

Further observations on that portion of the second report on quarantine by the General Board of Health, which relates to the yellow fever epidemic on board H.M.S. Eclair, and at Boa Vista in the Cape de Verde Islands / by J.O. M'William.

Contributors

MacWilliam, John Ormiston, 1808-1862.
Royal College of Surgeons of England

Publication/Creation

London : Printed by William Tyler, 1852.

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FURTHER OBSERVATIONS

ON THAT PORTION OF THE

SECOND REPORT ON QUARANTINE

By the General Board of Health,

WHICH RELATES TO THE

YELLOW FEVER EPIDEMY

ON BOARD H. M. S. ECLAIR,
AND AT BOA VISTA IN THE CAPE DE VERDE ISLANDS.

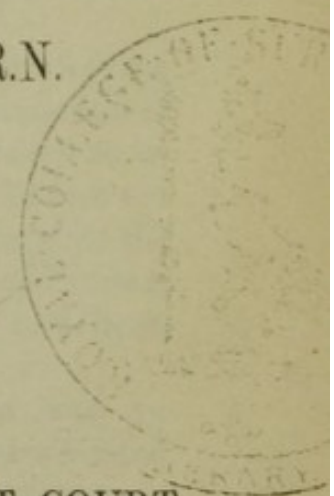
BY

J. O. M'WILLIAM, M.D., F.R.S., R.N.

MEDICAL INSPECTOR H. M. CUSTOMS.

LONDON :
PRINTED BY WILLIAM TYLER, BOLT-COURT.

1852.



THE UNIVERSITY OF CHICAGO

ANNUAL REPORT ON OPERATIONS

OF THE UNIVERSITY OF CHICAGO

THE UNIVERSITY OF CHICAGO

FOR THE YEAR 1900

CHICAGO: THE UNIVERSITY OF CHICAGO PRESS, 1901.

OBSERVATIONS,

&c.

I had imagined, that all doubt regarding the real nature of the epidemy that prevailed at Boa Vista, during the years 1845-6, had long since been at an end; and it can scarcely be said, that this conclusion was arrived at either hastily or unwarrantably.

My Report "On the Fever at Boa Vista," was delivered to Sir William Burnett, a few days after my arrival in England from the Cape de Verdes, in the month of September, 1846, and was laid before the Lords Commissioners of the Admiralty on the 30th October, of the same year, with a letter from the Director-General, in which he stated, that he "could not arrive at the conclusion, that the fever was occasioned by the intercourse with the Eclair."

The Report, and the letter of Sir William Burnett, having been presented to the House of Commons, in pursuance of their address of the 16th March, 1847, were ordered to be printed. And both documents being thus brought before the Profession, were very prominently and fully reviewed in the leading medical journals of the United Kingdom, of France, and of America, the greater number of which had been hitherto opposed to the contagion of yellow fever.

On the Boa Vista question, however, there was an unanimity of opinion, almost, if not wholly, unprecedented in a case of this kind; for, with one very qualified exception,

the justice of my conclusions was confirmed by the united voice of the medical Press.(a)

I need scarcely add, that Sir William Pym, the Superintendent-General of quarantine, adopted the views contained in my Report, with the exception of that in which I considered the yellow fever of the Eclair to be an exaltation of the common endemic remittent of the west coast of Africa.

Upon the presentation of the Report of Dr. King "on the Fever at Boa Vista," to the House of Commons, in return to their address of February 4, 1848, the discussion of the subject in the public journals was renewed, and my Report was again subjected to a severe sifting. Dr. King's con-

(a) "We have adopted the evidence of Dr. M'William, because we have felt bound to give credence to what is honestly and candidly stated by an observer, who must have felt the immense responsibility that rested upon him in drawing up his Report.—If we had wished to have tried a great experiment on this subject, with all available precaution, and with all the aids against fallacy that imperfect human reasoning can furnish, it would have been difficult to have devised any more complete and conclusive than that which accident, or, we should say—if it be not profane to judge of the arrangements of the universe—a providential accident, has furnished us in the case of Boa Vista."—*British and Foreign Medico-Chirurgical Review*, Vol. I., page 60.

"We have carefully examined the evidence collected by Dr. M'William, and we now unhesitatingly assert, that the above conclusions flow as legitimately from the premises, as moral reasoning will admit of."—*Dublin Quarterly Journal of Medical Science*, No. XV., p. 192.

"Upon a review of all the evidence adduced in the Report before us, there cannot be a reasonable doubt as to the contagious character of the disease that prevailed at Boa Vista: nor do we think it will be questioned, that the infection was introduced into the island by the sick landed from on board the Eclair."—*Hays's American Journal of the Medical Sciences*, No. XXVIII., p. 427.

There is not room for further extracts, but the exception must not pass without notice:—

"Although we are not convinced by Dr. M'William's reasoning as to the origin of the Boa Vista epidemic in the Eclair, we are, nevertheless, bound to acknowledge, that he has exhibited very great knowledge and practical acumen throughout the investigation, and has drawn up a Report which testifies strongly to his abilities, and redounds greatly to his credit.

"— The symptoms and subsequent progress of the epidemic, after its outbreak in Beira Row, clearly demonstrate its identity with yellow fever, and its infectious nature.

"— Dr. M'William appears clearly to have traced the transmission of the fever to the inhabitants of the other villages in Boa Vista, either by communication with the sick, or by the arrival of persons under the influence of the fomites of fever."—*Lancet*, New Series, Vol. II., pp. 496—498.

clusions were wholly opposed to mine, although our main facts were the same. His views met with no sympathy (so far as I have seen) from the public press, as they were universally declared to be untenable upon the evidence which he himself had supplied. Instead of burdening this communication with extracts from the various reviews, I shall only make the following quotation from a journal that has consistently opposed the doctrine of contagion as applied to yellow fever, which will serve to convey the general opinion of the press regarding Dr. King's Report:—

“After the most careful examination of the subject, as presented by these several documents, we are constrained to confess very candidly, and, we admit, somewhat reluctantly, that Dr. King has failed in his attempt to invalidate the conclusions of Dr. M^{William}, logically deduced from a connected series of well-defined facts. If it be possible to prove the communication of a disease by contagion, the facts presented by this gentleman, and not disproved by Dr. King, prove, that the fever which occurred in Boa Vista was introduced by the sick from on board the *Eclair*, and communicated from individual to individual, until it finally extended to the mass of the population.”(a)

It even appeared, that Sir William Burnett could discover no support in Dr. King's Report to his dissent from my conclusions, as it was not, on being presented to Parliament and printed, accompanied by any comments from the Director-General.

