

Official report on the fever which appeared on board His Majesty's ship Bann, on the coast of Africa, and amongst the detachment of Royal Marines forming the garrison of the Island of Ascension, in the year 1823 / by William Burnett, one of the commisssioners of the medical department of His Majesty's Navy.

Contributors

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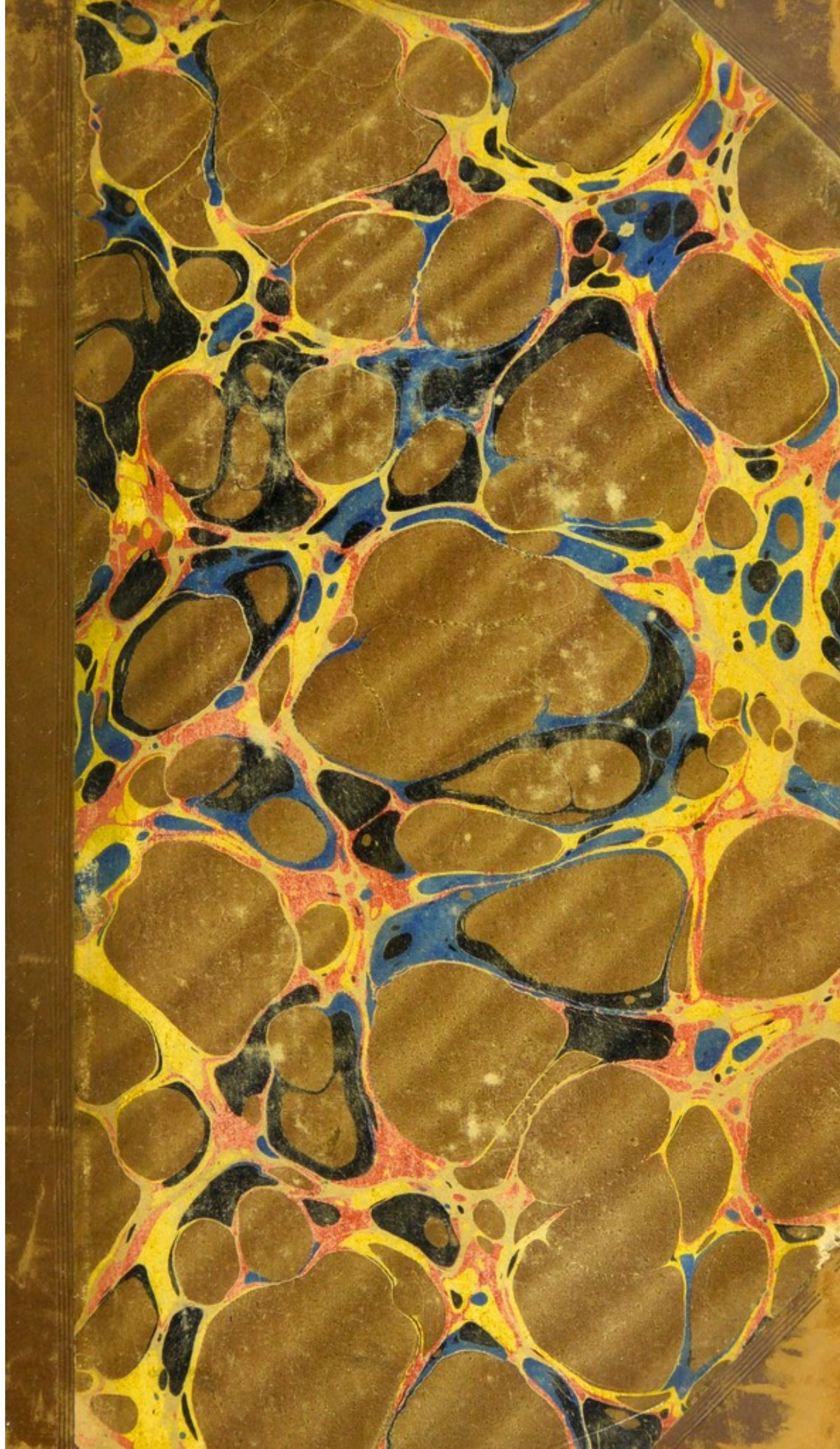
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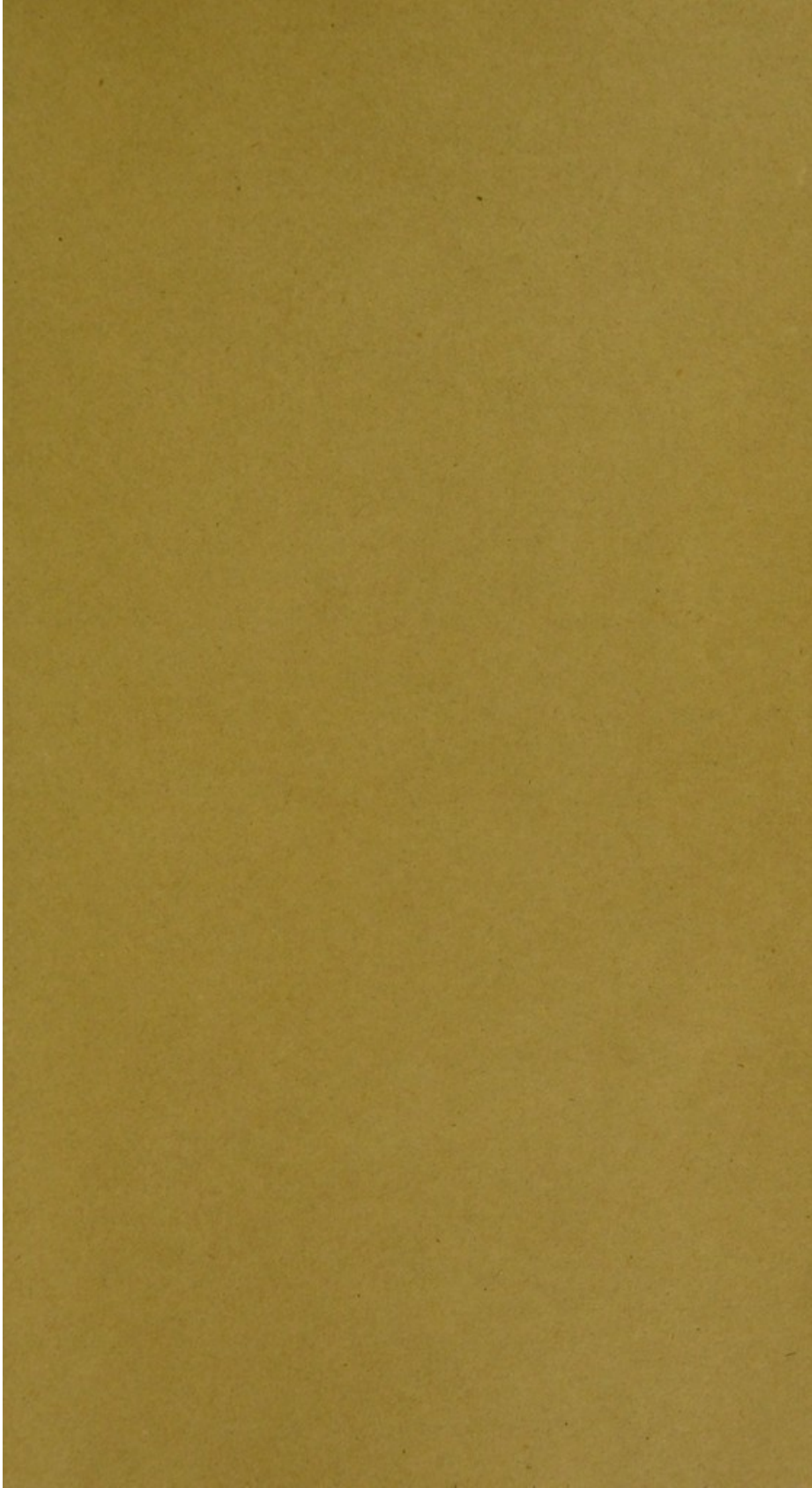
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OFFICIAL REPORT

ON

THE FEVER

WHICH APPEARED

ON BOARD HIS MAJESTY'S SHIP BANN,

ON THE COAST OF AFRICA;

AND AMONGST

THE DETACHMENT OF ROYAL MARINES,

FORMING THE

GARRISON OF THE ISLAND OF ASCENSION,

IN THE YEAR 1823.

BY

WILLIAM BURNETT, M.D.

ONE OF THE COMMISSIONERS OF THE MEDICAL DEPARTMENT OF HIS MAJESTY'S
NAVY, PHYSICIAN IN ORDINARY TO HIS ROYAL HIGHNESS THE DUKE OF
CLARENCE, AND HONORARY FELLOW OF THE IMPERIAL MEDICO
CHIRURGICAL ACADEMY OF ST. PETERSBURGH.

Neque tam quæram, an alii eadem mecum asserant, quam utrum quæ ego
trado cum veritate consentiant.

LONDON:

PRINTED FOR BURGESS AND HILL,

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1824.

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WILLIAM BARNETT, M.D.



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TO
THE RIGHT HONOURABLE
THE LORDS COMMISSIONERS
FOR
EXECUTING THE OFFICE OF
LORD HIGH ADMIRAL
OF THE UNITED KINGDOM OF
GREAT BRITAIN AND IRELAND, &c.

THIS
OFFICIAL REPORT -

PUBLISHED BY THEIR LORDSHIPS' PERMISSION, IS

RESPECTFULLY DEDICATED BY THEIR

MOST OBEDIENT

AND HUMBLE SERVANT,

THE AUTHOR.

THE LORDS COMMISSIONERS
THE RIGHT HONOURABLE

PRESENTING THE OFFICE OF
LORD HIGH ADMIRAL

OF THE UNITED KINGDOM OF

THE GREAT BRITAIN AND IRELAND
OFFICIAL REPORT
PUBLISHED BY THEIR LORDSHIPS PERMISSION

IN THE
OFFICE OF THE
LORD HIGH ADMIRAL
AND HOUSE OF COMMONS

THE AUTHOR

THE LORDS COMMISSIONERS
THE RIGHT HONOURABLE
PRESENTING THE OFFICE OF
LORD HIGH ADMIRAL
OF THE UNITED KINGDOM OF

OFFICIAL REPORT,

&c. &c. &c.

THE question of the contagious or non-contagious nature of the Yellow Fever, is one which has long agitated the medical profession; and having, from my situation as Physician and Inspector of Hospitals to the Mediterranean Fleet, during the late war, when it was said to have prevailed twice in Gibraltar, as well as in some of the sea-ports of Spain, been led to take a part in the discussion of that important subject, the fever which last year appeared in the Bann sloop of war, while on the African station, and amongst the detachment of Royal Marines, forming the garrison of Ascension, after her arrival at that island, necessarily excited the strongest interest in my mind, and I have been led thereby, as well as in fulfilment of the intention expressed to the Lords Commissioners of the Admiralty, to submit to the Board the following remarks, in the hope of throwing some addi-

tional light on a subject so important to the interests of the public service, and to the cause of humanity in general.

I regret very much, that the absence of the Bann, as well as of some other ships of the same squadron, still on foreign service, has prevented my obtaining information on many points, which it would have been desirable to elucidate in the clearest manner; yet, from the very great kindness and attention of Captain Phillips, her late commander, together with the official reports from the surgeon of the Bann, and communications from him since he came to England, as well as those from the medical officer in charge of the garrison at Ascension, and authentic, indeed, I may say, official information obtained from other sources, I am enabled to lay before you a much more perfect history of all the facts, connected with this severe visitation, than I had, in the first instance, expected would have been in my power to have done.

It is my intention, therefore, to state with perfect impartiality the whole of the circumstances connected with this fever, as far as the same have come within my knowledge; and then to offer my own opinion respecting them, convinced that by so doing I shall best discharge the duty I owe to His Majesty's service.

The history of the progress of this fever is one of so interesting a nature, and its alleged intro-

duction into the colony of Sierra Leone, as well as into His Majesty's ship Bann, having been ascribed to a ship called the Caroline, which had arrived from Malta with her people in perfect health, I trust I shall be excused for entering more minutely into all the circumstances attending it, than otherwise might appear to be necessary.

His Majesty's sloop Bann anchored off Free Town, Sierra Leone, on the 11th of January 1823, and continued there until the 25th of March, her ship's company on board being in excellent health. On this day, one case of fever, having severe inflammatory symptoms, was put on the sick list, and the patient died on the 30th, the fifth day of his illness. On the 26th, the master and two seamen were attacked in the same manner, and recovered. On the 27th, the Bann sailed from Sierra Leone; but previous to her doing so (on the 19th of March) she had sent her pinnace to assist in bringing to the anchorage the Caroline, a vessel which, having been loaded with timber in a very swampy situation, about thirty miles up the river of Sierra Leone, had lost by a fever, which, at its commencement, and for many weeks afterwards, was the usual remittent fever of the country, at least fifteen of her crew. This ship had moved down from Free Town to Cape Sierra Leone, on the 13th of March, a distance of six or seven miles, to be ready to sail for England, before the Bann boarded her, but was obliged to return, being very leaky. Between this time and the 31st of March, three more cases

occurred on board the *Bann*. On the 31st, one case of the same kind was added to the list; and on the 3d of April, four more of her people were seized with the same complaint.

