was apparently better: the symptoms, however, returned with increased violence towards midnight, and this morning every appearance is alarming; a comatose disposition with insensibility

fibility present, and his pulse exceedingly low and feeble. The fomentations are discontinued, and a large blister is to be directly applied, to extend from the nape of the neck to the first lumbar vertebra: the following medicine is to be given every two hours---wine and water for common drink.

Take of Camphor, three grains ;  
Extract of Bark, thirty grains ;  
Madeira Wine, one ounce :

The camphor to be well rubbed with a little spirit of wine, the extract to be dissolved in the wine, then the whole mixed.

24th. Yesterday afternoon every appearance indicated the greatest danger. A blister was applied to each ankle, and the quantity of camphor in the bolus was encreased to five grains. Towards morning his pulse became more equable, and now, which is about six o'clock A. M. a gentle moisture covers the  
surface,

surface, and he gradually becomes sensible. An hour past he had a large stool of a cadaverous smell, and an unusual flow of thick urine. The blisters are taken off and dressed, the blankets are changed, and he has got a clean shirt. He asks for punch, which is allowed, and he is to have wine occasionally.

Take of Powdered Bark, two ounces;  
 Spirit of Hartshorn, one drachm;  
 Common Water, one pint:

To be well mixed.

Of this he is directed to take one ounce every hour; the quantity to be increased, if his stomach can possibly retain it.

25th. He has taken two-thirds of his bark, and he continued in a favourable state all yesterday; but in the night an alteration took place, and his medicines were omitted. This morning every febrile appearance is returned, except the delirium and insensibility; pulse small  
 and



and quick, tongue dry, thirst, intense heat, a slight difficulty of respiration, languor and dejection, are the present symptoms. A camphorated saline draught, with the addition of a very small quantity of tartar emetic, is ordered at short intervals, and a strict attention given to the free admission of air.

26th to 31st, inclusive. In these days he was much in the same state as on the 25th; generally towards morning he had a remission; and on the 27th he was tolerably free of fever all day. He then took a preparation of the extract of bark, which was occasionally repeated: he had a stool once in two days, but the last was procured by injection. Thin soups, small quantities of wine, and cordial medicines, were alternately given.

FEBRUARY I. Appearances worse: the febrile symptoms, and particularly the delirium, have returned with increased severity;

feverity ; pulse more feeble and irregular, dry tongue, intense heat and thirst, difficult respiration. The saline julep with tartar emetic is again given, another blister is applied to the back directly in the same place with the former, and we have some thoughts of shaving his head, to prepare it for a blister in the evening.

2d. This morning the delirium is gone, and an evident remission has taken place ; he had some sleep in the night, by which he was sensibly benefited ; and he had a free discharge of urine, and a large stool :—his head was not shaved.—Extract of bark in doses of a scruple dissolved in wine, is ordered every half-hour ; and, if his stomach can retain it, the quantity to be augmented.

3d. Since the remission of yesterday appearances continue favourable ; skin moist, tongue more clean, less heat and thirst : he has taken eight scruple doses of the extract of bark. A change of

dry linen is ordered, and he is to take his bark once in two or three hours. A little weak soup for dinner, and two glasses of wine.

4th. No appearance of fever; skin cool, pulse regular, belly natural. Medicines are ordered to be continued. The same allowance for dinner.

15th. From the 4th to this day he slowly recovered; could sit a little out of bed, slept well, and what he eat was with pleasure. He complains this morning of a slight griping and looseness: he took nothing yesterday unusual. He is ordered to take the following draught immediately, and to have thin soup only for diet:

Take of powdered Rhubarb,  
Magnesia, of each one scruple;  
Peppermint-Water, two ounces:  
Mixed.

16th. The medicine procured several large stools: the griping went off, but the  
looseness

looseness continues, and he complains of an acidity in his stomach. He is directed to take thirty grains of magnesia in a cup of peppermint-water, once in three or four hours, and twenty drops of laudanum at bed-time. To have a milk and sago diet.