On the 10th of August, 1849, a Board of medical officers was convened by order of His Grace the Commander-in-Chief, for the purpose of investigating and giving an opinion on each of the following points:—

“1st. Is yellow or Bulam fever a distinct disease, or only an aggravated form of the marsh or remittent fever of warm climates?”

“2nd. Does one attack of yellow, or Bulam fever, give, like small-pox, immunity from a second attack, except in very rare instances?”

“3rd. Is yellow or Bulam fever a contagious disease?”

“4th. Is yellow or Bulam fever capable of being imported?”

(a) Hays's American Journal of the Medical Sciences, No. XXXIII. p. 141.

The Board was constituted as follows :—

President, Dr. And. Smith, Deputy-Inspector-General of Hospitals; Dr. Thomas Spence, staff-surgeon, 1st class; John Millar, Esq., staff-surgeon, 1st class; Dr. W. H. Burrell, staff-surgeon, 1st class; Henry Pilleau, Esq., staff-surgeon, 2nd class.

The Board assembled on the 10th of August, 1849, and continued, by adjournments, to the 16th of April, 1850.

At the first sitting it was resolved,—

“ First, To attentively read and examine all official or other documents available and likely to elucidate the subject to be investigated.

“ Secondly, To receive oral evidence of army medical officers and other persons competent to furnish information on the points in question.

“ And, lastly, After having accomplished the foregoing, then to determine the time which will be necessary to enable the Board to form their opinion, and furnish their replies to the questions proposed.”

One hundred and twelve sittings, averaging three hours each, were occupied in reading documents, published opinions, and receiving oral evidence; and two months were found necessary for the purposes specified in the last resolution.

The respective opinions of the President and members were found to be as follow :—

As regards the first question,—

“ The President and three members, namely, Dr. Spence Mr. Millar, and Mr. Pilleau, are of opinion, that the yellow or Bulam fever is a distinct disease, etc.

“ The fifth member, Dr. Burrell, is of opinion, that the yellow or Bulam fever is an aggravated and occasional form of the ordinary fevers, continued, remittent, and sometimes intermittent, etc. etc.”

As regards the second question,—

“ The President and one member (Mr. Pilleau) consider, that one attack of yellow or Bulam fever does give immunity from a second attack, except in rare instances. A third member (Dr. Spence) is of opinion, that an attack of yellow or Bulam fever protects the constitution very greatly from liability to a second; but the exact extent requires further observation. A fourth member (Mr. Millar) considers, that

one attack of yellow fever does give, like small-pox, immunity from a second attack, except in very rare instances. And the other member (Dr. Burrell) is of opinion, that an attack of yellow or Bulam fever, like length of residence, enables the constitution to resist, to a considerable extent, a recurrence of fever in the same form, but gives little or no protection against what he considers other forms of the same disease, or those which attack the acclimated."

As regards the third question,—

"The President and two members (Dr. Spence and Mr. Pilleau) are of opinion, that yellow or Bulam fever has frequently manifested a contagious power; and that on many occasions the contagious power, if in existence, could not be detected by the most careful observation. One member (Mr. Millar) is of opinion, that yellow or Bulam fever is a contagious disease. And the other member (Dr. Burrell) considers, that nothing sufficient has been adduced before this Board to determine affirmatively a question of so much importance to humanity and science; and believes the yellow fever to be absolutely and universally non-contagious."

As regards the fourth point,—

"The President and three members (Dr. Spence, Mr. Millar, and Mr. Pilleau) are of opinion, that yellow or Bulam fever is capable of being imported. The other member (Dr. Burrell) is of opinion, that yellow or Bulam fever is not capable of being imported."

(Signed by the President and Members.)

[The above contains the substance of the proceedings of the Board.]

On the 31st December, 1850, the Royal College of Physicians of London delivered a Report to the Lords of Her Majesty's Most Honourable Privy Council, respecting the Bulam, or yellow fever, which had been drawn up by the President and Fellows of the College in consequence of a communication from their Lordships.

The points investigated by the College were as follow:—

"1. As to the Bulam fever being *sui generis*, and distinct from remittent or the marsh fever of warm climates.

"2. As to its being an infectious disease; that is, communicable from person to person, and likewise capable of being imported.

“ 3. As to the non-liability of persons to a second attack of that disease.

“ After a very careful consideration of all the facts and arguments adduced on both sides, with reference to the first question proposed, the College are of opinion, that sufficient grounds have not been laid for stating, that “ yellow fever ” is a disease *sui generis*.

“ With regard to the second question, it appears to the College to be sufficiently proved, that this disease is, under certain circumstances, infectious, and, consequently, that it may be imported.

“ The principal circumstances under which the infectiousness of this disease is likely to be developed, would seem to be a high temperature and moisture of the atmosphere, particularly in unhealthy seasons, and when the influence of these causes is aggravated by local insalubrity of site, and by the absence of free ventilation.

“ That the disease has been in some instances imported, the history of the epidemic fever which occurred in Her Majesty’s ship *Eclair*, and at *Boa Vista* in 1845, affords conclusive evidence.

“ The third question proposed respecting the non-liability of persons to second attacks, does not admit of being settled in a decided manner. Strictly speaking, there is no disease of which it can be affirmed, absolutely, that one attack renders a persons insusceptible of a second.

“ The College are unwilling to conclude their Report without strongly recommending to their Lordships, that, on any future appearance of this formidable malady, persons should be sent out, thoroughly qualified by education and by habits of observation, to collect evidence on the important questions which have now been proposed to the College. This was done in the case of the *Eclair*, and most valuable information was thus obtained.