From this time the sick list rapidly increased, and, according to the account of Captain Phillips, beginning forward in the ship, came gradually to the after part, till nearly all the officers and men were attacked; indeed, when it ceased, at Ascension, only about sixteen had escaped of the whole of the officers and ship's company. The total number attacked was ninety-nine, of whom thirty-four died, fifteen of them before the *Bann* reached Ascension. It is stated by the surgeon, that at the time of sailing from Sierra Leone, the weather was very hot and sultry, and subsequently became cloudy, with occasional heavy showers of rain, accompanied by thunder and lightning, indicating the approach of the tornado season. (See the state of the thermometer, &c. Appendix, No. II.) The thermometer stood at about 78° to 80° during the day, becoming about two degrees lower than usual in the night; but from the dampness of the air, the impression of cold on the feelings was greater than that which was indicated by the mercury, and produced a sensation of chill in the night. The ship was ordered to St. Thomas', but from the unhealthy state of the crew, and the bad weather, it was deemed advisable to proceed directly to the Island of Ascension; and on her arrival at that place, on the 25th of April, tents were imme-

diately erected on shore at the distance of nearly five hundred yards from the garrison, with which all intercourse was interdicted, and the whole of the sick, amounting to forty-five, labouring under the prevailing fever, were landed, and placed in the tents provided for them.

In this voyage to Ascension, the Bann was accompanied by a Spanish schooner, named the San Raphael, which she had detained off Whydabb, in September 1822, having on board one hundred and fifty slaves, and which arrived in the river of Sierra Leone in December following. During the interval, Captain Phillips had, at different times, put into this vessel a commissioned officer, two midshipmen, an assistant surgeon, and twenty men, all of whom returned perfectly well.

The schooner, while lying off Free Town, was anchored very close to the Caroline, a timber ship, after that vessel, from becoming leaky, returned to be repaired. The schooner was sent up to Benn's Island, in the river Sierra Leone, about thirty miles above Free Town, to have her bottom repaired, but no sickness took place in consequence; and while the Bann lay in the river, the schooner was sent, with a lieutenant and forty men, to reconnoitre the Galinas, and was absent on this service about a fortnight, during which time four of her men suffered severe attacks of fever; none, however, died, and they returned generally in good health or convalescent; and it was after this

cruise she anchored near the Caroline, and, consequently, before the fever appeared in the Bann.

The fever, according to the testimony of the surgeon, made its appearance first on board this schooner; and this vessel suffered more in proportion to the number of her crew than the Bann, fifteen being at different times attacked on board of her: indeed, Captain Phillips states, that every person on board, excepting Mr. Crockat, the second master, and the Portuguese pilot, was taken ill, and removed to the Bann, and that the number taken ill on board of the schooner in the early part of the disease was so great, that at one time he had determined to destroy her, but that, on further consideration, he decided on taking all the Europeans out of her, except the second master, pilot, and two seamen, sending a proportionate number of blacks to assist in navigating her, and after he had so done no sickness prevailed.

The Island of Ascension, in circumference about twenty miles, is situated in the ocean, in lat. $08^{\circ} 56'$ south, longitude $15^{\circ} 27'$ west, at the distance of many leagues from any other land, with a trade wind from the S. E. constantly blowing over it; and being of volcanic origin, nearly the whole of its surface, excepting the Green Mountain, has a corresponding appearance, being (as in the neighbourhood of the garrison) of a dry, arid, and barren nature, with volcanic stones overlaying a quantity of mouldering pumice. On some of the more elevated spots, it is composed of ashes which

extend to a considerable depth; still there are a few places where a fine light mould is met with about half a foot below the surface.

At this island, in the month of April, the thermometer in the shade stands, from noon till nearly two P. M. at from 85° to 88° , generally 87° ; and as the evening advances, gradually falls to between 76° and 80° . About two o'clock in the morning, a further reduction of one or two degrees takes place, which continues till five A. M. when the heat progressively advances till mid-day. In May, the heat declines a little, and is commonly from 84° to 85° in the day, and from 75° to 76° at other times, which is probably owing to showers of rain, which prevail at this season.

With respect to the heat of the summer in general, a sensible increase takes place in December, the thermometer being at noon, towards the end of the month, at 86° ; in January it advances about two degrees; and in February, and till the middle of March, it is often found at noon to have attained to 90° or 91° , sometimes 93° , and at these times the dews are heavy, and are seen in the morning. It appears, that in general the rains are not of long duration, though commonly heavy; pools of water are sometimes formed, but disappear in the course of a few hours: these rains, however, occurring for the most part at the turtle season, appear to have produced occasionally attacks of fever and dysentery, and it

was at this period the Bann arrived. (See Appendix, No. II.)

The posts occupied by the detachment, which consisted of thirty-five officers and men, were three in number, namely, the principal one or barrack, which is situated low, and surrounded by high grounds, about one hundred yards from the sea, is formed by several detached houses nine or ten feet square, and a large barrack-room, about forty feet long and fifteen broad : in this last there were about sixteen people residing. The several buildings are arranged in the form of a square, the smaller ones being occupied for stores, or by families, and the quarters of the officers are situated on the elevated ground to the south-east of the square, about twelve feet above it, and there the temperature was about two degrees lower.

In the front of this barrack, and about one hundred yards from the sea, a well was dug, by the first garrison, about fifteen feet deep, being three feet below the level of the sea, in the hope of obtaining fresh water by its percolation through the sand ; it was found, however, to be perfectly unchanged, rising and falling with the tide, on the reflux of which the well was left nearly dry, and the water remaining in it foul and offensive.

The post called Springs is situated at the distance of four miles and a half in a S. E. direction from the barracks, being at an elevation of about nine hundred feet above them ; and with regard to the soil, corresponds, on its surface, in many

places, with the neighbourhood of the barracks; there, however, the thermometer is commonly two degrees lower, and the relative variation is still greater in the twenty-four hours, being often in a ratio of 9° , 10° , and 12° . In some places the ground is covered with a superficial layer of earth, with here and there spots favouring vegetation. The same kind of volcanic ashes are also met with, but they are more compactly united; and the people lived in caves, hollowed out of this substance, in the sides of the mountain.

The post on the Green Mountain, being about 2500 feet above the level of the sea, is situated immediately above Springs, at the distance of nearly a mile, and, on ascending thereto, the ground is seen completely to change its character; all trace of volcanic matter is lost, and it presents to the view a mass of calcareous rocks, covered to a great extent, with a thin surface of earthy soil, which throughout the year is favourable to vegetation.

This post is for days enveloped in clouds, occasioning catarrh and rheumatism, but the soil remains dry. The heat is from four to five degrees lower in the day than at the garrison, and at night from eight to nine.

In July and August, the thermometer often stands at 65° in the morning, and the maximum is 80° .

In February and March, the hottest season, the greatest height it attains is 85° .

The Island of Ascension was first occupied as

a garrison in the year 1815, on the exile of Napoleon Bonaparte to St. Helena. It has been said that this island was always particularly healthy, previous to the appearance of the fever, which followed the Bann's visit to it in 1823. This statement is evidently erroneous, for I find, on reference to the Journals of the medical officers, who at different times had charge of the garrison before the appearance of the late epidemic, an abstract from which is in the Appendix, that not only has dysentery and hepatitis been very prevalent, as well as occasional attacks of fever, but likewise that a fever, called the bilious remittent, in the year 1818, attacked almost every man on the island, which the assistant surgeon (see Appendix, No. IV.) attributes to an unusually wet turtle season, when the men are much exposed, by watching at night, to turn those animals. Moreover, there is in the Journal of Mr. Robert Malcolm, for 1818, a case of this disease, which commenced on the 1st of June, and terminated by death the next day, with all the symptoms of yellow suffusion and black vomit, &c. (see Appendix, No. V.) which are said peculiarly to characterize the yellow fever; and having shown this case to the surgeon of the Bann, now in London, he declares it to be exactly similar to the cases of fever which lately proved so fatal in the Bann, and amongst the marines at Ascension. It also appears, from the abstract above mentioned, that out of one hundred and thirty-two cases of disease, which are recorded in these

Journals, twelve died and nineteen were invalided ; and, though perhaps all the fatal cases are inserted in the Journals, it is well known that those documents seldom contain above a third of the cases which actually occur.

With respect to the period immediately preceding the fever in question, Mr. Thompson, the medical officer, who had charge, informs me, " that though they were on the whole very healthy, " yet they were by no means exempt from disease." At the time of the Bann's arrival, in 1823, the marines were in good health, and the garrison consisted of thirty-five officers and men, independent of the women and children, as will be seen on reference to Appendix, No. II. where is likewise a correct nominal list of the attacks, recoveries, deaths, and of those who escaped. With the intention of not interrupting the course of the foregoing narrative, I have abstained from saying any thing respecting the symptoms and treatment, and the remarks I now offer shall be brief.

It will be sufficient to observe, that the disease commenced with symptoms of high excitement, and a yellow appearance of the eyes, followed in many cases by vomiting of bilious matter, and by irritability of stomach; frequently by diarrhœa, after the first cathartic, and by great depression of strength, dark yellow suffusion, and death. Captain Phillips mentions, in his letter to me, that two fatal cases had coffee-coloured vomiting; and I have reason to think that this occurred in more

instances after he left the island; but many had neither that symptom, nor indeed any vomiting or irritability of stomach whatever.

The morbid appearances found on *post mortem* examinations, were chiefly confined to the mucous coat of the stomach and intestines, though many of the neighbouring parts showed marks of inflammation; the former generally contained a large quantity of a liquid of a dark colour different from bile. The villous coat in many parts slightly inflamed, and the whole lined with a white glairy mucus. The same appearances extended more or less to the intestines, and the vessels of the mesentery were enlarged. The treatment consisted, in the beginning, of liberal evacuation by the lancet, and purgatives, and in the progress of the disease, calling in the aid of various other remedies, such as calomel, the cold affusion, blisters, &c. often without any benefit. I must, however, observe, that as far as I can judge, no remedies were better calculated to meet this truly formidable and intractable disease. I am far, however, from advocating the indiscriminate or unmeasured use of the lancet, though I have no hesitation in saying, that, when employed early and judiciously, it is one of the most certain and powerful means of arresting or controlling fever that we are acquainted with; and it is only justice to add, that in my opinion the medical officers performed their duties not only with ability*, but with the utmost attention

* The author of the "Select Dissertations" justly observes, at page 285, that "this disorder, like all others of a pestilential

and humanity. Nothing would be more unfair than to regard them, from the mortality that took place, as having failed in the former: let any unprejudiced person look at the character of the disease, displayed in its symptoms, rapid progress, and morbid appearances, after death, and point out a better plan of treatment, not from the closet in England, but at the bedside of the patients, under such circumstances, as those gentlemen had to contend with*.

The report of Mr. Thompson, the medical officer of the garrison, states, that the appearance of the fever amongst them is dated eighteen days after the arrival of the Bann, viz. on the 11th of May; but he adds, however, that one of the people was attacked as early as the 28th of April with symptoms of fever, which he then thought might be a mild case of the Bann's, which was scarcely above two days after the landing of the sick. The man thus attacked was a convalescent on the 7th of May. On the 11th of May, a boy (son of one of the sergeants) was violently attacked, and ultimately died; but it is neither known nor believed that he had any nearer communication with the

and malignant nature, sets at defiance the art of physic in its curative capacity; human skill, of which the most anxious and judicious exertions have not been wanting, has been found of little avail in abating the fatality of this epidemic."

* Dr. Barry says, in his Medical Report from Sierra Leone, for 1823, "the only patients who escaped were those in whom *early* venesection was had recourse to."

sick of the Bann than passing daily at no great distance from the tents to feed his father's poultry, and he was never on board that ship. Up to this time the restrictions on the intercourse between the ship herself and the garrison had not been much attended to, and certainly not at all as regards the communication of the garrison with each other; several things, such as sideboards, &c. had been landed from the Bann, which had been brought by her from Sierra Leone, and some of the officers and men had gone on board that ship (after the sick were landed), to the sale of the effects of some deceased person. From this time, however, every proper precaution was taken for preventing the extension of the disease to the outposts; notwithstanding which, six men, two women, and seven children, were taken ill at Springs, but fortunately none at the Green Mountain, though one of the men belonging to that post had been on board the Bann, at the sale before mentioned. Some days after the arrival of the Bann, Captain Phillips took up his residence at Springs; but, though he was much indisposed with a low fever, both the surgeon of the Bann and the assistant of the garrison are of opinion, that he did not suffer from the prevailing fever.

About this time, the fever in the Bann had nearly ceased; but it went on, daily attacking some of the garrison; and it appears, by the official report, that twenty-eight were taken ill, of which number fifteen died, and thirteen recovered. In-

dependently of the officers and marines above stated, two boys were attacked, both of whom died; and of six women four died; seven children likewise suffered attacks of this fever, all of whom recovered; but, unfortunately, three younger children, the eldest being only four months old, died from want of their usual sustenance, after the demise of their mothers.

While the Bann remained at the Island of Ascension, His Majesty's sloop Driver arrived at the same place from the African station in perfect health; the latter vessel had previously been in the river of Sierra Leone, subject to the same causes as the Bann, so far as Captain Phillips knows; but he is not acquainted whether she had communication with the Caroline timber ship. Soon after her arrival at Ascension, two clerks were sent on board the Bann, one of them to act as purser, and the other to make up the accounts of Captain Phillips; one died with fever, the other was seized with a bilious attack, of which he recovered; while Lieutenant King and Mr. Sinclair, who visited the Bann at the same time, both escaped. It appears, by the official returns from the Driver, however, that three in the whole were taken ill with the prevailing fever, two of whom were sent on shore, and one died on board; and the captain very properly put to sea, and used every precaution; and with these three cases the disease ceased.