17th to the 27th of MARCH. Every medicine was tried to combat this looseness, but without effect: the most restorative diet we could procure was given; decoctions of simarouba, infusions of *terra Japonica*, all the variety of earths, bark, opiates, and even alum were exhibited.

He died on the 27th of March.

C A S E V.

JOHN LITTLE\*,

Admitted the 31st of JANUARY.

Has been four Days ill.

Nausea, anxiety, prostration of strength and dejection, increased heat,

\* *Vide* TABLE, Part I.

head-ach, foul tongue, thirst, costiveness, a parcity of urine which is very high-coloured, and a yellow tinge of his eyes and surface, constitute his complaint.

These appearances were ushered in by shivering, &c. There is an abatement of them towards morning, and an encrease every afternoon.

He is directed to take the antimonial solution (*b*), as in Case II. and to drink freely of any weak acidulated liquor.

FEBRUARY I. The antimonial produced vomiting and some stools: towards evening it excited a gentle diaphoresis, which was encouraged by cool diluting drinks. He has slept well in the night, and this morning his skin and tongue are moist: a slight head-ach and pain of the back continue, from which we expect a quick return of the exacerbation of fever. He is then to take the draught (*a*), and to observe the  
same

same method as yesterday with respect to drink.

2d. About eleven o'clock yesterday forenoon the head-ach and pain of the back encreased, and he was sensible of a coldness which continued near one hour; then the common symptoms of a hot stage appeared. He took his draught, and towards evening a moisture on the surface took place, with an abatement of symptoms. He slept some in the night, and this morning there is an evident intermission. He is ordered directly half an ounce of powdered bark, mixed in water, with the addition of a little aromatic tincture. To have the draught (if necessary) as before.

3d. Yesterday at ten o'clock A. M. he had an imperfect attack of fever; he took his bark at half past eight o'clock and retained it; he likewise had his draught: however, no perfect solution of the paroxysm has taken place.

He had a very restless night, and this morning his eyes and skin are of a deep yellow; his cheeks are of a dull red, a foul tongue, considerable thirst, and an encrease of heat. An ounce of the antimonial preparation (c) is to be given every hour, in order to excite nausea and procure a stool.

4th. Three doses of the antimonial vomited him, gave three very large stools, and he had a copious discharge of urine. The present appearances are, a remarkable diminution of the yellowness, a moist tongue and skin, a regular pulse, and no disagreeable heat.

Eight o'clock A. M. To take two drachms of bark in wine and water every hour, until three doses are taken: panada, when he finds himself in a disposition for it, is also allowed.

5th. No return of fever; the favourable appearances of yesterday continue, and the yellowness of the surface is quite gone:

gone: a slight tinge, however, in the eyes is still observable. He is to take two doses of bark, in the same manner as yesterday, and to have some broth and one glass of wine for dinner.

6th. Eight o'clock A. M. He continues free of fever; had a good night; no stool since the third. The bark to be omitted, and two drachms of Glauber salt taken directly. To have one pint of broth, and two glasses of wine for dinner.

23d. From the 6th he gradually recovered strength: for the last three days he has been allowed meat, and is now so well as to be discharged.

This man was sent to the same post from whence he came, and he relapsed into a similar disease; but with more severe symptoms the 1st of March. *Vide* TABLE.



## C A S E VI.

*WILLIAM ALLEN\**,

Admitted the 27th of MAY.

Before this man's admission, for two or three days, he had a bad taste and nausea, and at times a little head-ach with vertigo; however, he continued on duty. These complaints soon encreased, and were attended with other marks of fever: he was ordered an emetic, and two hours after its operation, the draught (*a*). By these medicines he vomited, sweated, and slept well. In the morning of the 28th, he was attacked with coldness, followed by a convulsive shaking of his arms; of a sudden he became speechless, with his eyes sunk and fixed; his breathing laborious, and extremely foetid; the heat of his skin intolerable, and full of livid spots. He

\* *Vide* TABLE, Part I.

died in less than an hour after the attack. From the extraordinary rapidity of putrefaction, he was obliged to be buried two hours after his death.