(Signed)

“ FRANCIS HAWKINS, M.D., Registrar.

“ Royal College of Physicians,
December 31, 1850.”

The latest investigation into the circumstances connected with the epidemy of the *Eclair* and *Boa Vista* is that which occurs in the “ Second Report on Quarantine,” recently presented to Parliament by the General Board of Health.

The professed object of this investigation is to set aside the conclusions of the Royal College of Physicians and those of the Committee of Army Medical Officers, as well as the opinions of the Medical Press in this country and elsewhere; for, at page 189, "Report on Quarantine," it is stated, that, as "the case of the *Eclair*, and the history of the epidemic fever which occurred at Boa Vista in 1845, have been declared by high medical authority to afford 'conclusive evidence that yellow fever is sometimes imported,' it will, therefore, be necessary to give a careful examination of the circumstances relative to that epidemic;" and at pp. 115-116, "A consideration of these circumstances has satisfied most of those who have inquired into the case, that the arrival of the *Eclair* at Boa Vista with fever among her crew, and the almost contemporaneous occurrence of a similar disease on the island, were mere coincident events.

There is, in this language, coming as it does from a Board consisting of two lay members and one medical member, a tone of assumption, if not of disrespect, towards the Royal College of Physicians, the Committee of Army Medical Officers, and others, (who from their education, habits, and professional eminence, must be held as at least equally competent with the General Board of Health to make a "careful examination" of the occurrences in the *Eclair* and at Boa Vista,) unjustifiable under any circumstance, but peculiarly unbecoming of any public Board when making allusion to other Boards, more especially when the respective positions and acquirements of the parties in question are duly considered.

When I first heard that yellow fever was to form the subject of this Report, I could not (judging from the first Report on Quarantine from the same Board) but expect that the doctrine of contagion would be unsparingly, if not unreasonably assailed. I was not, however, prepared for the omission, in a public document, of facts indispensable to a just and correct exposition of the case, or for the numerous mis-statements which are to be found in that part of the "Report on Quarantine," which professes to treat of the *Eclair* and Boa Vista epidemic.

At the very outset of any inquiry into the epidemic at Boa Vista, there is one point that demands a clear and satisfactory adjustment, viz., the condition of health of Boa Vista, and of

the other islands of the Cape de Verde groupe, previously to the arrival there of the *Eclair*, with her crew suffering from yellow fever. It is further indispensable, to ascertain with precision the state of health of those other islands after the arrival of the *Eclair*, and the invasion of Boa Vista by the same disease; inasmuch as it is stated, in the "Second Report on Quarantine," page 110, that "in the adjoining island, Porto Praya (San Jago), there was yellow fever while the ship (*Eclair*) was at Boa Vista. Captain Simpson states, that it "recurred in the following year at Porto Praya, is common there at times, and quite endemic."

And doubtless, could it have been proved, that yellow fever had broken out on San Jago, independently of any source of importation, contemporaneously with the appearance of the same disease at Boa Vista, then there would have been grounds for supposing that it might also have originated spontaneously at Boa Vista, and that the arrival of the *Eclair* with yellow fever, and the outbreak of this disorder at the latter island, were mere coincident events.

By the concurrent testimony of all I interrogated on the subject,—and they included the most intelligent among the natives and Europeans at the Cape de Verde, and of all who were afterwards examined by Dr. King,—Boa Vista was quite healthy before the arrival of the *Eclair*.(a)

It is equally certain, that yellow fever had never before been known at Boa Vista—at all events, within the memory of any person living.

The assertion, that yellow fever was at Porto Praya (San Jago) at the period of the arrival of the *Eclair* at Boa Vista, or during the prevalence of the epidemy on the latter island, is so completely refuted in the documents in the possession of the authors of the "Report on Quarantine," that I cannot help expressing my astonishment that they should have repeated it in their Report.

In my Report (p. 108), I took leave, after due inquiry at the Cape de Verde, to deny the correctness of this statement, which is contained in Dr. Stewart's Report, ("Admiralty

(a) "It does not appear from the statements of the people, whether of the better or the lower classes of society, that fever was prevalent at Boa Vista at the time the *Eclair* arrived there, in August, 1845; and they are equally positive as to the healthiness of the other islands."—Dr. King's Report, p. 3.

Correspondence," p. 88.) (a) At p. 14 of the "Remarks on Dr. King's Report," I cited the testimony of Dr. Antonio José Nunes, Surgeon of the Artillery at San Jago, (of which island Porto Praya is the capital,) who came direct from that place to Boa Vista during the prevalence of the yellow fever epidemic there. Dr. Nunes pronounced distinctly, that the disease at Boa Vista was yellow fever, and "*quite different from those fevers which he saw every year at Porto Praya.*" (b) This, then, is the evidence of an officer who came to Boa Vista from the very spot where yellow fever is alleged to have prevailed at the time, but of which no notice is taken in the "Report on Quarantine." Again, in my "Remarks on Dr. King's Report," p. 10, there is an extract of a letter from the Governor-General to Dr. King, dated December, 1846, in which His Excellency says: "Never a fever with equal symptoms visited these islands before the arrival of the unhappy Eclair at Boa Vista."

The addition of strength to the evidence already published, refuting the existence of yellow fever at Porto Praya at the period in question, is scarcely necessary. I may, however, be allowed to quote the following passage from a letter addressed to me by the late Mr. Macaulay, Commissioner, Judge, etc. at Boa Vista, dated at San Nicolas, March 30th, 1846. Dr. Stewart says, p. 4, (c) "*In the adjoining island, Porto Praya, there was yellow fever while the Eclair was at Boa Vista.*" This statement is entirely erroneous. There neither is, nor has been, one case of yellow fever at San Jago, or any of the islands, except at Boa Vista, and then only since the departure of the Eclair."