The Bann sailed from the Island of Ascension on the 2d of June, and arrived at Bahia, on the

coast of Brazil, on the 10th of the same month, to recruit her men. On her anchoring at Bahia, she found the Creole, Tartar, Briton, and Doris frigates, belonging to that station, and I believe also a sloop of war. It appears, by a further report from the Bann (viz. between the 3d of June and 1st of Sept.) that a number of relapses, and eighteen new cases or second attacks of fever, had occurred, the whole of which recovered; and the surgeon states, that his assistant, who had medical charge of the ship (he being left at Ascension) gives decisive proofs of its contagious nature; namely, while at Bahia, a boat from the Tartar came alongside, and during some heavy rain, the boat's crew sheltered themselves on board the Bann, a number of whom were a few days afterwards seized with fever, and some died. On reference to the Tartar's report between the 30th of April and 31st of July, I perceive this receives some confirmation; for it appears, that a fever, placed by the surgeon under the head of synocha, prevailed on board of that ship at this time, and extended to forty-three of her crew, five of whom had died. It is but just, however, to state, that Dr. Burnie, the surgeon of this ship, ascribes the fever in question, which prevailed in the Tartar, to atmospheric vicissitudes; and certainly the features of the disease, as reported, were different from those which prevailed at Ascension, inasmuch as the surgeon makes no mention of yellow suffusion, and the disease appears to have been more con-

finer to the head than the stomach and intestines ; but it is equally proper to observe, that the other ships of the squadron were in perfect health at this time, not a case occurring on board any of them. Dr. Burnie likewise mentions, that some slight cases of fever had appeared in the latter end of May, which readily yielded to treatment ; but the greater number, and most severe, took place in the middle and latter end of June, which was soon after the arrival of the Bann. There is no report from the Tartar since the 31st of July, at which time seven remained on the list. That the capability of conveying infection still remained in the Bann, appears at least probable from the circumstance of a boy having entered from a merchant's ship at Bahia, three days after which he had a most severe attack of the fever, and, I may add, that the Bann's hold had been minutely inspected at this place, and found in every respect clean, but no examination was made under the limber boards, where all the mischief was found to be, on examining the hold of the Pyramus, which ship had suffered about a year before, so severely in the West Indies, from the yellow fever.

From the date of the last report from the Bann, 1st of Sept. there is reason to believe that the crew have enjoyed the best health, there being none on her list with fever at that time, and the disease ceased in Ascension about the 16th of June ; since which, as far as I am informed, the garrison has been very healthy.

Whoever reads the preceding history of the progress of this disease on board the Bann, and her tender the San Raphael, and also in the Island of Ascension, will have no difficulty in coming to the conclusion, that it was without any doubt a contagious fever; but, with respect to its having originated from the alleged communication with the Caroline, I am decidedly of opinion that it did not, for reasons which will hereafter be adduced.

Before, however, proceeding further, I wish it to be distinctly understood, that I have always considered, that the yellow fever, in common with fevers of other countries, may, and does, under particular circumstances, such as a great many sick being confined in a small, ill-ventilated place, where due attention cannot be paid to cleanliness, &c. acquire the property of communicating itself to others; but my firm belief is, that the yellow fever is seldom or never *ab origine* a contagious disease; and this opinion, I am convinced, is conformable to reason and truth, as I think it will be in my power distinctly to show in this report.

Regarding the Caroline, I have to state, that this ship sailed from Malta on the 26th Sept. (see Appendix No. VI. Extracts from the Caroline's Log), and arrived at Sierra Leone on the 3d of Nov. in perfect health*; she proceeded up the river on the

* Report of the Caroline merchant vessel, on her arrival at Sierra Leone, from the Mediterranean.—From Dr. BARRY's Report. “The

12th and 13th, and loaded her cargo of wood chiefly at the factory of Tomboo Island, about thirty miles above Free Town, lying the whole of the time in a very low, swampy situation, surrounded by mangroves. About a month after she had been at Tomboo Island, she became sickly, and, according to the report of the medical officer of the army, eight men were admitted into the general hospital with the *usual remittent fever of the country* in the course of a fortnight, of which eight men, four died. On the 28th of January she drove from her anchors and got on shore, but was hove off in about six hours, by the assistance of other vessels.

Having completed her lading, she moved down, on the 8th of February, to the anchorage off Free Town, and she arrived there on the 11th, having grounded both on rocks and shoals on her passage,

“ The Caroline came in on the 3d of November, 1822 ; I visited her ; she had a clean bill of health ; her crew appeared one of the most healthy I ever saw ; mostly young men ; indeed, I do not think there was a man in the ship more than thirty years of age.

The captain, a strong healthy athletic man, was under the influence of mercury, in consequence of a venereal complaint contracted at Malta. The ship was particularly clean and sweet fore and aft : one man said he was sick, and on questioning him I found he had been drunk the night before, having, whilst the mate was sleeping, tapped a cask of rum. I gave him a strong purge, which put him to rights. I was on board several times till she went up the river, and there was not a single man complaining.”

(Signed) JOHN SHOWER, *Colonial Surgeon.*

from which she became leaky, making fourteen inches of water in twenty-four hours, and at one time she had eight feet of water in her hold ; she then anchored about three quarters of a mile from the squadron, endeavouring to procure men to navigate her to England from amongst the invalids of the men of war about to be sent home, and the prisoners belonging to slave vessels which had been sent into Sierra Leone for adjudication, and there was no restriction in the communication with her. On the 22d of February (according to the same report), which, it may be observed, was nearly three months after the arrival of the *Caroline* in the country, a patient was sent to the hospital from her with the more fatal form of the fever ; but Dr. Barry adds, “by this time it had begun its ravages on shore*,” and therefore rejects the idea of its having been imported by that ship, or indeed from any other known source.

The *Caroline* anchored near the mouth of the river in Cockle Bay, on the 13th of March, and the leak increasing, returned to the anchorage off Free Town on the 19th of March, with her crew much weakened by incessant labour at the pumps, and constant exposure to the sun ; some of her

* Dr. Barry, in his official report to the Army Medical Board, states, that the first suspicious case appeared on the 13th of December, and died with black vomit on the 21st ; and the same report also mentions, that the mate of the *Lively* (a timber vessel also) was attacked by the same fever ten days before the 22d of February, the date of the *first* attack in the *Caroline*.

men were again taken ill, and several left her; and it was at this time the Bann's boat gave her assistance.

Soon after her return (about the 22d or 23d) a survey was held by the master of the Bann, the master of the Snapper, and the carpenter and carpenter's mate of the Owen Glendower, on board the Caroline, and they remained on board for several hours visiting the hold and between decks, as the nature of the duty on which they were employed required; yet neither the master of the Snapper, nor the carpenter, or carpenter's mate of the Owen Glendower, were taken ill in consequence, nor any of the Snapper's boat's crew, which remained on board the whole time, nor were any of the crew of the Snapper or frigate attacked with this disease in consequence. The master of the Bann certainly suffered an attack of fever soon after; but this was so slight that he was only on the sick list from the 26th to the 28th, and had no yellow suffusion; besides which, the crew of the Caroline had constant communication with the men of war's boats at the watering place; and moreover, an invalid from the Cyrene, named Robert Dowland, had gone to sea in the Caroline*, and on her return to Sierra Leone he left that ship,

* It appears by the Caroline's Log (see Appendix, No. VI.), that three invalid seamen in all came on board the Caroline at this time for a passage to England; but though they were several

and took his passage in the Thistle brig of war to England, yet both this man and the Thistle's crew remained in good health.

The Caroline sailed finally for England on the 5th of May, and arrived in the Downs on the 29th of June; none died during the voyage, but it appears that some of her crew were affected with agues, or ephemeral fevers, during the passage, which they ascribed to the very hard duty they had to perform in a ship still very leaky, and to the insufficient quantity of food, being on short allowance the greater part of the passage.

Having thus, I trust, successfully shown the impossibility of any contagious fever having been introduced by the Caroline into the colony of Sierra Leone (for who, possessed of common sense, will believe, that a healthy ship coming from a healthy port, after a passage of six weeks, and lying in that port for a month without a sick man on board, could have done so)? I may be allowed to observe, that there is nothing wonderful in a ship so situated, and a ship's crew so employed, being attacked by fever; it would indeed have been more surprising if it had been otherwise:—there is not a shadow of proof that the Caroline introduced the disease; and in fact I may add, that it was altogether impossible.

days on board, there is reason to believe that they left that ship on her return from Cockle Bay, on account of the leak.

How the disease originated in the colony, I am, in the absence of all information, unable to explain ; and I may well be excused doing so, when even a medical officer, of high professional character, on the spot, to whom all the circumstances must have been familiar, has been unable to accomplish it. There is one thing, however, which has struck me forcibly in reading the accounts, viz. that the rainy season is not the period when ardent fevers are to be expected in hot climates, for the experience of ages has taught us, that they more commonly appear in the dry season, when the surface of the earth has been long exposed to the rays of the sun *.

A curious fact is mentioned by Dr. Barry in his report to the governor, not very likely to happen in a contagious disease, viz. that “European females” and children were perfectly exempt, and that no “case occurred amongst the natives, the Maroons, “or the black settlers.” The women and children at Ascension were not so fortunate, but the negroes of the Bann equally escaped †.

* By Dr. Barry’s annual report, which Sir James M’Grigor had the kindness to allow me to peruse on its arrival, many weeks after my own was written, and sent to the Admiralty, this appears to have been the case ; for the more violent form of fever ceased in the colony on the rainy season setting in, and was succeeded by the usual remittent of the country.

† Dr. Barry states in his annual report, that, on the 26th of April, the Rev. Mr. Johnson, one of the superintendants, embarked on board the Triton merchant vessel, and on the 3d of May the Rev. Mr. Flood sailed from hence in the Betsey and

I have before stated my belief, that the Bann did not derive the fever from this source (I mean from the Caroline), for the Surgeon, now in England, has stated to me explicitly, that the first eight or nine persons who were taken ill, had no communication whatever with the Caroline, or her crew ; but that four of them were employed in the San Raphael (the schooner before mentioned), and three, viz. two marines and a carpenter, were not employed out of the Bann, on any occasion, while at Sierra Leone ; and I am sure, when we add to this the far more extended communication before mentioned, held by other ships of the squadron with the Caroline, and with complete impunity, it will appear very improbable, to every impartial mind, that any contagion could have been derived from this ship. On those wedded to peculiar and favourite doctrines, I do not expect, even by the

Ann ; both these gentlemen were indisposed on leaving the harbour (Sierra Leone), and on the 5th day after their respective embarkations, they both died ; the symptoms of their fever appear to have been perfectly similar to those already enumerated, yet, in neither of those instances, was the disease communicated to any of the crew or passengers. The fever, although chiefly confined to the lower parts of the town, made its attack at points where there was no connexion between the suffering parties : thus, from all the evidence we have been able to collect in this colony, we have reason to conclude, that the disease was a *non-contagious* sporadic epidemic."

Can any thing prove more clearly, that the fever in question was only contagious under the particular circumstances I have before mentioned ?

facts I have related, to make any impression ; but should I be mistaken, I trust they will at least allow me to claim equal purity of intention with themselves. I must own I am at a loss to account with certainty for the origin of the fever in the Bann. The surgeon of that ship, an excellent and intelligent officer, ascribes it to their long stay in port, the crew being much exposed to the heat of the sun's rays in refitting the Bann's rigging, and also that of the San Raphael, and perhaps (he says) indulging in irregularities (which it is well known sailors will do whenever they can, notwithstanding the utmost vigilance of their officers), and the vicissitudes of weather which they met with in sailing from Sierra Leone ; and it appears, by his report, that the men were generally taken ill in the night when exposed to chills on their watch : he never even hints at the Caroline as the cause in his report ; and, since his return to England, totally denies it to have been the case ; and when the simultaneous, indeed I may say the *prior* appearance of it in the schooner, her tender, is considered, and the intention Capt. Phillips at one time had of destroying her, is added to other circumstances, it is pretty evident that the occurrence of fever in the schooner had made no common impression on the captain's mind.

There cannot, however, I think, be a doubt of its having possessed contagious properties afterwards, and of its having been introduced into the Island of Ascension by the Bann ; still, even here,

difficulties occur in accounting for many circumstances, particularly the attack of two posts, and the exemption of a third, viz. the Green Mountain (where there were six soldiers, one woman, and two children), when the communication was open for eighteen days, and one of these persons had even been on board the Bann for some time. I have, however, formed my own opinion, from a consideration of all the circumstances of the case; and I have narrated the whole of the facts connected with it, as far as they have come to my knowledge, with the utmost impartiality, without suppressing or distorting one of them; and I must, after they have read the remainder of this report, leave others to form their own. I now proceed to narrate the cases, which, in my opinion, will serve to elucidate and confirm the opinions I hold on this subject.

The sentiments of medical practitioners, who have been engaged in the treatment of the yellow fever, may, with respect to its contagious properties, be conveniently divided into three heads (though there are still some slight shades of difference), viz.

1st. Those who consider the fever always to be a contagious disease.

2d. Those who like myself do not believe it to be *ab origine* contagious, but are of opinion that it may become so under the particular circumstances I have before mentioned; and,

3d. Those who do not believe it to possess any contagious property whatever.

It is not my intention to enter into the controversy respecting the first and third classes of those opinions, which will be found sufficiently discussed by different authors in their works on this disease, but to confine myself to the second, as embracing my own opinion, and to endeavour by a few well authenticated, though not generally known facts, to establish it as the true one.

The first instance which I shall bring under your notice, is one which I am sure will produce conviction on every unprejudiced mind, more especially, when I mention that it has been pointed out by the author of the "Select Dissertations *", and which, after a short introduction, I shall relate in the words of the surgeon, copied verbatim from his Journal, from which the information was derived †.

The Bedford, of 74 guns, had been for some time employed in the Mediterranean, where her crew experienced several attacks of fever; the first of which was supposed to have been introduced into that ship at the evacuation of Toulon in the year 1794, but from all of which her ship's company had long recovered, when on the 29th of

* P. 288, of that book.

† It does not appear to me very evident to which of these three classes the author above mentioned refers this attack of the Bedford's crew: perhaps it may be the first; but this is of no moment as respects the general question; for, in this instance, there can be no doubt of the presence of *deep yellow suffusion*.

July, she sailed from St. Fiorenzo Bay, in the island of Corsica, with several men of war and a convoy for Gibraltar, where she arrived on the 24th of August in perfect health.