Allen had a remittent attack on the 31st of January, of which he recovered, and was discharged the 15th of March: at this time his wife and child died. For some time after that period, it was observed this poor man turned fretful and dejected: these, however, gradually wore off, and he became cheerful, and more hearty and fat than usual; in this state he had the unfortunate attack.

If this patient had taken an emetic on the first appearance of complaint, is it not probable that it might have prevented the fatal consequence? Or, if we had begun giving the bark, in the greatest possible quantity, immediately on his admission, would it not have prevented the fatal attack, or rendered it less severe?

## § III.

## CASES of the DYSENTERY.

## C A S E VII.

ALEXANDER WARDEN\*,

Admitted the 16th of JANUARY.

GRIPES, frequent stools which are slimy and tinged with blood, *tenesmus*, head-ach, dry tongue, hot skin, and a quick pulse, characterise his complaint.

The antimonial solution (*b.*) is ordered to be given, in order to produce vomiting and large stools, and an opiate at bed-time: for common drink, water-gruel, or linseed tea.

17th. The medicine produced vomiting, and gave several large stools; the griping and *tenesmus*, however, continue: the febrile symptoms are more favourable.

\* *Vide* TABLE, Part I.(*d*) Take

(d) Take of Tartar Emetic, three grains ;  
 Liquid Laudanum, two drachms ;  
 Common Water, one pint.

The Tartar Emetic to be dissolved in the Water, then the Laudanum added, and the whole mixed.

Of this he is to take two table spoonfuls every two hours, and to continue his drink.

18th. Appearances this morning are beyond our expectations favourable : stools are not so frequent, and they are larger, and less bloody. Hard lumps were voided two or three different times yesterday : the griping and *teneismus* are trifling ; pulse is regular, and skin cool. The medicine to be continued once in four hours, and to have a little thin soup.

19th. No stool since last night ; slept well, and weakness is the only mark of disease remaining. He is ordered a cold infusion of bark, and to be indulged with thick broth.

20th. Free of complaint; belly regular: the bark to be continued to-day, and then omitted.

31st. Discharged.

C A S E VIII.

J O H N A R D E N\*,

Admitted the 25th of JANUARY.

Frequent stools with griping, head-ach, foul tongue, bad taste, and quick pulse, are the most remarkable appearances of his disease.

He was attacked with shivering, and all the common marks of fever; soon after which the griping and small stools came on; and they have continued with the febrile symptoms in their present state these two days. He is directed to take the antimonial solution as in Case VII. and an opiate at bed-time.

26th. The medicine has produced vomiting, and given many large stools;

\* *Vide* TABLE, Part I.

but he has had a very uneasy and restless night: the griping, *teneſmus*, and febrile symptoms, are sensibly encreased. He is to take two spoonfuls of the preparation (*d*) every hour, until the complaints are abated, and then only once in three hours: linseed tea, or water-gruel, for common drink: his feet, legs and belly are to be fomented at bed-time.

27th. A tolerably easy night, and this morning the febrile symptoms are nearly gone; a moist tongue and skin; his stools larger, and less frequent: he complains of a pain in his belly, in the situation where the colon forms its sigmoid flexure. The medicine to be continued every three hours; volatile liniment applied to his belly; and the fomentations are to be repeated.

28th. Was pretty well all yesterday; in the afternoon the pain of his belly was quite gone, and he thought himself perfectly recovered: he slept well in the  
first

first part of the night ; but towards morning he awoke in a shivering fit, with a return of the griping, and frequent stools. As the shivering went off, he accidentally took a dose of his medicine : an universal diaphoresis was soon evident, and the griping and inclination to stool disappeared ; and just now he has no particular complaint. He is ordered one drachm of bark in a cup of chamomile infusion every two hours, and to have an opiate one hour before the period of this morning's shivering.

29th. He has taken four doses of bark, and the opiate, as directed ; he had a good night, and no return of shivering or griping. The bark to be continued, and to be allowed a little broth.