With regard to the statement of Captain Simpson, of the Rolla, it is quite evident to me, that he has confounded the endemic remittent of Porto Praya with yellow fever. That there could have been no yellow fever there at the time

(a) The Report of my friend, Dr. Stewart, was written in London; and upon what grounds he made this statement, I am not yet aware. My refutation of it was grounded on information obtained at the Cape de Verds, and the names of my authorities are given at p. 108, "Report," and at p. 14, "Remarks."

(b) Dr. Nunes's letter is dated at "Villa da Praya," Cape de Verde, March 6, 1847. He adds: "The fevers of Porto Praya take place only in the rainy season, and they are always the same, intermittent or remittent."

(c) Manuscript Report of Dr. Stewart, given me before I proceeded to the Cape de Verde.

stated by him, has been already shown by the testimony of the Governor-General, as well as by that of the surgeon of artillery at Porto Praya.

If further proof of the immunity of Porto Praya from yellow fever, at either of the periods in question, were wanting, it is to be found in the following extract from a letter lately received from Mr. George Miller, one of the best educated, most intelligent, and keen observers whom I have ever met. He says :—“ With respect to the statement, that yellow fever prevailed at San Jago while the Eclair was at Boa Vista, or while the fever raged there, I am in a position to say positively and most unequivocally, that it is untrue. I was at Porto Praya frequently during the period of the Boa Vista calamity ; and it so happens, that I was also there during the whole stay of Captain Simpson, of the Rolla. From 1838 to 1850, I visited Porto Praya at least twice a-year ; sometimes, indeed, three and four, and even five times a-year. I never saw, nor have I ever heard of, a case of yellow fever there ; and I am as morally certain that I should have heard, had any such case existed, as I can be of anything. Indeed, there is no record of yellow fever ever having prevailed at San Jago, or at any of the other islands, except at Boa Vista, in 1845-46. I was at some pains to satisfy myself on this head in 1846, when I visited every one of the islands, except St. Vincent. I made it my business personally to seek information on this matter, from the oldest and most intelligent of the inhabitants of each of the islands. I could learn of small-pox being imported in slave-vessels, and of the prevalence, in particular years, of endemic remittent ; but every one ignored the existence ever of yellow fever and black vomit. Intermittent fever is common, more or less, to all the Cape de Verds ; and every year, about the second month of the rains, a few cases, in some part or other of these islands, manifest themselves.”

I think it is clearly evident, that the statement in the “ Report on Quarantine,” regarding the alleged prevalence of yellow fever at Porto Praya, when the Eclair arrived at Boa Vista, or while the same fever devastated Boa Vista, must fall before the force of truth ; and as the authors of that Report declare the *assumed fact* of the existence of yellow fever at Porto Praya, at the periods in question, to be “ most material to a right understanding of this whole sub-

ject," they cannot but consider the *demonstrated fact of its non-existence* at those periods as equally important to that desirable end.

No notice whatever is taken, in the "Report on Quarantine," of the case of the lamented Dr. M'Clure, who was seized with his fatal illness (fever, with black vomit) the day (Sept. 13, 1845) on which the Eclair and Growler sailed from Boa Vista. This excellent and devoted medical officer, recently promoted after service on the west coast of Africa, was on his way home in the Growler when that vessel arrived at Boa Vista, on the 6th September, and found the sick crew of the Eclair landed at the fort in the small island. On the 8th, he relieved Mr. Maconchy, the surgeon of the Eclair, now almost worn out by his overwhelming duties among the sick at the fort. On the 13th, Dr. M'Clure was attacked with fever, having, for the first time, been on board the Eclair for a few minutes on the previous day, the sick being then re-embarked. In the previous March, the Growler had left the Coast for the Cape de Verd Islands, where the health of the ship's company was recruited, and had returned to the Gallinas and Sherbro' in April, and remained there until July, cases of fever continuing to occur from the consequences of exposure. The crew of the vessel had been quite healthy, with the exception of the gunner, and part of a boat's crew suffering from the common fever of the Coast, for between two and three months before her arrival at Boa Vista.

Sir William Burnett, who cannot be charged with any undue leaning to contagion, clearly admits, that the attack of Dr. M'Clure was due to his intercourse with the sick of the Eclair at the fort. The Director-General thus expresses himself, (when speaking of the fort,) in a letter addressed to the Secretary of the Admiralty, (Correspondence," p. 55) :—"It is necessary I should add, that a fever, not originally of a contagious nature, may become so, when the sick are crowded together in a small, ill-ventilated place. Hence the attack of Dr. M'Clure," etc.(a)

It is now time to proceed to the consideration of the cases

(a) "Dr. M'Clure went direct from the Growler to the fort, without having gone on board the Eclair," (he was on board a few minutes.—J. O. M'W.) "and at once entered on his medical duties among the sick located there. In less than three days he was attacked with the disease,—pretty

of the two European soldiers at the fort, as they constitute the first link in the chain of evidence connecting the outbreak of yellow fever at Boa Vista with the sick of the Eclair. At page 102, "Report on Quarantine," these attacks are thus accounted for: "Two European soldiers lately arrived in the colony, and, therefore, peculiarly predisposed to an attack of endemic fever, go from Boa Vista, which at that time was healthy, to a confined, unventilated, overcrowded, and filthy spot, on another island, where fever was raging to such a degree, that, within the space of three weeks, there had occurred not less than 60 attacks, and 33 deaths, in a crew consisting, on the arrival of the ship, of 117 officers and men. We submit, that this is no evidence of the propagation of disease by a specific contagion. On the contrary, it is the ordinary production of it by its ordinary cause; namely, exposure to a polluted atmosphere, the pollution being, in this instance, excessive from overcrowding," etc.

Now, in the first place, it is not quite correct to say, that the soldiers had lately arrived in the colony, for they had been thirteen months in the Cape de Verds, and had, consequently, passed through all the changes incident to the annual rotation of the seasons. However, granting, as I have elsewhere done, their "predisposition to an attack of endemic fever," it must at the same time be recollected, that yellow fever, with which they were attacked, and of which they died, was not an endemic of Boa Vista, this disease having never, within the memory of man, been known there before the arrival of the Eclair. The epidemical constitution of the atmosphere is not invoked by Dr. King earlier than the end of September or beginning of October; nor is it assumed, in the "Report on Quarantine," to have had an earlier existence; for the seizure of the soldiers is attributed, not to an endemic, but to an accidental cause; namely, their breathing a local atmosphere "excessively polluted" by overcrowding, etc.