While at Gibraltar, the ship was caulked, and otherwise refitted, and the shingle ballast was shifted in the hold. The following is the surgeon's account preserved in the records of this office :

“ The following cases, as far as relate to the
 “ unexampled, universal, and unaccountable at-
 “ tack of a very healthy ship's company, exceeds
 “ any thing I have ever seen or heard of in the
 “ service. On Sunday, the 6th of September, when
 “ the men were mustered in Gibraltar Bay (agree-
 “ able to the custom of the ship), there was not a
 “ single person that did not answer to his name,
 “ and in the course of the same week we had up-
 “ wards of 130 at the hospital, very ill of a fever
 “ hereafter to be described. On the evening of the
 “ day above mentioned, five men complained of
 “ shiverings, head-ache, nausea, and weakness of
 “ the lower extremities ; they had emetics given
 “ them ; but it did not at the time give any parti-
 “ cular alarm, as it was supposed to be owing to
 “ the sun, intemperance, or probably eating too
 “ plentifully of the fish of the country, which were
 “ (particularly mackarel) found to be deleterious
 “ to strangers : next morning, however, did not
 “ allow us to remain in this favourable delusion,
 “ twenty-four having fallen ill in the course of the
 “ night, and more than double that number within

“ the next twenty-four hours. On my representa-
 “ tion to the captain of the ship (Captain Mont-
 “ gomery), he ordered an empty transport to be
 “ prepared for their reception, and the ship was
 “ immediately cleared of all that were ill, but they
 “ now fell down so fast, that she was soon found
 “ to be inadequate to the purpose ; the surgeon
 “ of the hospital was then officially sent for, and it
 “ was his opinion, as well as my own (corroborated
 “ by that of a very able professional gentleman
 “ who happened to be a passenger in the Bedford),
 “ that every person, as soon as taken ill, should be
 “ immediately sent on shore, and the most vigor-
 “ ous steps taken to destroy the contagion on board.
 “ I was not by any means able to satisfy my own
 “ mind with respect to the cause of this very extra-
 “ ordinary complaint ; the men, it is true, had
 “ liberty to go on shore, and also to visit their ac-
 “ quaintance on board the ships in company, *but the*
 “ *one and the other then were and continued per-*
 “ *fectly healthy*—the only thing I can suggest, is,
 “ that the shingle ballast in the hold had been
 “ moved for the purpose of altering the *trim* of the
 “ ship : and it is perhaps possible, that the former
 “ infection (mentioned in pages 1 and 2, &c.) had
 “ there lain dormant, and was now put in motion
 “ from the cause already mentioned.

“ The general symptoms were a cold and hot
 “ paroxysm, quickness of pulse, head-ache, nau-
 “ sea, general and great debility, and, in two-thirds
 “ of the cases, local pains in some parts of the

“ chest. The debility, in many cases, was so great,
 “ that sentinels at their post, and sailors in the
 “ common duty of the ship, fell down as if struck
 “ with lightning, without any previous complaint
 “ whatever, and, as far as I was able to remark,
 “ the danger was in proportion to the degree of
 “ this symptom. On the second or third day of
 “ the disease, all their skins acquired more or less
 “ of a yellow tinge; and in the worst cases (at the
 “ hospital) were of as deep a dye as any thing I
 “ have ever seen—the yellow fever of the West
 “ Indies not excepted. Eleven died at the hos-
 “ pital before we left Gibraltar (24th of September),
 “ and others were left dangerously ill.”

The next case I have to place before you, is that of His Majesty's ship *Kent*, and it is as follows:—The *Kent*, of 74 guns, arrived in the harbour of Port Mahon, from a cruize off Toulon (where she had been from the 29th of April), on the 26th of June, and anchored above the Hospital Island, and continued there until the 1st of July, when she sailed with a convoy for Gibraltar, being ordered to England in consequence of having sprung a leak. On first leaving port, the ship met with light and variable winds, attended with very thick foggy weather, and, according to the surgeon's account, “the most sultry and oppressive heat imaginable.” And so little progress had the ship made in consequence, that after being a week at sea, Yvica, one of the Balearic Islands, was still in sight. On the 6th of July, it appears by the

log, that the ship's company bathed, and on the evening of that day, several men made application to the surgeon, with attacks of fever; but on the 7th, 8th, and 9th, no less than 170 cases occurred, and almost daily attacks continued to take place, till a short time before their departure from Gibraltar, notwithstanding great attention was paid to ventilation, white-washing, and repeated sprinkling of the decks with vinegar, &c. On the 11th, the Kent anchored in Alicant Bay, but the crew were not allowed to have any communication with the shore, except through the medium of the Prattique Office, from whence they received supplies of fruit, &c. On the 19th, she sailed from Alicant, and on the 25th, anchored in Pedro Bay. On the 5th of August, she arrived and anchored at Gibraltar, where she was still kept in quarantine; and after re-fitting, sailed from thence on the 17th of August for England. During the prevalence of the fever, 240 of the ship's company, affected with that disease, were put on the list, of which number eleven appear to have died.

As the fever in question exhibited the usual symptoms of the Mediterranean fever, it is unnecessary for me to detail them here; I shall therefore only observe, that the surgeon considered this disease as the *Causus Icterodes*, or *Ardent Yellow Fever*; he does not, however, mention that any of the sick had dark coloured vomiting, though yellow suffusion was nearly an universal symptom.

I have only a very few remarks to offer on the

preceding cases of the Bedford and Kent, and with respect to that of the Bedford, it proves incontrovertibly that a fever attended with yellowness of skin, of as deep a dye as the yellow fever of the West Indies, has arisen from the foul state of a ship's hold alone, where there could not be the most remote cause for suspicion of its being introduced, or indeed of its showing itself possessed of any contagious or infectious quality whatever; for not only the ships at the same anchorage, but likewise the garrison, and the inhabitants of Gibraltar, with whom the crew of the Bedford appear to have had unlimited intercourse, were perfectly healthy before, and continued so after the fever in question had broke out, though those attacked were, as has been stated by the surgeon, sent on shore to the hospital: but had the ship been at sea, without the means of separating her sick, and sending them to a well ventilated hospital, the case might have been very different; though perhaps, in a ship of the line, contagious properties would not have been so readily produced as in a corvette.

Regarding the fever in the Kent, though there are no very decisive proofs of its having become a contagious disease, yet it is only fair to mention, that the surgeon considered that it did become so, from several of the men belonging to the transports having been attacked with the same fever soon after the sick of the Kent were removed into them. There is not the slightest reason to think that the disease was or could have been introduced at

Mahon by contagion, for not only the ships of war, in Port Mahon, but likewise the inhabitants, enjoyed at the time the Kent sailed perfect health.

I have, in my work on the Mediterranean fever, distinctly pointed out and exemplified the influence which the anchorage of a ship of war above the Hospital Island, in Port Mahon, in the summer and autumnal months, has on her crew, and it is highly probable that the anchorage of the Kent, in the situation alluded to, exposed her men to the predisposing cause of fever, and that the exciting cause was, as the surgeon thinks, atmospheric influence, viz. "excessive sultry calms, with heavy dews at night, having prevailed for some days preceding the commencement of the endemic." Be this as it may, it is quite evident, from the proceedings of the health departments of Alicant and Gibraltar, that they considered this case then to be the contagious yellow fever ; none of those fallacious, convenient distinctions we have lately heard so much of, having been thought of at that time. Had the Kent been at Gibraltar, and consequently been able to land her sick, as the Bedford did, there can be little doubt but that the fever would have ceased much sooner ; and I am of opinion, that it was only owing to the unremitting attention of Captain Rogers and his officers, the comforts and ventilation of a line of battle ship, and the fortunate circumstance of having empty transports in his convoy, where he placed so many of his sick, that the disease did not extend much further.

Here, then, we have a complete proof of a fever arising in an extremely clean and well regulated ship at sea, without the most remote cause for suspicion of its having been introduced by contagion before the ship left the harbour, acquiring (according to the opinion of the surgeon) that property from an accumulation of sick, and not any means existing of completely separating the sick as they were taken ill ; and though the disease did not, in proportion, extend to so great a number of her crew, nor from difference of climate prove so fatal, yet in every other respect it bears a close resemblance to that which lately prevailed on board the Bann.

It would be easy to point out many other instances of a like nature, several of which, indeed, I have fully noticed in my work previously alluded to ; but I have preferred selecting those before mentioned, in as much as the circumstances attending them have never before, as far as I know, been brought under notice.

Regarding the fever in the West Indies, I shall only select two cases, and those of a recent date, viz. the Pyramus and Scout, in both of which ships the yellow fever raged most fatally and to a lamentable extent. In the first ship, there is no reason to think that it ever became contagious, but that it originated in local causes, aided by the heat of the climate. In the second, it arose from causes totally distinct from contagion, but afterwards, I have no doubt, acquired that property ; and

it was on this last conviction that the report to the Admiralty, on the 7th of December 1822, recommending, among other things, the early separation of the sick, was founded. It is scarcely necessary to add, that the accounts of these fevers are taken from the official reports of the medical officers, and which I shall endeavour to compress into as small a space as the nature of the subject will admit.

The *Pyramus* having lately left Plymouth, arrived at Barbadoes on the 26th of July, but she had lain for thirty-four days previously in English Harbour, Antigua, and latterly she had remained there from the 11th to the 19th of October. After this, she visited St. Kitt's, remained there seven days, sailed on the 31st of October, arrived on the 1st of November at Antigua, where she landed her sick, and then proceeded to Barbadoes, where she anchored on the 9th of the same month.

The fever, it is stated, commenced in English Harbour; and, on the ship's departure from St. Kitt's, increased considerably. On the day after sailing from St. Kitt's, Dr. Fitzgerald, the surgeon, was himself taken ill, and the assistant having died some time before, there was no medical attendant, and on the ship's arrival in English Harbour the Doctor was landed at the military hospital.

Mr. Comrie, an intelligent young surgeon, was afterwards appointed to the *Pyramus*, and he states, that before he joined the ship, a considerable number of persons had been attacked with the prevailing fever, and many had been sent to the military

hospitals at Antigua and Barbadoes, where a considerable number died, as well as on board.

In consequence of this, and the disease still increasing, and there being no naval hospital on the station, the principal medical officers of the army came on board to examine into the state of health of the ship's company, and, if possible, to find out the cause of the disease. After a consultation, it was recommended (as has been customary with sickly ships on this station) that the *Pyramus* should go to sea, and cruize for a certain time, and if the disease did not then abate, that she should proceed to English Harbour, Antigua, and there have her hold thoroughly cleared out; a proceeding which was frequently found beneficial, during the late war, in similar cases.

While at sea, the malady continued to be as virulent as it had been at Barbadoes, until the ship got as far as 48 degrees north, and then for a time it declined a little in point of the frequency of its attack, but still exhibiting, in those who were taken ill, the same aggravated form as before. The *Pyramus* again arrived in English Harbour on the 3d of January, when the sick list soon increased; on the 14th, the provisions and stores were completely removed by Government slaves; and yet six weeks after every person had been landed, it was a common occurrence for six or seven to be taken ill daily, arising, as it may be presumed, from their frequent communication with the ship.

Mr. Comrie likewise mentions that the *Pyramus* sailed, on the cruize above alluded to, on the 9th

of December (from Barbadoes), and that, during the time she was at sea, the thermometer was seldom below 80°, and only a part of a day or two at 78°.

He then goes on to state, that having on four occasions, in His Majesty's ships, been an eye-witness of attacks of this fever, he is of opinion, that in the *Pyramus* it arose from the particular period of her arrival in the West Indies (July), the foul state of the hold, and from the coal tar mixing with the bilge water, choking up the passage to the wells and the bilge water, together with the vegetable matter it contained, becoming stagnant, and thence emitting miasma.

From the reports of Mr. Comrie, and the medical officers of the army, it appears that upon removing the limber boards, a most offensive smell issued from the parts underneath; indeed, of so powerful and deleterious a nature was it, as to produce immediate fainting in some, and several of the officers of the ship who attended this examination were seized with the prevailing disease. The state of the hold, under the limber boards, is compared by Staff surgeon Hartle, to a bog of the most pestiferous nature on shore; and Mr. Comrie mentions, that three or four of the slaves employed in cleaning the ship were attacked with the fever. I may here observe, that previous to the sailing of the *Pyramus* from England, she had had her magazine fitted on a new plan, and that the shavings and chips resulting therefrom, instead of being removed

from the ship, were unfortunately suffered to remain in the lower part of the hold, and thus mixed with the bilge water under the limber boards.

Dr. Fitzgerald states, that some time previous to the appearance of the fever, the foul state of the hold was sufficiently indicated by smells of a very disagreeable nature issuing therefrom, and diffusing themselves over the ship, and that a candle, when placed at "the mouth of the hold," was immediately extinguished; and I was also informed by an officer of the ship whom I formerly knew, and whom I lately saw in the royal hospital at Haslar, that all the captains of the hold had lost their lives.

Having thus endeavoured to present a concise outline of the proceedings of the *Pyramus*, as far as they relate to the present question, and having given them my most attentive consideration, I am decidedly of opinion, that the fever which prevailed in that ship was neither occasioned by the specific effect of the injection of coal tar, nor caused by contagion*.

* We have the most decisive proof of the innocuous nature of coal tar in the case of the *Owen Glendower* frigate, commanded by the Hon. Capt. Spencer; she, being injected in the same manner as the *Pyramus*, proceeded to the South Seas, and after an absence of more than three years returned to England, having only lost one man, from a chronic complaint, who was in ill health before the ship left this country.

At the different dock-yards where the process has been carried on to a considerable extent, no effect prejudicial to the health of the people has been produced, and the same may be said with respect to those employed in procuring this article from coals.