30th. No complaint : he had two regular stools yesterday. The medicine to be omitted, and to have an additional

tional quantity of broth, and two glasses of wine.

FEBRUARY 2. Continues well: belly regular.

12th. Discharged.

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C H A P. V.

*Of* R E L A P S E S.

**E**VERY care which our situation admitted proved ineffectual to prevent the return of diseases. Indeed, there were certain circumstances peculiar to it, which made this to a degree almost impossible; and these may be reduced to,

1. The Diet of Soldiers.
2. The Necessity of returning them very early, on Recovery, to Duty.
3. The Impracticability of sending them to more healthy Situations.

When



When patients were discharged from the hospital, they returned to their usual manner of subsistence, on salt pork or beef; and the only deviation they could make from this diet, was by the addition of a few roots or greens.

The indigestible quality of salt meat, particularly in weak stomachs, is well known; and the bad effects of it are more conspicuous in cases where we cannot regulate the quantity, or attend to the manner in which it is cooked. Soldiers, when they are discharged from a general or regimental hospital, should be confined for a proper time to half their ordinary allowance, and directed a suitable kind and proportion of vegetables. If the salt meat was soaked for a few hours in warm water frequently repeated, it would not only deprive it of its saltness, but make it more easily assimilated to the purposes of nutrition; and instead of boiling this in the com-  
mon

mon manner, if it was to be cut in slices, and formed into a kind of stew with mucilaginous vegetables, a very good diet might be procured. Irregularity and intemperance may be mentioned as causes of the relapses which happened: they certainly were. But the obstinacy of some individuals was such, that these causes could not be always prevented.

Patients were generally kept in the hospital from eight to twelve days after the termination of their disease: this, however, depended upon the degree of strength. We were often obliged to send them away sooner than we could have wished, in order to make room for recent and worse cases. The most of them were allowed bark, with suitable directions; but the nature of the service was so severe, that they were unavoidably ordered too soon on fatigue, and

we had them again in the hospital a little time afterwards\*.

The period to which our observations are confined, was a time that would not admit of sending convalescents, or recovering patients, to situations of superior degrees of healthiness : Morne Fortune and the Vigie were the only places which we had then in our power to fix on ; and these had no conveniencies for the reception of enfeebled men, except (as we have already observed) what the temporary hut could give, which was by no means a shelter from the inclement weather. This being the case, the men on recovery, before the tone of their fibres was sufficiently restored, were exposed to the same remote causes as originally produced the disease : and from our knowledge of the action and effects of these causes, we readily sup-

\* *Vide* TABLE, Part I.

posed that the disease could not fail of being re-produced. How far relapses depended upon a habit induced by the effects of the former disease on the system, without the fresh application of external causes, or on any supposed influence of the moon, we did not determine.

Both the intermittent and remittent fever (*vide* the TABLE) very often returned, and the disease frequently varied its form in the second appearance. For example: a quotidian followed a tertian; a remittent a quotidian. However, it sometimes happened that this line was reversed, the quotidian following the remittent, the tertian the quotidian. In the first cases, the treatment was always protracted, and troublesome symptoms appeared as the consequence of the disease, which rendered the recovery precarious and uncertain.

In the second cases, the treatment was quicker, and the recovery more certain and permanent.

With respect to the use of bark in preventing relapses, the following method was observed: After the termination of fever by that medicine, it was given in smaller doses, and continued for two or three days, then it was omitted; for the use of it in the same doses, beyond that time, had no effect. I have seen patients (without being able to ascribe any particular cause) who have taken the bark for eight days after the departure of their fever, relapse during its exhibition. The bark being omitted for three or four days, the patient began again, and took two large doses twice a-day; one of the doses was given half an hour before the time the fever usually attacked: this method was persisted in for three days, then discontinued, and

and repeated in the same manner eight days after, and so on for two or three times. Some observed, that taking the bark for two or three days at every change of the moon, was successful in preventing a return of the disease; but of this we acknowledged our incapacity of judging. However, the method we prosecuted comprehended this idea; for an eight days interval made the period of exhibition to be nearly about every change of the moon.