Now, it is fully admitted, that the place was crowded by a ship's crew labouring under yellow fever, which had cer-

clear evidence, notwithstanding his having been at Sierra Leone, that the fever had become contagious.—*Origin, Spread, and Decline of the Epidemic Fevers of Sierra Leone, etc., etc., etc., by Dr. Bryson, p. 134.*

tainly not been generated, although there is reason to believe that it had become more malignant in character, there. It is admitted, that the soldiers came from a healthy atmosphere to another atmosphere rendered unhealthy, not by a general, but by a local, source of pollution; namely, the congregation of persons labouring under yellow fever, and that the result was, that they (the soldiers) became affected with the same disorder. It is denied, in the "Report on Quarantine," that the attack of these soldiers affords any "evidence of the propagation of a disease by a specific contagion; but it is allowed, that their seizure was owing to their inhaling the atmosphere, rendered morbid by the sick crew living; and it may be added, dying at the fort: in other words, by exhalation or effluvia proceeding from their bodies. If these admissions be adopted by the authors of the "Report on Quarantine," nothing further seems necessary to prove the communication of the disease to the healthy soldiers by the sick crew of the Eclair. If, on the other hand, they be denied, then it is incumbent upon the authors of the "Report," not only to prove that yellow fever was an endemic of Boa Vista, but that the endemial cause was in operation at the time the soldiers were attacked, or that the soldiers would have been seized with yellow fever, had the Eclair's crew been congregated as they were at the fort, but without any such disease prevailing amongst them. (a)

The next link in the chain, the attack of the negro soldier, is accounted for in the "Report on Quarantine,"

(a) Dr. Hosack, of New York, when speaking of cases of this kind forty years ago, very justly observes: "The visitor or attendant contracts disease from one of two sources, either from the filth of the sick room, or from a specific something issuing from the body of the sick,—the consequence of the peculiar disease under which he labours. If a person visiting another ill of the Yellow Fever or Plague derives his disease from the impure atmosphere of the apartment, I ask how it happens that in all instances he contracts the same disease with that of the person whom he visits? Why, is his disorder not an intermittent, a remittent, jail fever, or dysentery, which are considered the usual produce of filth? If he derives anything specific from the sick, his disease is then assuredly not to be considered as occasioned by the atmosphere, but depending on the peculiar condition of the fluids, or state of the system induced by the action of a specific poison; in other words, it is to be considered a contagious disease.—*American Medical and Philosophical Register*, vol. ii. pp. 15, 16.

in the same manner as are the attacks of the European soldiers.

Before advancing to the third link in the chain, (the attack of Anna Gallinha) it seems advisable to take some notice of the state of the weather before this period, and of a murrain among the cattle at Boa Vista, alleged to have existed coincidentally with the epidemy on that island.

In my Remarks on Dr. King's Report, p. 6, I stated that, from the evidence of Mr. Macaulay, the Consul, Mrs. Pettingall, and others, the weather was never more beautiful than at the period of the Eclair's arrival at Boa Vista. On the day of the sailing of the Eclair and Growler (September 13th) the weather is described in the diary of the Consul, "as warm in the sun, but with cool breezes. The weather has been of this description from the arrival of the Eclair, and to the date of her sailing we had no rain." By the same diary, no rain fell until the 5th of October. Captain Buckle (of the Growler,) also says, the "winds were N. E. to N. by E. sky always b. c. A little rain fell once or twice during the night while we were there." But, as has been already observed, as neither in Dr. King's Report, nor in the "Report on Quarantine," is an "epidemical condition of the atmosphere," assumed to have existed at this period, this part of the subject does not require further discussion. (a)

By the time Anna Gallinha was attacked (October 12th,) "much rain had fallen, the weather had become more hot, and in short there now, (but not before this,) existed the recognised elements for malarious evolution.—(Dr. M. William's Remarks, &c. p. 9.)

It has been seen, that in the "Report on Quarantine,"

(a) Concerning the rain and the state of the weather, extracts are taken at pp. 110 16 of the "Report on Quarantine," from the letters of the English Consul and of the "British Judge," (the late Mr. Macaulay.) I recommend those who wish to know what were the real opinions of those functionaries regarding the cause of the fever, to read their letters throughout, (pp. 35 to 40, "Correspondence on the subject of the Eclair,") as also the extract from Mr. Consul Rendall's letters at pp. 9, 10 of my Remarks.

No one capable of appreciating the amount of labour involved in making, correcting, and recording barometrical, thermometrical, hygrometrical, and other observations three times every twenty-four hours while I was at Boa Vista, will readily suppose me likely to neglect the necessary inquiries regarding meteorological phenomena at this or any other period of the epidemy.

the attacks of the European soldiers, and that of the negro soldier at the fort, were attributed to the crowding of the crew of the *Eclair*. Anna Gallinha's attack, however, now that the rainy season had set in, is ascribed partly to the exhalations blowing upon the part of the town where she resided, (Beira,) from "a stagnant pool of salt and fresh water," and "from a locality resorted to by many of the people when obeying the calls of nature;" and partly to the "epidemic constitution of the atmosphere," invoked also, at this time, by Dr. King, and the authors of the "Report on Quarantine."

Now, I have elsewhere stated, ("Remarks," etc., p. 9,) that the chief expanse of stagnant water consequent upon the rains at Boa Vista, is not to be found at Beira, where the fever broke out, but immediately behind the main body of the town. As regards the other source of atmospherical pollution, the principal resort of the people for the purpose alluded to, is also behind this part of the town. In fact, in many parts of the town itself, there are receptacles of the same nature.

With respect to the epidemic constitution of the atmosphere, (a term exceedingly convenient, but more adapted to retard than to advance our knowledge of the causes of epidemic diseases,) its assumed existence during the prevalence of yellow fever at Boa Vista, is supposed, in the "Report on Quarantine," to derive support from a disease having at the same time, as it is alleged, proved fatal to numbers of the cattle on the island.