Were the latter the case, I may be permitted to observe, that scarcely a ship which serves on the West India station, could escape an attack of this dangerous malady; whereas we know that *many* ships, even under the most favourable circumstances of exposure, as respects contagion, remain in good health. The different medical officers, who have served of late years in our naval hospitals in the West Indies, all agree, that nothing like contagion has been witnessed by them in those establishments; and, when it is considered that they were frequently in the habit of placing patients, suffering from this fever, in the same wards with other patients who were labouring under diseases entirely different, without its having in a single instance been communicated to any one of them, it affords the strongest possible proof of the truth and justness of their opinions.

The magnitude of the disease in the *Pyramus*, may be conceived when I mention, that two hundred and forty-nine men were taken ill on board, of whom thirty died, and one hundred and fifty-five were sent to the hospitals, principally to that of Antigua. Of one hundred and two sent to Antigua hospital, thirty died; and of eighty-five sent to Barbadoes hospital, thirteen died.

Notwithstanding this vast accumulation of sick,

Dr. Paris has been so kind as to examine some air taken from the pump-well of the *Pyramus* in the West Indies several months ago, and found it as pure as common air.

and such mortality in a single frigate, the crew of which amounted, on the 31st of October, to two hundred and sixty-one, not only the surgeon of the ship, but likewise Staff surgeon Hartle (to whose praiseworthy exertions she is so much indebted), declare, that nothing like contagion was seen; they ascribe the disease as arising entirely from the state of the hold, and I believe with justice. Indeed, in the words of the latter gentleman, “It would scarcely appear credible that four
“large mud boats of filth should be taken out of
“this frigate, which had only been six months
“from England, and I believe not long out of
“dock:” but I must observe, that this filth was entirely out of sight below the limber boards; for in other respects the ship was in the cleanest state possible.—Not to detain you longer than is necessary, I shall only mention two facts, stated by Mr. Hartle, in corroboration of the non-contagious nature of the disease.

The sick of this ship were landed and placed in the capstern house of Antigua dock-yard on the 15th of January, and between that day and the 30th only, eighteen cases occurred; but, on the 31st, six fresh attacks were added to the list, and the disease again appeared with increased violence and malignity. Mr. Hartle adds, “This sudden
“reappearance and violence of the disease induced
“me to believe, that the people had some commu-
“nication with the ship, which was then undergo-
“ing a general expurgation. This, with a little

“trouble, I ascertained to be the case, and instantly recommended to Capt. Newcombe, to occupy the upper part of the capstern house for the convalescents, and encamp the remainder of his people on the Fort Berkley Isthmus; accordingly, on the 6th of February, they removed to the camps: this change of quarters had the desired effect;” and the disease appears then to have rapidly declined. The crew of the *Pyramus* embarked on the 11th of March in excellent health, and up to the present time there are no accounts of the disease having reappeared.

Mr. Hartle, in another part of his report, says, “It is a pleasing reflection, and a source of great gratification to me, that, notwithstanding one hundred and forty-seven cases of yellow fever, as distressing and malignant as any I before witnessed, have been by three vessels (*Pyramus* frigate, *Dasher* army transport, and a sloop of war) imported into this island since September 1821, we have not had a single instance of any individual, but those directly exposed to the local causes, being attacked.”

The circumstances attending the fever in the *Scout* are as follows :

The *Scout* sloop of war, with a complement of one hundred and two men, arrived in Port Royal, Jamaica, on the 13th of May 1822, from England (having previously touched at Barbadoes), in a healthy state; every exertion was made by the captain to secure and continue the health of the

crew, by cutting scuttles along the gangway to ventilate the lower deck. He also, on her arrival at Port Royal, procured stages to be brought alongside; the cables were removed from the ship and coiled thereon, and every article of provisions and stores was removed from the hold and kept away for the space of three days, during which time the hold was well ventilated, cleaned, and whitewashed, and dried by means of stoves.

Soon after the arrival of the Scout in Port Royal, the captain was unfortunately taken ill, and the first lieutenant was also confined by severe rheumatism; the other lieutenant (I have heard, for it does not appear in the surgeon's report) was absent on detached service, and the people eagerly embraced this opportunity to indulge in excessive drinking, and were at the same time, from the nature of their duty, much exposed to the heat of the sun.

They likewise exposed themselves greatly to the dews at night, taking every opportunity of sleeping on deck on the booms. These three causes, the surgeon says, acting together for the space of three weeks (the period of the Scout's stay in Port Royal), upon the constitutions of young, full, and plethoric Europeans, newly arrived in a tropical climate, are almost sure to produce the disease, which they did in this case, and nine were, in consequence, sent to the hospital, labouring under fever, of whom four died. At that time there was not a patient with fever in the hospital;

and the other ships of the squadron in Port Royal were remarkably healthy.

The surgeon further observes, that at this period the disease could be distinctly traced, as the people would come off after a dinking-bout with strong febrile action.

In this state the Scout sailed from Port Royal on the 14th of June, and on the 28th arrived off the Havannah. On first putting to sea, the weather was unfortunately excessively hot, the thermometer ranging from 86° to 89°, and during this time from five to seven, with fever, were daily added to the sick list; the number confined at one time amounted to forty, thirty of whom were in bed, many of them afflicted with black vomit and delirium. The awning was spread across the main deck, and every thing done for the accommodation of the sick, but this space was no sooner prepared than filled, and so great was the panic, that attendants on the sick could only be procured with great difficulty, many of the patients from their dreadful delirium requiring a person constantly by them, to keep them in bed. The assistant surgeon Mr. O'Neill, of whom the surgeon speaks in the highest terms, and I have no doubt deservedly, was now numbered with the sick, and he emphatically adds, "Human eye cannot have witnessed greater wretchedness and misery than existed on board at this time."

It is unnecessary to enter into any further description of the symptoms; suffice it to say, that

they were of the most malignant kind, even in a few instances accompanied with buboes, the nearly infallible marks of the plague itself.

The Scout being unable, from her distressed state, to return to Port Royal, made for New Providence; and, after her arrival there, landed her sick on Hog Island, as they were not admitted into the hospital for fear of contagion.

Hog Island, in the dry season, is a place healthy enough, but unfortunately when the Scout got there the rains commenced, the type of the disease in many became changed, and terminated in intermittent fever, thus adding one disease to another, and consequently protracting their recovery.

The instances of contagion mentioned by the surgeon, appear to me so unequivocal, that it is altogether unnecessary to say a word on this head; but I cannot close this part of the subject without expressing my admiration of the skill, humanity, and kindness, manifested both by the surgeon and his assistant, on this trying occasion.

It appears by the official return, that one hundred and six cases of fever occurred in the months of June, July, and August; sixty-four of which were cured on board, nine sent to Port Royal hospital, and thirty-one died.

Here, perhaps, I might have closed my account of these fevers; but circumstances have arisen, which make it necessary that I should extend my observations further than I either intended or wished.

I do not purpose, however, to enter into a general analysis of the symptoms, but to offer some remarks, more especially on two, namely, the yellow suffusion, from whence the disease has (I think improperly) derived its name, and that generally fatal symptom, in all the fevers of warm climates, called the black vomit.

With respect to the yellow suffusion, if this be taken as a criterion of the identity of yellow fever, I can, with the utmost confidence, say, that during my services in the Mediterranean I have seen several hundred cases of fever, in which the yellow suffusion became in numberless instances "darker and darker," without the disease exhibiting any symptom of contagion whatever. But we have different versions respecting the yellow suffusion, and in an account of this disease, as it has prevailed at Gibraltar, which a late writer praises as the best he has seen, we are told that "when the disease terminates favourably, it "is rarely attended with yellowness of skin, which "if it does take place is of a very pale lemon "colour."

This was certainly not the case with the two last epidemics which afflicted that garrison, and, I have reason to think, will not be found correct as applying to the fevers of the West Indies in general. My own opinion is, that yellow suffusion forms no distinctive mark of yellow fever. It is a common attendant on the febrile diseases of all warm climates or seasons. It has been observed

long ago, in summer, amongst the marines exercised on South Sea Common, in the neighbourhood of the Morass, near Portsmouth, as mentioned by the late Doctor Lind; and more recently amongst the marine artillery, who suffered so much from remittent and intermittent at Fort Monckton *. I have seen it also in cases of purely sympathetic fever. The truth is, that the yellow suffusion is more or less dark in some, and altogether wanting in others, and hence, preserving no regular appearance, cannot be taken as a pathogmonomic symptom, and though the word "yellow fever" may produce an appalling influence on the mind, from the associations connected with that terrible name, yet, when viewed in all its bearings, we find that in more temperate climates it may form a leading symptom in fevers of a comparatively mild description.

As to the black vomit, every one knows it is almost an inevitably fatal symptom. The recoveries after this has taken place, are indeed "few and far apart," and I readily acknowledge, that it is a much more frequent attendant on the fevers of the West Indies than on those of the Mediterranean; for, in the former the disease generally runs its

* The yellow fever, according to Lafuente, a celebrated Spanish physician, broke out in Medina Sidonia in 1801, when all the sea-port towns of Andalusia enjoyed the most perfect health. This city is situated at least thirty miles in the interior of Andalusia, and is a proof of the local origin of the Spanish epidemics, which no sophistry can overturn.—See Burnett on the Mediterranean Fever, 2d Edition, page 491.

course more rapidly, often leaving but little opportunity of employing curative means, and resisting every mode of treatment ; while, in the latter, more time is generally given, and hence the disease is not nearly so fatal ; yet even here I have seen deaths as early as the third day, with all the aggravated symptoms attending the fatal cases of tropical fevers, viz. yellow suffusion, black vomit, and speedy putrefaction of the corpse. There is still another, and, in my opinion, a most decisive fact, which occurred in the Bann while on the Jamaica station in 1820 and 1821, showing how little the appearance of yellow suffusion or black vomit is really indicative of a contagious disease, and I extract it, verbatim, from the surgeon's Journal.

“ While His Majesty's sloop Bann was lying
 “ off Chagre, we received on board about 40 men
 “ for a passage to Jamaica, who had been con-
 “ fined in prison and to hard labour in Panama
 “ for some months. The most of them had had
 “ attacks of intermittent fever, and all were in a
 “ weakly state of health, and much emaciated ; a
 “ few days after they came on board, intermittents
 “ began to appear, and soon assumed a continued
 “ form, and, before they could be landed at Port
 “ Royal, thirteen of them died, some having black
 “ vomit and all *intensely yellow*, two symptoms
 “ most characteristic (in common language) of
 “ the endemic of the West.

“ The smallness of the vessel and other circum-

“stances would not admit of a separation between
 “the sick and ship’s crew; however, the latter
 “continued in their previous state of health, nor
 “could I trace a single instance of disease to con-
 “tagion.”

What, then, are we to conclude from the foregoing facts in regard to the fevers of warm climates? My own opinion is, that they are all of one family, modified by peculiarities of locality and habit, &c.

An attempt has been made to draw a distinction between the fevers of the Mediterranean, denominated bilious remittent and the yellow fever; yet the only line of demarkation which the favourers of this doctrine have been able to put forward, is the greater severity or mildness of the symptoms.—Surely this is a most delusive criterion; if two patients in one house were labouring under small-pox, the one having it of the confluent, and the other the distinct kind, the latter or milder case would be no less the small-pox than the former. It is a well-known fact, that in some ships, and even in situations on shore, at the same time, and apparently arising from the same cause, the disease, emphatically called the yellow fever, has taken place in some, a remittent fever in others, and in a third, an ague or intermittent fever. I have myself seen the typhus fever of cold climates (and few have had more extensive opportunities of witnessing this disease in all its forms than I have) marked by all the symptoms and effects of con-

tagion, change in several instances into an intermittent fever. I have also often seen the intermittent of Walcheren become a remittent fever; and there was reason to suppose, that the remittent fever, in the prison ships at Portsmouth, during the late war, assumed a typhoid and contagious character, having then all the symptoms of a continued fever.

I apprehend, therefore, that idiopathic fever in general, whether occurring in one place or the other, is not so entirely a different disease as nosologists have taught; and though, from circumstances of climate, locality, habit, treatment, &c. some difference of symptoms may occur, yet I think I may say with the poet,

————— ——— “ facies non omnibus una,
Nec diversa tamen; qualem decet esse sororum.”

Nothing, however, can more strongly corroborate this opinion, than the following extraordinary pathological fact, stated in the official report of His Majesty's ship *Hyperion* (now on the Jamaica station), for the months of July, August, and September last.

The *Hyperion* having been at the Havannah, a few days after leaving that port, an epidemic catarrhal fever, then very prevalent in the West-India islands, attacked her crew, extending to 141 of them, of whom five died on board, and twenty-two were sent to the hospital.

While at sea, the disease strictly preserved its genuine form; but after their arrival at Port Royal,



it was accompanied by yellow suffusion, and other symptoms peculiar to the fevers of tropical climates.

As an additional proof how little the black vomit ought to be considered as a pathognomonic symptom of yellow fever, I may mention, that in the 67th regiment, at Gibraltar, in the year 1814, when this disease prevailed epidemically in the garrison, out of 10 officers, 115 men, and one woman attacked, twenty-seven of whom died—*not one* had black vomit.

There is still one particular respecting yellow fever, which was some time ago boldly advanced as a great discovery, but speedily consigned “to the tomb of all the Capulets;” namely, that a person who had suffered one attack of yellow fever was for ever afterwards exempt from another. Were any thing wanting to show the absurdity of this opinion, I need only refer you to Appendix, No. I. where you will observe, that 21 of the Bann’s crew had second attacks, of whom two died—two had three attacks and recovered; and one had four attacks, and ultimately got well.

It would have been a matter of the greatest facility to have illustrated the foregoing report with many additional and undisputed facts; but as I could not do so without entering more fully than was either desirable or necessary into the controversy concerning the yellow fever in general, I have thought it much better to abstain, as far as the nature and spirit of my report would allow. I trust, however, that those I have adduced will be

sufficient to show that my opinion, concerning the fever in question, stands upon a firm foundation.