To prevent relapses, and even the formation of diseases; emetics, Glaubers salt, and bark, were left at the different out-posts, and directions lodged for the exhibition of these medicines with the Officer who commanded. But the only advantage, I think, we derived from this step, was an expenditure of medicine; and the men having an

aversion to the hospital, it afforded them a pretence for staying at their out-posts, until their diseases were so far advanced, that they became exceedingly dangerous. These consequences, however, we did not foresee: the step, at first, had a specious appearance, but we were in time undeceived.

Upon the whole, we considered a change of air, a regulated diet and exercise, and a well-conducted cold-bathing (if no topical affection existed), as the only certain means of preventing a relapse, by being best calculated to restore the natural vigour of the system.

St. Lucia, as we have pointed out, is not destitute of healthy spots: a removal to these, proper accommodations, and a particular attention to good nursing, may render that island less dreadful than it has unfortunately proved.

We

We sincerely wish the Gentlemen at present at the head of the Hospital department, may fulfil the obligations they are certainly under to the Public, by communicating the observations which their abilities, attention, and opportunities, must have enabled them to collect.

T H E E N D.



THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

REPORT ON THE PROGRESS OF WORK

FOR THE YEAR 1911

BY

ROBERT A. MILLIKAN

AND

WALTER W. KROGER

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A S H O R T  
A D D R E S S  
T O T H E  
M I L I T A R Y G E N T L E M E N

L A T E L Y A R R I V E D F R O M E U R O P E ,

O n t h e M E A N S o f P R E S E R V I N G H E L A T H  
i n t h e W E S T - I N D I E S .

A REPORT

AND D. R. E. S.

TO THE

MILITARY GENIUS

LATELY ARRIVED FROM

ON THE MEANS OF PRESERVING

IN THE WEST INDIES.

---

---

A S H O R T  
A D D R E S S S, &c.

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GENTLEMEN,

**N**OTHING but a sincere concern for the preservation of your health, and a consciousness that a great deal depends on you, toward preventing or lessening the severity of those diseases with which Europeans, particularly of your class, are affected in the West-Indies, could have induced me to trouble you with an Address of this kind. I know the unfavourable idea entertained in Europe of the unhealthiness of this country; and I likewise know, this makes considerable impressions

sions on those gentlemen who are ordered to it. However, from a two years residence in the country; from some observation on the causes of its diseases, and of the deaths which have so generally happened in it; and from the opinion of medical gentlemen who have lived many years, and are of an extensive practice; I am confident the West-India Islands, in themselves, are by no means so unhealthy or fatal to the European constitution as is commonly imagined.

In this Address I mean to point out to you, the causes of the diseases that have proved so unfortunate to gentlemen of your character, and to explain as I go along the most certain means of preventing or abating the severity of their operation; and the observations will be applicable to every Island you are liable to be sent to.

Late

Late philosophical experiments have demonstrated, that the human body can endure, without material injury, a greater degree of heat than our feelings could possibly suggest to us. The disagreeable effects of heat by these experiments, were only a languor or universal weariness, an increase of perspiration, and perhaps a slight head-ach. The same circumstances with a little variation, though more sudden and immediate, attend the too frequent custom of riding or walking in the sun; and if either or both of these are continued, they augment in severity, and form disease. It would be unnecessary to prove from facts the bad tendency of an exposure to the sun, particularly if this is connected with much motion or fatigue. It will be sufficient only to observe, that however capable the body may be to support itself against an encreased external heat, raised by artificial means, it is not so well

well able to protect itself against the sun's scorching influence, whose heat, in this country, is always attended with circumstances unfavourable in themselves to the continuance of health. To prevent any injurious effect from this influence, Nature has generously provided the refreshing breeze, and ascendent fruit. Art has likewise contributed to the same purpose by the well-adapted house. If duty makes it impossible to avoid exposure to the sun, the common means of rendering the heat less hurtful, should be strictly complied with; such as an umbrella, a handkerchief put under the front part of the hat, and the least possible motion excited. When a head-ach, thirst, or any uneasy feeling, from exposures of this kind, happen, it may be generally removed by rest in the shade, an abstinence from vinous and spirituous liquors, and the free use of lemonade, or cream of tartar  
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and water. If, however, it continues more than twelve hours, a gentle dose of Glaubers salt will be proper.