I can only say that, during the months of April, May, and June, 1846, I examined every part of the island, on one occasion, with John Jamieson and my two negro attendants, sleeping in the open air during four successive nights, making the circuit of its entire coast, traversing it in every direction, and, with my barometer, ascending and measuring the height of its principal mountains. I was in every village,—some of the villages I visited very frequently,—and I entered a great number of houses in each village. Nowhere (and no place could escape me) did I see any evidence of this supposed wholesale destruction among the lower animals. The remains of a very few cattle were, indeed, seen; but, on inquiry, I was told that every year, at the end of the dry season, and after the setting in of the

rains, some cattle were lost. At the former period, from actual exhaustion from want of food; a circumstance not to be wondered at, considering the extreme aridity of this long season, which destroys every blade of grass, and every patch of vegetation, that can find subsistence in this barren, volcanic region; at the latter period, the deaths among the cattle are attributed to their over-feeding, in this exhausted state, on the rank green vegetation which springs up even there in the plains and water-courses with that rapidity and luxuriance which is known only in the tropics.(a)

I am thus particular regarding this supposed murrain during the prevalence of yellow fever at Boa Vista, because, in a note appended to the "Report on Quarantine" (p. 317), it is with very questionable taste insinuated, that I had purposely omitted all mention of it, either in my "Report" or "Remarks."

To return to the case of Anna Gallinha. I think I have shown satisfactorily, notwithstanding the statement of Dr. King to the contrary, that this woman was a constant visiter of Miguel Barbosa and his companions while they were in the house at Beira. (*Vide* Evidence of Miguel Barbosa, pp. 22, 23; of Joana Terceira, p. 28, "Dr. M'William's Report.") But, says the "Report on Quarantine," p. 103, "supposing Dr. M'William's account to be the correct one, it is surely in the highest degree improbable that this attack of Gallinha could be owing to contagion from a man whose illness was so slight, that it did not confine him to his bed for a single day, and which was incapable of infecting his companion, who was constantly with him night and day, when there were such obvious local causes to account for her illness."

It is quite true, that the illness of Miguel Barbosa was slight while he was at Beira; but the history of all contagious disorders abundantly proves, that slight cases have the

(a) John Jamieson, the Consul's storekeeper, now in London, says, "the cattle did not commence dying until after the fever had in a great measure left the island. The disease of the cattle every year is caused by the great want of pasture before the rains, and from the overeating of the poor exhausted animals after the rains." "I saw no change in the number of locusts that visited the island in 1845-6, from any other year. More cattle than usual died at the end of the dry season in 1846, but not in 1845." "I was on the island of Boa Vista nine years."

power of reproducing the same disease in others in a severe degree, and *vice versá*. Miguel Barbosa's companion was complaining; but, even supposing that he had not been unwell, it must be held in mind, that Anna Gallinha was a European, and, therefore, a much more susceptible subject than he, who was a negro.(a) Although, with respect to the "obvious local causes," as I have already said, "there now (but not before this) existed the recognised elements for malarious evolution;" still, I hold, that the Beira Row is less exposed to the source of such evolutions than other parts of the town, in which the other sources of pollution also exist, in much greater abundance. Even supposing the Beira Row to be as bad as the authors of the "Report on Quarantine"

(a) The following facts, arising out of the Eclair and Boa Vista epidemy, may be useful at this period as well as at other periods of the inquiry:—

On the island of Boa Vista the ratio of mortality amongst Portuguese, Spaniards, and French exposed to the fever, was...	...	...	...	1 in 2.28
English and Americans ...	...	...	...	1 in 1.6
Native population—Slaves ...	...	...	...	1 in 33.4
Free ...	...	...	...	1 in 14.6

Mr. Gardner, in an interesting account of a Small-pox Epidemy at Mauritius in the year 1840, read before the Epidemiological Society, states, that the disease was on this occasion introduced into the island from H.M.S. Lily, with between two and three hundred slaves on board, among whom small-pox prevailed, and for which she was performing quarantine in the roads, through the medium of a man who had been in a boat alongside watering the vessel. The case of this man, who introduced this severe epidemic into the island, and which destroyed thousands of persons, was so slight, that it was for some time doubtful whether it were really a case of small-pox. Twelve medical opinions were taken upon the case, and six considered it to be true variola; the others were of opinion that it was a case of varicella. Mr. Gardner was then referred to, and he declared the case to be one of small-pox: upon which the authorities at once placed the house in which this man lived in strict quarantine. Ten or twelve days after, a woman who had resided in the same house had the disease. Others living near soon took it, and it ultimately spread from this point over the whole island. The man at first declared he had not been near the Lily; and how he contracted the disease was for some time a mystery. He at last confessed to having been alongside the Lily, and, while there, to having taken some food from a sailor through a port-hole. Quarantine had kept small-pox out of the island upwards of thirty years. Had the channel of communication in this instance remained undiscovered, would it have been said, (one is inclined to ask, with the case of Boa Vista before us,) that, on this occasion, there was a *generatio de novo* of the small-pox virus, and that the outbreak of the epidemy at Mauritius and the arrival of the slave-laden vessel with that disorder were mere coincident events?

desire to make out, it must be considered as a circumstance not a little extraordinary, that this same state of things should have existed probably for half a century, without giving rise to yellow fever until this period, which had been preceded by some rather remarkable occurrences, viz., the arrival of the *Eclair* at the island with yellow fever, the death of two soldiers belonging to Boa Vista, at the fort, from the same disease; the arrival at Beira of the two sick soldiers from the place where the sick of the *Eclair* had been lodged, and where they (the soldiers) had already lost their two comrades from yellow fever. It is somewhat strange, to say the least of it, that this disease should further mark for its first victim in Boa Vista the woman who cooked and performed other offices for those soldiers.

"At this point," according to the "Report on Quarantine," p. 103, "the presumed chain of evidence stops; there is nothing connecting the illness of Gallinha with the next case," etc.