Whether it is the true one or not, I have this consolation, that if it be adopted, it must not only lead to those measures of precaution which the most ultra-contagionists would desire, but likewise induce a greater degree of vigilance in the early periods of an epidemic, without waiting for the symptoms of black vomit and yellow suffusion, which are so deceptive, and which, indeed, may never occur at all.

Before finally closing the subject, I beg to call your attention to some of the principal points which I conceive have been distinctly proved by the foregoing statements.

1st. That the Caroline sailed from Malta on the 25th of September, and arrived at Sierra Leone on the 4th of November in perfect health, and that no sickness prevailed on board that ship till she had been lying nearly a month thirty miles up the river, in a very unhealthy situation, loading wood.

2d. That when the disease did appear, it was the common remittent fever of the climate, brought on by hard labour and exposure to the sun, not possessing, under the circumstances stated, any contagious properties, and continued to be so till after the middle of February.

3d. That, on the 22d of February, the first case of that which has been called yellow fever was sent to the hospital, but according to the report of

the principal medical officer of the colony, the same disease then prevailed on shore, and consequently could not have been derived from the Caroline, but in all probability arose from some cause, with which we still are, and perhaps ever shall be, unacquainted.

4th. That no contagious disease was, or could have been communicated from the Caroline to the crew of the Bann sloop of war, as the fever in question had appeared both on board the Bann and her tender, the San Raphael, before the Bann had had any communication with the Caroline, which is still further confirmed by the complete immunity of several persons who were much more exposed to the effect of contagious disease, in surveying the ship, had any such existed on board, than the boat's crew of the Bann, none of which were amongst the first persons attacked on board that ship, or in the schooner.

5th. That the fever in the Bann, which appears to have arisen from common causes, by the state of the weather preventing ventilation, and a great number of sick being confined in a small space, became contagious.

6th. That, from the recorded preceding effect of different seasons of the year on the health of the garrison of Ascension (more particularly marked in the years 1817 and 1818, when Mr. Robert Malcolm had the medical charge of the garrison), a disease similar to the fever in the Bann might

have prevailed in that island, though the Bann had never had any communication with it*.

7th. That, though after a most careful inquiry it is impossible to trace the fever in question directly from the Bann to any individual of the garrison of Ascension, yet that there is just reason to believe that the disease was introduced into the island by that ship.

8th. That, as in the cases of the Bedford and Pyramus, the disease called the yellow fever is not uniformly, nor, except under particular circumstances, of a contagious nature.

9th. That yellow suffusion and black vomit are not pathognomonic signs of a contagious yellow fever, though they do sometimes accompany that disease.

* It is not unworthy of remark, that Dr. Barry, the principal medical officer at Sierra Leone, has come to the same conclusion in his official report.

APPENDIX, No. I.

A List of Fever Cases which occurred on board His Majesty's Ship Bann, between the 10th of March and 1st of September 1823.

Names.	Quality.	When entered.	When discharged.	How disposed of.
John Roberts s *	S.	March 10.	March 31	Duty
Robert Lee s	S.	.. ..	April 12	Duty
Thomes Holmes s	S.	.. ..	March 24	Duty
Peelro s	.. ..	.. ..	April 12	Duty
William Cole s	S.	.. 25	March 30	Died
William Rowal	S.	.. 26	April 12	Duty
Syl. Ward s	S.	.. ..	.. 9	Duty
M. Retallick s	Mast.	.. ..	March 28	Duty
William Durant	Mar.	.. 27	.. 29	Duty
James Walsh	Car. Crew	.. ..	.. 30	Duty
John Thomas	S.	.. ..	April 4	Duty
James Simpson s	Car. Crew	.. 31	.. 18	Duty
Peter Atkins s	S.	April 3	.. 4	Duty
James Wood	Mar.	.. ..	.. 8	Duty
William Hayles	S.	.. ..	.. 13	Duty
John Hayse	S.	.. ..	May 2	Duty
Edward Poole s	S.	.. 7	April 12	Died
John Kirby	Mar.	.. 9	.. 13	Died
James Wood	M.	.. ..	May 5	Duty
Thomas Humes	S.	.. 10	.. 7	Duty
Richard Cox	S.	.. 11	April 13	Died
Mr. Lambert	Boats	.. ..	.. 17	Duty
Mr. Franklin	Gun.	.. ..	.. 14	Died
Captain Phillips	Comd.	.. ..	May 9	Inval.
William Durant	Mar.	.. ..	.. 5	Duty
John Simmons	Mar.	.. ..	June 2	Board
Mr. Crisp s	2d Lieut.	.. ..	April 25	Duty
Grif. Williams s	Q. M.	.. ..	.. 19	Died
George Bull s	Boy	.. ..	May 11	Duty
Richard Rush	Mar.	.. 12	July 6	Died
Mr. Kelly	Ship Carp.	.. ..	April 19	Duty
John Godwin	Car. M.	.. ..	May 5	Duty
John Goodwin	Mar.	.. ..	.. ..	Duty
Pat. M'Kivar	Mar.	.. ..	April 20	Died
Michael Burns	S.	.. ..	May 2	Duty
John Webber	S.	.. ..	April 13	Duty
James Crane	M.	.. ..	.. 14	Duty
Thomas Crayford	Cor. Mar.	.. 13	May 11	Duty
Thomas Solay s	S.	.. ..	April 19	Died
Edward Pike s	Car. Crew	.. ..	June 2	Board
Mr. Loyd	Mid.	.. 14	April 19	Died
James Walsh	Car. Cr.	.. ..	.. 18	Died
John Bartholomew	Boy	.. 15	May 7	Duty
Michael Worth	S.	.. ..	April 26	Died
Charles Martin	S.	.. ..	May 2	Duty
James Austin s	S.	.. 16	May 7	Duty

N. B. Those marked (s) were attacked on board the San Raphael.

Names.	Quality.	When entered.	When discharged.	How disposed of.
Frederick Miller	Boy	April 18	April 21	Died
Joseph Haynes	Mar.	.. ..	May 5	Duty
Henry Brown	B. M.	.. 19	April 22	Died
George Cole	S.	.. ..	May 2	Duty
Charles Lewis	S.	.. ..	April 27	Died
John Churchhill	S.	.. ..	May 5	Duty
William Reeves	Serjt.	.. ..	April 23	Died
Thomas Walters	C. Stw.	.. ..	.. 26	Died
Mr. Jones	1st Lieut.	.. 20	.. 28	Duty
Mr. Dewar	Purs.	.. ..	.. 24	Died
Mr. Stokes	Mid.	.. ..	May 18	Duty
James Wade	S.	.. ..	June 2	Board
George Coney	Boy	.. ..	April 25	Died
James Davis	Mar.	.. 21	May 26	Duty
William Pickering	G. C.	.. ..	.. 2	Duty
John Reid	Boy	.. ..	April 28	Died
James Crane	Mar.	.. 22	.. 26	Died
Thomas Moucher	S.	.. ..	.. 29	Died
Richard Fenner	S.	.. ..	.. 26	Died
James Sheppard	Mar.	.. ..	.. ..	Died
Mr. Roxburgh	Mid.	.. ..	.. 27	Died
Richard Coudry	Boy	.. ..	May 3	Died
James Shaw	Arm. C.	.. ..	April 29	Died
John Johnstone	Boy	.. ..	.. 27	Died
J. Webber	S.	.. 23	May 20	Duty
Alexander Wallace	S.	.. ..	.. 10	Duty
John Cracknell	S.	.. ..	.. 5	Duty
Edward Williams	Q. M.	.. ..	.. 7	Duty
John Allen	S.	.. 24	.. 16	Duty
John Thomas	S.	.. ..	April 26	Duty
Mr. Catlow	C. Clk.	.. ..	May 2	Died
Eph. Collins	Boy	.. ..	April 28	Died
Philip Locke	S.	.. 25	May 10	Duty
Henry Hazleton	S.	.. 26	.. 20	Duty
William Corne	Cook	.. 26	June 2	Duty
Frederick White	Q. M.	.. 27	May 2	Duty
Mr. Higgen	M. M.	.. ..	.. ..	Duty
Thomas Spillom	S.	.. ..	.. 1	Died
William Parker	S.	.. ..	.. ..	Died
Charles Forest	Boy	.. 30	Aug. 11	Duty
Low Taylor	S.	May 1	May 5	Duty
John Dolling	B. M.	.. ..	.. 16	Duty
William Craven	S.	.. ..	.. ..	Duty
John Neill	S.	.. ..	.. 10	Died
William Newall	S.	.. 4	.. 16	Duty
Thomas Monday	S.	.. 9	June 2	Duty
William Hayles	S.	.. ..	May 20	Duty
Mr. Kelly	Sp. Car.	.. 11	.. 16	Duty
Capt. Saumarez	Com.	.. 15	.. 19	Died
Tom Toby	K. M.	.. ..	.. 20	Duty
Tom Wilson	K. M.	.. ..	.. ..	Duty

Names.	Quality.	When entered.	When discharged.	How disposed of.
William Durant	Mar.	May 18.	June 2	Board
William Carpenter	Arm.	.. 23	.. 17	Duty
John Dolling	B. M.	.. 30	.. 2	Board
Thomas Holmes	S.	June 1	.. 2	Board
John Bartholomew	Boy	.. ..	.. ..	Board
William Craven	S.	.. ..	.. ..	Board
Jim Savo	K. M.	July 5	July 8	Duty
Charles Welsh	S.	June 3	June 10	Duty
James Davis	Mar.	.. ..	.. 10	Duty
George Cole	S.	.. ..	.. 8	Duty
Philip Locke	S.	.. ..	.. 10	Duty
Charles Martin	S.	.. ..	.. 18	Duty
David Davis	S.	.. 18	July 8	Duty
John Durling	S.	June 4	June 6	Duty
John Allen	S.	.. ..	.. 16	Duty
Pat Bryant	Carp. C.	.. 6	.. 14	Duty
John Hayse	S.	.. 7	.. 8	Duty
Mr. Lambert	Boat.	.. 8	.. 20	Duty
James Austin	S.	.. 7	.. 11	Duty
William Pickering	Gr. Cr.	.. 15	.. 23	Duty
Thomas Holmes	S.	.. 27	July 1	Duty
William Bushfield	Boy	July 19	.. 29	Duty
William Durant	Mar.	.. 20	.. 25	Duty
Thomas Molyneux	Boy	.. 21	.. 27	Duty
James Goodwin	Mar.	Aug. 1	Aug. 21	Duty
Charles Martin	S.	.. 12	.. 18	Duty
Edward Pike	C. C.	.. 18	.. 20	Duty

Making a total of one hundred and twenty-four cases. Ninety-four persons were attacked belonging to the Bann, and sixteen escaped; some of the latter were the most drunken characters in the ship, two of them the most stout and plethoric; and the other two were, I think, on board the schooner for the whole, or greater part of the time of the sickness.

Of the 94 patients, 70 had one attack, of whom 31 died.
 21 had two attacks, of whom 2 died.
 2 had three attacks and recovered.
 1 had four attacks and recovered.

Rush, the marine, died on the thirteenth week, a lumbar abscess terminating his existence.

PERIODS OF FATAL TERMINATION.

3 patients died on the 3d day.
 12 — — — 4th
 6 — — — 5th
 1 — — — 6th
 4 — — — 7th
 4 — — — 8th
 1 — — — 9th
 2 — — — 11th

All the cases entered after the first of June, were treated by Mr. William Glasgow, acting assistant-surgeon, as well as those discharged on board. (Sig.) ALEX. STEWART, (2) *Surgeon*.

APPENDIX, No. II.

State of the Thermometer and Weather during the Period of the prevailing Sickness on board His Majesty's Ship Bann.

Year and Month.	Day of Month.	Thermometer.		Latitude at Noon.	Longitude at Noon.	Weather.
		8 a. m.	Noon.			
1823. March	1	78	80	..	..	Moderate breezes, hazy, and fine.
	2	80	80	..	..	Do. do. do.
	3	80	80	..	..	Light do. clear sunshine.
	4	79	80	Lying off Free Town,		Do. do. cloudless, but hazy.
	5	80	82	Sierra Leone.		Moderate do. and clear.
	6	82	82	..	..	Light do. and cloudy.
	7	80	83	..	..	Do. do. do.
	8	83	85	..	..	Do. do. do.
	9	83	86	..	..	Moderate do. do. heavy dews.
	10	83	84	During this period, I		Light do. cloudy, with thunder.
	11	82	84	was absent from the		Do. do. do.
	12	83	85	ship, being ordered on		Do. do. cloudy, with appearance of Tornados.
	13	83	85	board the San Rafael,		Moderate do. and cloudy.
	14	80	84	which was sent to the		Strong do. and do.
	15	80	82	river Gallinas.		Light do. and do.
	16	80	83	..	..	Strong do. and very cloudy.
	17	80	82	..	..	Light do. and do.
	18	79	81	..	..	Moderate do. and do.

Year and Month.	Day of Month.	Thermometer.		Latitude at Noon.	Longitude at Noon.	Weather.
		8 a.m.	Noon.			
1823. March	19	80	82	..	..	Fresh breezes and cloudy.
	20	80	82	..	..	Light do. and very hazy.
	21	80	80	..	..	Do. do. and cloudy, rain last night.
	22	80	80	Lying off	Free Town,	Moderate do. and hazy.
	23	82	80	Sierra Leone.	..	Do. do. and clear.
	24	80	82	..	..	Do. do. and do.
	25	81	82	..	..	Do. do. and do.
	26	80	82	..	..	Do. do. and do.
	27	77	78	Off the Carpenters	..	Light do. very cloudy, with rain.
	28	78	81	Working up the river	..	Do. do. and hazy.
April	29	79	81	Lying too outside	..	Do. do.
	30	77	79	08.31 N.	13.19 W.	Do. do.
	31	80	82	08.00	14.14	Do. airs and calms, a little haze.
	1	80	84	07.26	14.14	Moderate breezes, and fine.
	2	80	78	05.41	13.32	Do. do. cloudy, with much rain.
	3	80	82	03.28	12.54	Do. do. and clear.
	4	80 $\frac{1}{2}$	82	05.11	11.38	Light do. cloudy, with showers.
	5	80 $\frac{1}{2}$	82	04.39	10.34	Squally, very cloudy, with heavy rain.
	6	82	84	03.52	09.11	Light airs and calms, clear, very oppressive.
	7	80	84	03.35	07.03	Do. do. do. cloudy, with heavy rain.