In every country complaints are formed from cold. Although in this part of the world you cannot feel an extreme cold, yet in the mornings and evenings, especially in the winter months, you are sensible of a degree of it exciting chilliness: this, however, is remarkably different from those sensations induced by a cold air in a northern climate. In this country, it produces languid and disagreeable emotions; in the other, cheerfulness and activity. The evening dews fall universally, in great quantity, and are, beyond a doubt, very prejudicial; they ought, therefore, to be carefully shunned: this is an injunction implicitly attended to in Europe; it should therefore be more strictly obeyed here. When you are under the necessity of being exposed in the night,



it will be prudent to have a great coat or cloak, and boots are essentially requisite to preserve your feet and legs warm and dry: a little brandy, or any spirit, at a time like this, is very proper. Rain ought to be avoided; but if you accidentally get wet, it is necessary to shift as soon as possible, and to take some spirit, or a glass of any bitter infusion. There is no person has the temerity to say, even to think, that exposure to the sun, night air, and rain, are not improper, and dangerous to health; on the contrary, every one who has been in this country for only a few months, is convinced, from the many fatal effects so frequently presented, that these things are often attended with very serious consequences. We are here under the necessity of observing, that many in the Army despise every rule, and, without discretion, expose themselves, in the most unnecessary manner, to causes they

are perfectly conscious give rise to disease.

In the Observations we have lately communicated to the Medical Gentlemen of the Army, on the diseases of a limited period in St. Lucia, it appears that certain situations of that island are more unhealthy than others; and this was shewn to proceed from the presence or vicinity of marshes. Situations of this kind, however, are by no means peculiar to islands in the West-Indies; they are to be met with in Europe, even in England, Scotland, and Ireland; and they produce similar diseases, though of less severity, as the intermittent fever, fluxes, &c. Beside marshes, countries, or particular spots of them, are unhealthy from woods, or the numerous existence of trees and shrubs, not only from the humid vapor they send forth, but by occasioning a stagnation of air. Bridge-Town, in Barbadoes, is the most un-  
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healthy part of the island ; and this is chiefly owing to the river and marshy ground which are situated nearly to windward of it. The healthy and pleasant island of St. Christopher has its Basseterre ; and this is sickly from the same cause, having a swamp in its neighbourhood. Some years ago they had a fever, which first made its appearance in this town, and was more severe and fatal than in the other parts of the island. English-Harbour, in Antigua, is, from the like cause, unhealthy. Tobago, Grenada, and St. Vincent, have their sickly spots, and these arise from the wood and marsh. As the healthy parts of an island, therefore, consist in being free from woods and marshes, these situations ought, if possible, to be fixed on : the more elevated they are, and less surrounded by hills, or any obstacle to the passing wind, they become better adapted both for pleasure and

and the preservation of health. It often happens that you cannot chuse your own situation. In cases of this kind, when you are in the neighbourhood of marshes, and to leeward of them, you should have that side of your house or hut which faces them, shut up as close as possible, and your door and windows in the opposite side. If you have a marquee, the front of it should be placed from the marsh, and the back part towards it. The same thing ought to be observed in the encampments of your men. In these situations, wood fires between the marsh and you, twice or thrice a-day, particularly in the evening, will be attended with advantage: smoking likewise is found useful. Infusions of bark, of snake-root, or any bitter, in spirit, have been also recommended: a little of either mixed with water, and taken in the morning, or when you are exposed in the night, may be used: however,

they never should be continued, but desisted from when you get into a more healthy situation.