Let us see how far this statement is borne out by the facts of the case.

Joana Texeira, who lived in the same room with Anna Gallinha, was seized with fever three days after Gallinha's death. In five days more her son was attacked. (Dr. M'William's Report, pp. 28, 9.) Maria Nazarinha, another visiter of Gallinha's, died during Texeira's illness. Manoel Affonso, who was seen in Gallinha's house, (although denied by his widow,) and who lived near to her, was attacked the day after Gallinha died. (Dr. M'William's Report, p. 26.) Gertrude Bent, who had visited both Gallinha and Manoel Affonso during their illness, was attacked the day after Affonso's death. (Dr. M'William's Report, pp. 27, 28.)

The links of the chain could easily be extended to greater length, both from Anna Gallinha and Manoel Affonso.(a)

(a) The following clear and well arranged Tables, showing the results of the inquiry at Porto Sal Rey, are taken from the *British and Foreign Medico-Chirurgical Review*, Vol. I., p. 56 :—

TABLE, No. 1.—Names of Persons living in the Houses in the Beira Row, Pao de Varella, adjacent to that in which the Soldiers were living. There are only four houses in the Row :—

Theresa Maria Jesus, next door above.

Anna Gallinha, and Anna Terceira, next door below.

Jose Lisboa, next door to Anna Gallinha.

It would have been much more correct had the "Report on Quarantine," instead of saying that the chain of evidence "here snapped," had stated, "here Dr. King's investigations, as regards Porto Sal Rey, are at an end."(a)

With regard to the outbreak of the epidemic at Rabil, the first case, that of Louis Pathi, is thus spoken of in the

Manuel Affonso, twenty yards away.

Gertrude Bent, next door to Manoel Affonso.

TABLE, No. 2.—Names of those taken ill first in Porto Sal Rey, with the Dates, as far as they can be ascertained. Those marked thus* fatal:—

*Anna Gallinha, October 12th.

Anna Texeira, October 19th.

*Manoel Affonso, October 17th.

*Maria Nazarinha, between October 20th and 25th.

Theresa Maria Jesus, between October 19th and 24th.

*Gertrude Bent, October 21st.

*Antonio Perica, October 20th or 21st.

Lisboa, October 21st.

TABLE, No. 3.—The names marked thus,* are those of persons attacked with fever after the intercourse referred to, within the incubative period:—

1. Persons most in contact with Miguel Barbosa and Pedro Manoel:—

*Anna Gallinha, who cooked for them; *Sylvester Romess, whose wife also washed for them; *Anna Texeira, who visited them often.

2. Persons most in contact with Anna Gallinha:—*Anna Texeira, who nursed her; *Manoel Affonso, *Gertrude Bent, *Maria Nazarinha, often in the house; *Lisboa, lived in the next room; Piedad Angelica.

3. Persons most in contact with Anna Texeira:—Dr. Kenny, not taken ill for some time afterwards; *Her son, who nursed her; *Theresa Maria Jesus.

4. Persons most in contact with Manoel Affonso:—*Luis Ignes, visited him often; *Antonio Perica, who carried the corpse to Rabil; *Gertrude Bent; *the wife of Joachim das Neves.

5. Persons in contact with Sylvester Romess:—*His child, niece, and wife.

6. Persons in contact with Antonio Perica:—*His wife; *Eusebio da Luz, who nursed him; *a girl in the house.

7. Persons in contact with Lisboa:—*A son of Senhor Carvahal, who was two nights with him.

"If our readers will now glance over the names contained in these three Tables, they will find that each is almost a copy of the others, and they will find that the proof is complete, that certain persons, living nearest and most in contact with the two soldiers, were first attacked. This is a fact, and is independent of all explanation or hypothesis of contagion."—*British and Foreign Medico-Chirurgical Review*, Vol. I., p. 57.

(a) "With regard to the future spread of the disease in Porto Sal Rey, Dr. King is silent; he does not allude to any cases subsequent to that of Anna Gallinha."—*British and Foreign Medico-Chirurgical Review*, No. 3, p. 167.

“ Report on Quarantine ” :—“ It will scarcely be considered as affording an additional link, since, admitting that this man contracted his fever while employed on board the Eclair, his case would be merely one of infection from going on board a foul ship,” etc. “ But as in the locality of the dwelling of Gallinha, so in the district in which this man lived, there were local causes abundantly sufficient to account for the endemic origin of the disease.” (“ Report on Quarantine,” p. 104.)

It will be remembered by those who have examined the Reports of the Boa Vista fever, that Pathi was taken ill at Moradinha, where he remained eight days, and was then conveyed to his house in Rabil, where, I am of opinion, he arrived about the 25th September, and that one of his daughters was first seized in the beginning of October; the rest of his children and his wife were attacked in succession, all much within a reasonable incubative period.(a) I need scarcely add, that the evidence as to Pathi's being the first case at Rabil is overwhelming.(b)

The “ Report on Quarantine,” with reference to Pathi's case, continues :—“ It is also to be particularly observed, that a child in another family at Rabil, having no communication with the family of Pathi, died about the same time as Pathi's first child,” &c.—(Report on Quarantine, p. 104.)

This statement is made, I presume, on the strength of a reply to a question (1327) put to José Marques; but the evidence of Joaquim Pathi (751), the cousin of Luis Pathi, (more likely to remember events in Luis Pathi's family than

(a) Dr. King states, that the children were not taken ill until a month after the father's return home. I must here observe, with reference to this or to any other difference between Dr. King and myself, as regards the epidemy, that I beg to refer to the answers given to my questions, which are set down in detail. Dr. King's Report contains no such means of reference; and I must leave it for others to decide whether the mode of inquiry pursued by Dr. King at Boa Vista, or that adopted by myself, was best calculated to elicit truth from the interrogated, or to convey the real facts of the case to others. Dr. King's method of inquiry is to be found at p. 4 of his Report.

(b) “ The following are the names of the owners of the houses immediately adjacent to Luis Pathi:—Manoel Fachina, Joaquim Marques, Joaquim Pathi, Manoel Rosa Luis Delgado Nazario.