Year and Month.	Day of Month.	Thermometer.		Latitude at Noon.	Longitude at Noon.	Weather.
		8 a. m.	Noon.			
1823, April	28	85	89	..	..	Strong breezes, passing white clouds.
	29	85	89	..	..	Do. do. cloudy rain last night.
May	30	80	88	..	..	Squally and cloudy, with showers.
	1	85	89	..	..	Moderate breezes and white clouds.
	2	85	89	..	..	Do. do. do.
	3	86	90	..	..	Do. do. do.
	4	86	90	..	..	Do. do. do.
	5	85	89	..	..	Do. do. occasional slight showers.
	6	85	89	..	..	Do. do. do.
	7	84	88	..	..	Do. do. very cloudy, with showers.
	8	85	88	Island of Ascension.		Fresh
	9	84	88	..	..	Do. do. and clear.
	10	84	88	..	..	Do. do. do.
	11	84	89	..	..	Do. do. do.
	12	84	89	..	..	Do. do. do.
	13	85	89	..	..	Squally, occasionally cloudy, with rain.
	14	84	88	..	..	Do. do. do.
	15	84	89	..	..	Fresh breezes, rain in the morning.
	16	83	85	..	..	Strong do. and cloudy, with heavy showers.
	17	80	83	..	..	Squally, very cloudy, with rain.

Year and Month.	Day of Month.	Thermometer.		Latitude at Noon.	Longitude at Noon.	Weather.
		8 a. m.	Noon.			
May	18	80	85	..	..	Strong breezes and clear.
	19	82	86	..	..	do. flying clouds.
	20	82	86	..	..	do. do.
	21	82	85	..	..	do. do.
	22	81	85	..	..	do. do.
	23	81	83	..	..	Moderate do. and cloudy.
	24	81	84	..	..	do. do. very cloudy, with showers.
	25	81	84	..	..	Fresh do. occasionally cloudy.
	26	82	85	..	..	do. do.
	27	82	85	..	..	Strong do. and clear.
	28	83	86	..	..	do. do.
	29	80	84	..	..	do. do.
	30	80	85	..	..	do. do.
June	31	80	85	..	..	do. do.
	1	80	84	..	..	do. do.
	2	80	85	..	..	do. do.
	3	80	84	..	..	Moderate do. do.
	4	79	84	..	..	do. rain in the night.
	5	77	80	..	..	do. do. and cloudy.
	6	79	83	..	..	Strong do. and clear.

Year and Month.	Day of Month.	Thermometer.		Latitude at Noon.	Longitude at Noon.	Weather.
		8 a.m.	Noon.			
1823. June	7	78	84	07.56 S.	14.14 W.	Strong breezes p.m. cloudy, with rain.
	8	78	84	..	..	Do. do. cloudy, with heavy showers.
	9	77	83	..	..	Strong breezes and clear.
	10	76	77	..	..	Do. do. very cloudy, with heavy rain.
	11	77	82	..	..	Do. do. and cloudy.
	12	76	81	..	..	Do. do. cloudy, with showers.
	13	77	76	..	..	Do. do. do. heavy showers.
	14	76	82	..	..	Do. do. occasional showers.
	15	78	84	..	..	Do. do. do.
	16	78	83	..	..	Do. do. cloudy, with showers.
	17	76	83	Island of Ascension.	..	Do. do. do. but dry.
	18	77	83	..	..	Do. do. passing clouds.
	19	77	83	..	..	Moderate do. and clear.
	20	77	83	..	..	Do. do. and cloudy.
	21	77	83	..	..	Strong do. cloudy, with showers.
	22	77	84	..	..	Do. do. and clear.
	23	76	82	..	..	Do. do. cloudy, with showers.
	24	76	83	..	..	Moderate do. and clear, with some rain.
	25	76	80	..	..	Do. do. do.
	26	77	82	..	..	Strong do. cloudy, with showers.

Year and Month.	Day of Month.	Thermometer.		Latitude at Noon.	Longitude at Noon.	Weather.
		8 a. m.	Noon.			
June	27	75	82	..	..	Strong do. cloudy, with showers.
	28	76	81	..	..	Do. do. do.
	29	76	81	..	..	Do. do. flying white clouds.
	30	76	81	..	..	Do. do. do.
July	1	78	82	..	..	Moderate do. and fine.
	2	78	82	..	..	Do. do. do.
	3	78	82	..	..	Do. do. do.
	4	78	80	..	..	Do. do. very cloudy.
	5	76	79	..	..	Do. do. and cloudy.
	6	77	80	..	..	Do. do. cloudy and showers.
	7	76	80	Island of Ascension.		Do. do. cloudy, rain in the night.
	8	77	81	..	..	Do. do. clear, with passing showers.
	9	76	80	..	..	Do. do. do.
	10	75	78	..	..	Light do. very cloudy, with rain.
	11	76	78	..	..	Moderate do. cloudy, with showers.
	12	76	80	..	..	Do. do. do. but dry.
	13	76	80	..	..	Strong do. and clear.
	14	76	80	..	..	Do. do. do.
	15	76	80	..	..	Moderate, very heavy, and cloudy.
	16	76	80	..	..	Strong squalls, with heavy rain.

Year and Month.	Day of Month.	Thermometer.		Latitude at Noon.	Longitude at Noon.	Weather.
		8 a. m.	Noon.			
1823. July	17	76	80	07.56 S.	14.14 W.	Cloudy, with squalls and showers.
	18	76	80	..	..	Do. do. do.
	19	76	80	..	..	Do. do. do.
	20	77	80	..	..	Moderate breezes and very cloudy.
	21	77	78	..	..	Strong breezes and cloudy, with rain.
	22	76	80	..	..	Moderate do. and fine.
	23	76	80	..	..	Cloudy, strong squalls and showers.
	24	76	80	..	..	Do. do. do.
	25	75	80	..	..	Moderate breezes and cloudy.
	26	76	81	..	..	Do. do. cloudy, with some rain.
	27	78	82	..	..	Strong do. flying clouds.
	28	76	82	..	..	Do. do. occasionally cloudy.
	29	76	79	..	..	Strong squalls, cloudy, with rain.
	30	75	79	..	..	Do. breezes and cloudy.
	31	76	80	..	..	Do. do. do.
August	1	76	80	..	..	Strong breezes, with some rain.
	2	76	80	..	..	Do. do. cloudy and hazy.
	3	76	79	..	..	Strong breezes, clear, with passing showers.
	4	76	80	..	..	Do. do. cloudy and hazy.
	5	74½	80	..	..	Do. do. slight showers.

Year and Month.	Day of Month.	Thermometer.		Latitude at Noon.	Longitude at Noon.	Weather.
		8 a.m.	Noon.			
1823. August	6	75	80	Square.	..	Strong breezes with slight showers.
	7	75½	80			Do. do. white clouds, rain in night.
	8	62	74			Do. do. do.
	9	62	74	Green Mountain.	..	Moderate do. clear, heavy rain in night.
	10	61	73			Strong do. cloudy, some rain
	11	79	81			Do. do. clear do.
	12	76	80½	Square	..	Do. do. cloudy.
	13	76	80			Do. do. alternately clear and cloudy.
	14	62	74			Moderate do. very cloudy, with showers.
	15	62	70	Green Mountain.	..	Do. do. do.
	16	64	74			Strong gusts of wind, cloudy, and hazy, with showers.
	17	63	72			Do. do. do.
	18	62	70	..	..	Do. do. do.
	19	60	71			Do. do. do.
	20	64	72			Do. do. do.
	21	74	78	..	..	Strong breezes, very cloudy, some rain.
	22	74	78			Do. do. do.
	23	75	79			Do. do. with showers.
	24	74	79	Square.	..	Do. do. do.
	25	76	79			Do. do. do.

Year and Month.	Day of Month.	Thermometer.		Latitude at Noon.	Longitude at Noon.	Weather.
		8 a. m.	Noon.			
1823. August	26	74	78	26 and 27 Square.		Strong breezes, very cloudy.
	27	74	78			Do. do. and clear.
	28	74	74	06.14	13.50	Do. do. and cloudy.
	29	74	74	04.29	12.05	Moderate do. cloudy, with showers.
	30	73	74	02.59	10.46	Do. do. hazy and clouds, heavy dews.
	31	72	73	01.27	09.21	Light do. do. and cloudless.

On the 2d of June the Bann sailed from Ascension, and I was left behind in charge of the sick of that garrison; on the 26th of August, the Bann arrived at Ascension, and sailed for the coast of Africa on the 27th, when I rejoined her, leaving the garrison in health.

(Signed)

ALEX. STEWART, (2)

Surgeon.

APPENDIX, No. III.

STATE OF THE GARRISON AT THE ISLAND
OF ASCENSION.*Strength of the Garrison when the
fever appeared.*

Major Campbell.
 Lieutenants Blennerhasset.
 Atchison.
 Mr. Thomson, as-
 sistant surgeon.

Corporal and pri- { Mills,
 vates of the Royal { Gulloch,
 Marine Artillery. { Porter,
 { Mead.

Royal Marines.

Serjeants Shea.
 Weston.
 Corporals Palmer.
 Stokes.
 Privates Jackson.
 Wallace.
 Curtis.
 Kennedy.
 Lawson.
 Sharply.
 Richards.
 Dorall.
 Earnest.
 Hollis.
 Adlem.
 Massey.
 Winslew.
 Naylor.
 Chatterton.
 Wilkins.

From the Vigo, }
 26th Nov. 1821. } Brassfield.

From the Bann, { Webb.
 29th July 1822. { Woodhouse.
 { Coles.
 { Mason.

Drummers { Roberts.
 { Guilfoyle.

Died of Fever.

13th of May, Thomas Shea, boy
 twelve years old.
 15th ——— Mrs. Mills.
 17th ——— W. Palmer, corpl.
 18th ——— James Webb, priv.
 19th ——— Henry Shea, serj.
 Wm. Dorall, priv.
 Mrs. Jackson.
 23d ——— Mrs. Stokes.
 24th ——— J. Roberts, drumr.
 25th ——— J. Sharply, private
 28th ——— J. Shea, boy seven-
 teen years old.
 30th ——— J. Jackson private.
 1st of June, W. Coles, do.
 3d ——— J. Kennedy, do.
 4th ——— W. Chatterton.
 6th ——— J. Guilfoyle, drum.
 7th ——— James Hollis, priv.
 8th ——— Zach. Woodhouse.
 12th ——— James Adlem.
 15th ——— Lt. Blennerhasset.
 16th ——— Mrs. Mead.

*From injury of the spine sus-
tained by a fall.*

Private, Mussey.

Of Inanition.

2d of June, the infant of corporal
 Mills, four months old.
 15th of June, the infant of ser-
 jeant Weston, five months old.
 31st of May, the infant of Joseph
 Jackson, six weeks old.

Survived.

Major Campbell.
 Lieutenant Atchison.
 Mr. Thomson
 Corporal Stokes.
 Mills.

*Strength of the Garrison—continued.**Survived.*

Privates Porter.
 ————— Richards.
 ————— Lawson.
 ————— Wallace.
 ————— Curtis.
 ————— Mead.
 ————— Brassfield.
 ————— Earnest.

Serjeant Weston escaped, although the fever existed in his family.

The women and children who recovered, were

Mrs. Earnest.
 Helen Earnest, six
 years old.

Mrs. Weston.
 Betsey Weston seven
 years old.
 Helen Weston, five
 years old.
 ————— Weston, three
 years old.
 Mary Mead, four
 years old.
 Harriet Stokes, two
 years old.

The People residing at Green Mountain.

Privates Gullock.
 ————— Mason.
 ————— Naylor.
 ————— Winslow.
 ————— Wilkins.

Mrs. Wilkins and two children.

APPENDIX, No. IV.

A Table showing the Number of Sick at the Naval Establishment on the Island of Ascension, whose cases are inserted in the Medical Journals, with the Nature of their Diseases, between the 7th of March 1816, and the 7th of May 1823.

Surgeons' Names.	Time.	Disease.	Put on the Sick List.	Discharged to Duty.	Invalided.	Died.
James Gilchrist	18th of March 1816,	} Continued Fever.... {	4	4		
Robert Malcolm	1st of Oct. 1816,		2	2		
John Thomson	8th of March 1819,		1			1
Ditto *	26th of Nov. 1821,		3	3		
			10	9		1
Robt. Malcolm †	7th of Oct. 1817,	Bilious Remt. Fever	11	10		1
Robert Malcolm	14th of Jan. 1818,	} Fever..... {	1	1		
Ditto	7th of Oct. 1818,		1	1		
			2	2		

* Several slight cases of catarrhs, sore throats, and bowel complaints not reported.

† In addition to these numbers, it is stated in the Journal, that a great many other cases of slight fever and dysentery had occurred; in fact, nearly the whole number on the Island had been more or less affected.