Want of proper barracks or lodgings for Officers and men, has contributed not a little in producing the many fatal instances which have happened; and no place can be more unfortunate in the demonstration of this, than the island of St. Lucia. If it is acknowledged that cold, heat, and moisture are causes of disease, it is not in the least surprising, if you find the building insufficient to keep out the rain and chilly air, a source of complaint. This is an opinion which can be proved from fact; but it would be superfluous, as there is not a Gentleman the smallest degree acquainted with this country, who is not persuaded of it. If you are exposed to the sun, rain, or fatigue, by necessary duty, the bad effects to be expected from either of them may be prevented by a comfortable, airy,

airy, and dry lodging; but if, instead of this, you have only a damp hut or tent to retire to, some consequences of a disagreeable tendency may follow. In such a case, soldiers, before they are permitted to rest, should be ordered to take a glass of spirit, and be directed to kindle fires at the doors of their huts, or, if possible, within the huts. Officers, as they have it always in their power to do these things for themselves, should be particularly attentive to them. It is to be hoped these directions will be rendered unnecessary by a laudable exertion to erect and provide barracks, in every place where the Army may be distributed.

A languor and lowness of spirits are attendants on the diseases of this country, and the duration of them retards recovery, and begets dirtiness and indolence. No pains should be spared to prevent these consequences, as there are

no circumstances whatever in a soldier's character so pernicious. The remedy most effectual for this purpose is a strict, even a severe discipline. The soldiers who landed at St. Lucia, in the year 1778, were men accustomed to service and to danger ; they were healthy and active, the whole constituting the finest body of men ever seen in the West-Indies. The circumstances of their landing were unfavourable ; with fatigue, rain, and badly cooked victuals, they were intimately acquainted : the retreat of the enemy did not free them from those things ; it rather ushered in, and paved the way for a continuance of them. Amidst the variety of causes of disease, however, with which they were encircled, it was observable, those regiments which were particularly attentive to strictness and regularity, were the most healthy, and lost the fewest men. Although the regiments alluded to have  
greatly

greatly suffered, yet if we consider the period of their landing, the consequences of it, and the time they have been in the country, we shall find that their loss is infinitely less in proportion than what the new regiments have sustained. It may be said, that men die faster on their first arrival than afterwards, and that the young are more liable to be attacked with the diseases of this country, than those of a middle age or advanced in years. How far these considerations are founded on fact, it is not necessary here to determine. However, it may be observed, that if cleanliness and activity are in any degree necessary for the preservation of health, they are more especially so among soldiers of this class, than among those of a different denomination. To the most careless observer, the difference of health in well disciplined regiments, and in those less attended to, is remarkably striking.



striking. It is impossible for a body of men to be clean and neat, unless strictly enjoined. You, who have the direction of soldiers, are not so liable to these causes of disease : a cheerful manner and a genteel dress are the peculiar marks of your exterior deportment : they are certainly requisite for your safety in this country ; and the more attention you give to them, the advantages resulting will be more conspicuous.

Whatever renders the human frame susceptible to the action of bodies, capable of changing it from an healthy to an unhealthy state, ought surely to be very carefully avoided. However, it often unfortunately happens, that this susceptibility of injury is more readily produced by that very thing which seems to be the predominant inclination of almost the generality of men, but more particularly of those belonging to the army ; and this is, a love of company. The inclination here is very different

ferent from the desire to be with the select few, or to be engaged in the lively conversation, which is rational, ought to be more embraced, and solicited for: whereas the conjunction of those who meet to pass away time in the fashionable amusements of gambling, without proper regulation, is the company presumed to be connected with what is extremely prejudicial to the preservation of health. The following reasons are given for this opinion:

1. A company of this kind is generally attended with intemperance:
2. It is most constantly subject to late and irregular hours.