Surgeons' Names.	Time.	Disease.	Put on the sick list.	Discharged to duty.	Invalided.	Died.
Robert Malcolm Ditto Ditto James Gilchrist	7th of Oct. 1816, 6th of Oct. 1817	} Dysentery.....{	1	1		
	7th of Oct. 1817, 6th of Oct. 1818		9	5	2	2
	7th of Oct. 1818, 8th of Mar. 1819		1	1		
	11th of Sept. 1819, 29th of Oct. 1820		33	27	1	5
			44	34	3	7
James Gilchrist Ditto	18th of March 1816, 7th of Oct. 1816	} Diarrhœa.....{	2	2		
	30th of Oct. 1820, 26th of Nov. 1821		1	1		
			3	3		
James Gilchrist Robert Malcolm John Thomson	7th of March 1816, 7th of Oct. 1816	} Cholera.....{	1	1		
	7th of Oct. 1817, 6th of Oct. 1818		1	1		
	8th of March 1819, 18th of Sept. 1819		1	1		
			3	3		
James Gilchrist Robert Malcolm Ditto Ditto	18th of Mar. 1816, 7th of Oct. 1816	} Pneumonia.....{	2	2		
	7th of Oct. 1816, 6th of Oct. 1817		1	1		
	7th of Oct. 1817, 6th of Oct. 1818		2	1	1	
	14th of Jan. 1818, 1st of Mar. 1818		1	1		
			6	5	1	

Robert Malcolm	7th of Oct. 1816,	6th of Oct. 1817	} Chronic Hepatitis ... {	1			1
Ditto	7th of Oct. 1817,	6th of Oct. 1818		1			1
James Gilchrist	15th of Mar. 1816,	7th of Oct. 1816		1			1
Ditto	11th of Sept. 1819,	29th of Oct. 1820		21	13		7
				24	13		1
Robert Malcolm	14th of Jan. 1818,	1st of Mar. 1818	} Rheumatism {	1	1		
Ditto	7th of Oct. 1818,	8th of Mar. 1819		3	2		1
John Thomson	8th of Mar. 1819,	18th of Sept. 1819		2	1		1
				6	4		2
Robert Malcolm	7th of Oct. 1816,	6th of Oct. 1817	Apoplexy Epilepsy Paralysis Ophthalmia Asthma Vertigo Inguinal Hernia Fistula Lachrymalis Coup de Soliel	1			1
Robert Malcolm	7th of Oct. 1817,	6th of Oct. 1818		1			1
Robert Malcolm	7th of Oct. 1818,	8th of Mar. 1819		1	1		
James Gilchrist	30th of Oct. 1820,	26th of Nov. 1821		1	1		
Robert Malcolm	14th of Jan. 1818,	1st of Mar. 1819		1			1
Robert Malcolm	7th of Oct. 1817,	6th of Oct. 1818		1			
Robert Malcolm	14th of Jan. 1818,	1st of Mar. 1819		1	1		
Robert Malcolm	14th of Jan. 1818,	1st of Mar. 1819		1	1		
Robert Malcolm	7th of Oct. 1817,	6th of Oct. 1818		1	1		
				1	1		
James Thomson	8th of Mar. 1819,	18th of Sept. 1819	} Pulmonic Inflam. {	1	1		
Ditto	26th of Nov 1821,	7th of May 1823		1	1		
				2	2		

Surgeons' names.	Time.	Disease.	Put on the sick List.	Discharged to Duty.	Invalided.	Died.
James Thomson	26th of Nov. 1821, 7th of Mar. 1823	Scurvy	3	3		
Robert Malcolm	7th of Oct. 1817, 6th of Oct. 1818	} Fracture	1			
Ditto	7th of Oct. 1818, 8th of Mar. 1819		1	1		
James Gilchrist	30th of Oct. 1820, 26th of Nov. 1821		1	1		
			3	2		
Robert Malcolm	7th of Oct. 1817, 6th of Oct. 1818	} Wounds and accidents	1	1		
James Gilchrist	11th of Sept. 1819, 29th of Oct. 1820		1	1		
John Thomson	26th of Nov. 1821, 7th of May 1823		1		1	
			3	2	1	
James Gilchrist	18th of Mar. 1816, 7th of Oct. 1816	Other complaints...	3	3		

APPENDIX, No. IV.—CONTINUED.

ABSTRACT.

Disease.	Put on the sick List.	Discharged to Duty.	Invalided.	Died.
Continued Fever	10	9	—	1
Bilious Remittent Fever ..	11	10	—	1
Fever	2	2	—	—
Dysentery	44	34	3	7
Diarrhœa	3	3	—	—
Cholera.. .. .	3	3	—	—
Pneumonia.. .. .	6	5	1	—
Chronic Hepatitis	24	13	10	1
Rheumatism	6	4	2	—
Apoplexy	1	—	—	1
Epilepsy.	1	—	1	—
Paralysis.	1	1	—	—
Ophthalmia.. .. .	1	1	—	—
Asthma.. .. .	1	—	—	1
Vertigo.. .. .	1	—	1	—
Inguinal Hernia.	1	1	—	—
Fistula Lachrymalis.	1	1	—	—
Coup de Soliel	1	1	—	—
Pulmonic Inflammation. . .	2	2	—	—
Scurvy	3	3	—	—
Fracture.	3	2	—	—
Wounds and Accidents. . .	3	2	1	—
Other Complaints	3	3	—	—
Total	132	100	19	12

APPENDIX, No. V.

Extract from the Journal of Mr. Robert Malcolm, Assistant Surgeon of his Majesty's Naval Establishment at Ascension Island, between the 7th of October 1817, and the 6th of October 1818.

1st of June 1818, Henry Lambert, cook, ætat. 20, was suddenly seized this morning with violent delirium and convulsive spasms of the muscles of the extremities; tongue loaded with tremulous motions of it and the lips; countenance flushed, pulse full and strong. He was bled from the arm to fourteen ounces, with very considerable relief; and afterwards took a dose of sulphate of soda; he rejected the salts about a quarter of an hour after they were taken, with a great quantity of viscid bile. At 11 A. M. complains of a burning heat and pain in the region of the stomach, violent head-ache, and vomiting; abdomen tense, and full.—6 P. M. has had two liquid bilious stools, and is now lying on his back in a state of stupor, with his mouth and eyes half open, tongue yellow and furred, pulse quick and small. The bleeding was repeated to twenty-five ounces, which appeared to produce very little effect. At 8 P. M. had him immersed for ten minutes in a warm bath, his head shaved, and blistered; a scruple of calomel, with two grains of opium, and the same quantity

of camphor, were administered.—2d of June, passed a restless delirious night; at six this morning, he was seized with a convulsive vomiting of a matter a good deal resembling bile, which neither the effervescing draught, nor the internal and external use of opium would check; skin cold and clammy and becoming yellow fast, pupils contracted, pulse small and fluttering; he gradually sunk into a low muttering delirium with occasional convulsions, and grasped at imaginary objects; his urine and stools were passed involuntarily; and at 2 P.M. he was carried off by an effort to vomit—an intolerable foetor arose from the body immediately after death.

—♦—

APPENDIX, No. VI.

An Extract from the Caroline's Log, from the 2d of November 1822, to 13th of May 1823.

Anchored at Free Town, the 2d of November 1822.

9th. The 2d Lieutenant of the Driver came on board with a file of marines, and took five men to prison who had mutinied.

12th. Proceeded up the river—heavy rain.

13th. Came to an anchor off Tomboo Island.

16th. Anchored off the Factory of Tomboo Island—weather sultry and calm.

25th. Began to take in timber.

26th. Five seamen deserted, viz. Weaver, Glassey, Burton, Chard, and Willis.

27th. They returned.

29th. Weaver entered into His Majesty's service.

30th. A boy died on board (it is said with brain fever), and was interred at Tamboo.

December 4th. One of the crew, named Windship, sent sick to the hospital.

7th. Six more of the crew sent to the hospital, viz. Willis, Hughes, Fradsban, Buck, 2d mate, Holden, boy, and the cook.

11th. Shifted birth to Parrott Island.

12th. Two seamen sick, and six Kroomen.

15th. Chief mate and Joseph Burton sent sick to the hospital—two sick on board.

18th. Three men sick—Burton returned to duty.

19th. Seven Kroomen sick.

23d. Ten do. do.

24th. One of the Kroomen died.

26th. Arthur Chard and George Broad died on board—three men sick, with sixteen Kroomen, which were all the hands on board, except the master.

27th. Three men sent to hospital.

29th. Six Kroomen well, out of twenty.

30th. No duty done, the crew being all sick except the master.

(From this time to the 7th of January 1823,

no one worked on board, the whole crew being too ill.)

January 7th, 1823. Began again to receive timber—only ten Kroomen sick.

28th. Ship drove on shore from her anchors, and was got off by the assistance of other vessels.

February 8th. Weighed and came to an anchor off Benn's Island, on her passage to Free Town.

11th. Came to an anchor off Free Town, having struck on several rocks and banks, coming down; the ship had at one time eight feet of water in the hold, making 14 inches in 24 hours.

12th. The chief mate and Willis returned from the hospital.

13th. Holden returned from the hospital.

20th. Angelo ditto.

21st. J. Stowe, an invalid, came on board from the Bann for a passage home.

22d. An invalid (Dowling) came from the Cyrene for the same purpose.

28th. James Whitlock, an invalid from His Majesty's service, came on board for England.

March 4th. Sent the second mate to the hospital.

6th. All the Kroomen deserted.

10th. James Whitlock expired in a fit.

13th. Anchored in Cockle Bay.

15th and 16th. Fresh winds, with a heavy sea setting into the bay. Ship labouring and straining very much, making a great deal of water. Two men sick, and both pumps at work.

17th. A short cross sea heaving into the bay.

People employed at the pumps, eight feet of water in the hold. People completely exhausted through constant duty at the pumps.

18th. Two men sent to the hospital, ten feet of water in the hold, nineteen Kroomen came on board.

19th. A boat's crew from the Bann came on board, weighed, and ran up to Free Town ; eighteen men at the pumps, exclusive of the ship's crew.

21st. Two men deserted from the ship.

22d. A survey held on the ship by several of His Majesty's officers and merchants of Sierra Leone.

24th. Began to unload.

27th. Two men deserted.

May 5th. Dropped down to Cockle Bay.

6th. Sailed.

8th. Disposed of the dead men's effects to the crew.

9th. Threw a quantity of dead men's effects overboard, in consequence of the same having a very offensive smell—heavy rain.

13th. One man says he is sick—examined by the doctor, who reported him in good health.

THE END.

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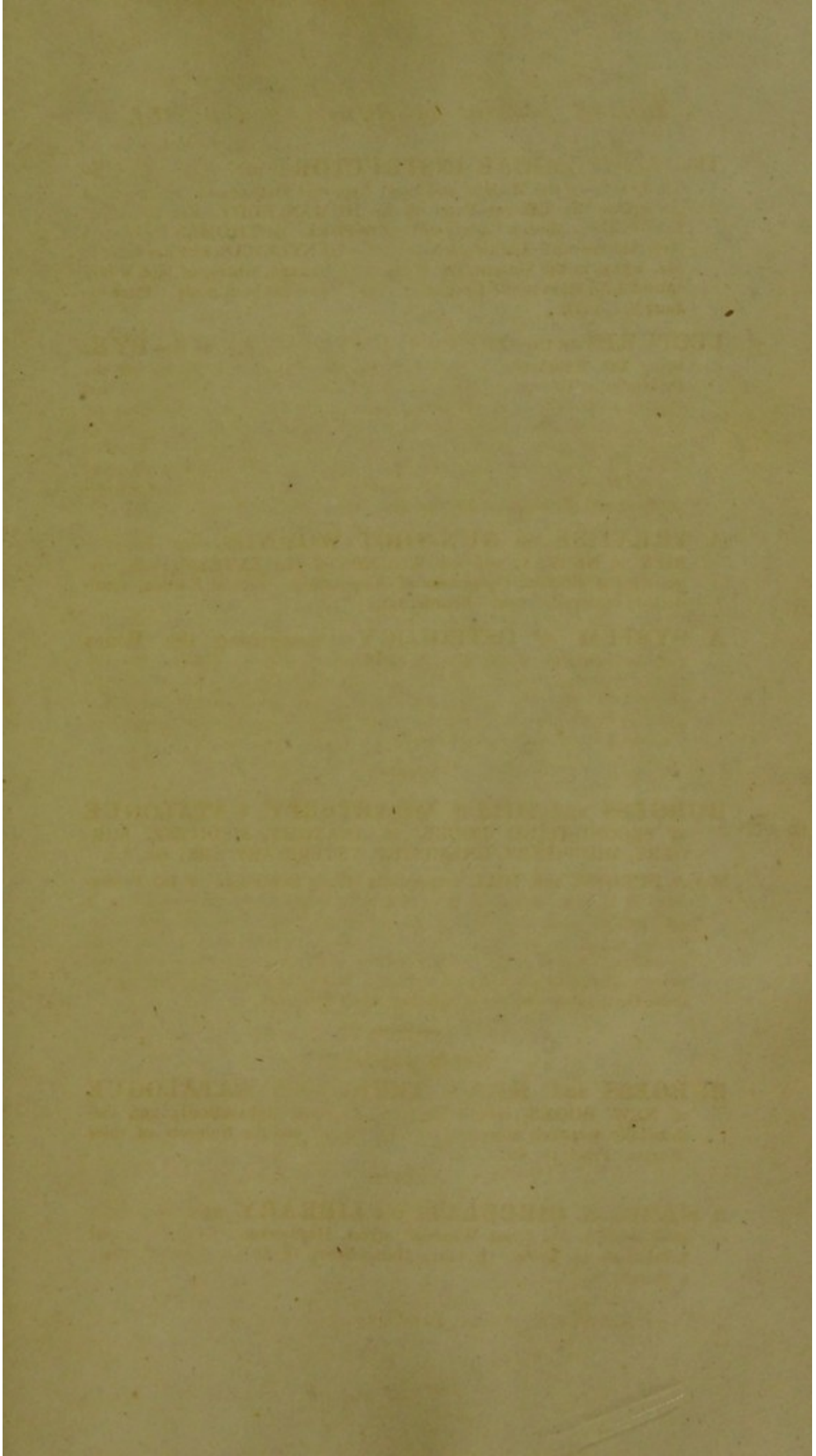
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