There is no occasion to establish the certainty of these; they are obvious to all: it is only proper to mention, that intemperance and late hours are productive of a certain disposition of body, favourable to the operation of some of the other causes of disease I have pointed out,

out, and which I have wished to guard you against, viz. The sun's influence, cold, moisture, and the vapour of marshes. These causes seldom act alone ; they are generally conjoined, and assist one another ; and they require a certain state of the constitution before they can produce any severe or fatal effect. This constitution consists in a relaxed and weakened deviation from the natural state ; and this is always attended with a lowness of spirits, particularly when it is induced by intemperance and late hours. These things are well known to those who indulge in irregularities of this kind ; for they are constantly the morning-visitors after a debauch. If the effects of such a conduct were confined to the disagreeable feelings I have mentioned, the unhealthy impropriety of it would not be so material ; but when it is found that these feelings give a favourable opportunity to the deleterious  
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action of causes of a far more dangerous nature, this conduct is very reprehensible. In those countries deemed the most favourable and healthy, an intemperate and irregular behaviour is always condemned as the ruin of constitutions, and a source of disease. If it is attended with these consequences in our own climate, what must be the effects of it in this, where other causes of disease are more numerous and more fatal? When a head-ach and dejection of mind are the consequence of intemperance, and continue longer than usual, with the accession of other marks of indisposition, it may, with great probability, be suspected, that a disease is forming from a co-operation of the causes enumerated. In this case, the Surgeon should be immediately consulted; and if any delay occurs from distance or otherwise, an emetic of ipecacuan will be proper, and which all

Gentlemen on separate duty ought to have in possession : for diseases, in this country, are often prevented from an early exhibition of a medicine of this nature, and a suitable restriction in point of diet. It is a good rule to take, the morning succeeding a debauch, two tea-spoonfuls of powdered bark in water, which may be repeated once or twice in the course of the day ; but this is only to be done when there is little head-ach, or apparent reason to think neither that or any other uneasy feeling will continue.

There is a maxim you ought to hold always in view, and I consider it as comprehending almost every thing requisite, or that can be done for the preservation of health, by preventing or resisting the operation of the causes of disease I have specified, and this is contained in a very few words :

“ Live well, and live regular.”

Living

Living well and living regular are far from being incompatible. A tasty and nourishing diet, even a generous allowance of wine, may not only be used, but are absolutely necessary to answer the purposes expressed. The moment, however, you go beyond the cheerful glass, that instant you expose yourself, as has been already observed, to every cause capable of producing disease. From a comparative view of the different degrees of health and sickness in those who have lived in conformity to the maxim stated, and in a manner diametrically opposite; the beneficial consequences of the one, and the pernicious tendency of the other, are well ascertained.

There is another maxim connected with the former, and worthy of equal attention, which is,

“Go

“Go to bed early, and rise early.”

By a strict attendance to this injunction, you avoid several of the causes of disease I have marked ; as the chilly air, and nocturnal dews. Beside, doing this, you fulfil what seems to be the intention of Nature, in giving the proper relaxation to our powers of action, which would otherwise be too much fatigued, and in time rendered defective in performing their ordinary motions. This is the principal reason why late hours are improper, even though not accompanied by intemperance ; for whatever weakens or lessens the vigour of either body or mind is prejudicial, because it makes them more liable to be affected with other causes of disease.

I have now, Gentlemen, as briefly as possible, pointed out to you the causes  
which

which make this country so unfortunate to many of your character; and if you are convinced that this is partly owing to imprudence and want of care, the principal intention of this ADDRESS will be answered. For I form the pleasing expectation, that the apprehensions you are under of being attacked with the diseases of the West-Indies, will naturally lead you to avoid what is explained as hurtful, and induce you to attend to what is recommended for the preservation of your health. The Observations, Gentlemen, are not my own; they are the concurring sentiments of every Medical Person in this country, and of the most eminent in Europe; it is therefore presumed they merit your particular attention. It only remains to solicit your candour and liberality to pass over the errors you may meet with, in the stile or grammatical arrangement,



ment, as the situation in which this ADDRESS was wrote rendered these unavoidable.

GENTLEMEN,

I have the honour to be

Your obedient servant,

Barbadoes,  
January 26, 1781.

JOHN ROLLO.