“ The following are the names of those first attacked in Rabil, with the dates, as far as they can be ascertained :—

“ 1. Luis Pathi—Sept. 18th. [Moradinha, J. O. M'W.]

Marques,) goes to show, that Pathi's children were the first that were taken ill at Cabecada. But, even supposing that Manoel Fachina's child "died about the same time as Pathi's first child," or even was the first case of death, it must be recollected, that he lived next door to Luis Pathi, in whose house, by Fachina's own evidence, his wife (among the first, if not the first attacked in Cabecada after Pathi's arrival) had been a frequent visiter during Pathi's illness. So much for this alleged "non-communication," which is most unwarrantably assumed, being wholly unsupported by evidence of any kind.

It seems scarcely necessary here to follow out the Fever in its course to the other villages. In my Report, it will be found, that its origin at each village is traced to contagious importation. This I always ascertained by going from house to house, and personally examining the inhabitants.

I must claim for my Report, in all cases of supposed difference between Dr. King and myself, the probability, at least, of much greater accuracy as to events and dates than that of Dr. King; for my conclusions were founded on the examination of many persons on the spot, nay, in the very houses where the fever first appeared, and in those to which the fever afterwards spread, in each village.

This does not seem to have been done by Dr. King; as, for instance, he seems to have relied almost exclusively, if not entirely, upon the evidence of the Judge at Fundo das Figueiras, for his information regarding the whole three eastern villages, Cabeca dos Tharafes,—Fundo das Figueiras,—and Joao Gallego.

" 2. Wife of Manoel Fachina—soon after the return of Luis Pathi to his own house, viz., the 26th or 28th September. She had been a good deal in the house of Luis Pathi.

" 3. Child of Manoel Fachina—very soon after the mother. This child died about the same time as Luis Pathi's child, or, according to some evidence, before.

" 4. Two children of Luis Pathi—4th and 11th October.

" 5. Manoel Marques—very early in October.

" 6. Joaquim Marques—between the 8th and 12th October.

" 7. Joaquim Pathi—about this time.

" 8. Family of Joaquim Pathi—soon after the father.

" 9. Manoel Rosa—immediately after Joaquim Pathi.

" 10. Child of Manoel Rosa—two days after her father's attack.

" 11. Luis Nazario—two or three days afterwards."—*British and Foreign Medico-Chirurgical Review*, Vol. I., pp. 57, 58.

With regard to Cabeca dos Tharafes,—the most important, in this inquiry, of the three villages, inasmuch as it was the first in which fever appeared in that part of the island,—I have good reason to believe, that Dr. King did not once enter this village. Then, as respects Porto Sal Rey, the mode in which Dr. King obtained his evidence there was chiefly, if not wholly, thus:—His list of queries were written down, and John Jamieson, the Consul's storekeeper, alone went the round of the houses, getting answers to those queries in the best manner he could, and then brought them to Dr. King, who transcribed them, thus obtained, into his own journal, or note-book. (a)

This was not my mode of investigating the facts of the epidemy. I found John Jamieson a very useful and willing assistant in all my journeys and inquiries; but I myself was present at the examination of each person, and put the questions and received the answers myself.

I should not have taken this notice of Dr. King's method of investigation, had I not felt compelled to do so, from the evidence I procured having been alleged, in the "Quarantine Report," to be "loosely taken," &c.; while the "details" of Dr. King are stated to be "most circumstantial." I feel necessitated to defend my own Report, when unfairly assailed, and to show the real value of the "set-off" attempted to be brought against it.

In the "Report on Quarantine," it appears to be assumed, that, to prove the contagiousness of a disease, all persons exposed to the supposed source of contagion, whether directly, by intercourse with the sick, or indirectly, by communication with those who, although visiting the sick, continue in good health, ought to be infected.

A very slight acquaintance with medical etiology would have suggested, that the laws of contagion involve no such necessity. It is in accordance with those laws that the greater number of those exposed to morbid influences escape, and that some of those chiefly in contact suffer. "To insure," says Professor Simpson, "in any instance, invariability of antecedence and consequence among physical, metaphysical, and vital phenomena, the circumstances under which the causes are applied must be, at all times, in

(a) I have received this information from John Jamieson himself, a man whose word I never had reason to doubt.

all necessary points, perfectly similar." Moreover, before the body can be rendered susceptible of a contagious or any other morbid influence, it must be so far altered from the standard of perfect health as to constitute that particular, although unknown, state which is called "predisposition." It is well known, that physicians and others constantly visit patients labouring under notoriously contagious diseases, but nevertheless escape. Or they may escape nine times, yet be infected on the tenth.

From want of attention to these simple but well-established facts, and from not duly considering the particular circumstances of each case, we find that, throughout that part of the "Report on Quarantine" which treats of the Boa Vista epidemic, it seems to be a matter of wonder how, if the disease in the *Eclair* was contagious, it was not introduced into the town by the crew, who got leave shortly after the ship's arrival; why the women who washed the foul linen escaped until after the fever was general in Porto Sal Rey; why Captain Estcourt did not infect the family of Mr. Macaulay; why the officers of the *Eclair* and their servants, who lived in the house at Santa Barbara, did not communicate the disease to the people of that house, or to that of the town; why Dr. Kenny, Dr. Almeida, and John Jamieson, did not carry the infection with them to their respective homes; why the soldiers Perez and others did not at once infect the barracks; why the labourers aboard the *Eclair* and at the coal heap, and their families, did not earlier suffer from the disease; why the Governor-General and his suite, who fled to the other islands, not only all escaped, but failed to infect any others in those islands, etc.

Facts are wanting to establish with absolute certainty, although we are far from being in a position to deny, the transmissibility of yellow fever through the medium of fomites. All, however, will admit, that this mode of the propagation of any disorder capable of being propagated from the sick to the healthy, is far less powerful than that arising from direct intercourse with sick persons.

Now, it has never been alleged,—in fact, it is in the highest degree improbable,—that any of the petty officers, or of the few seamen who got leave, were otherwise than in good health, or were not, at all events, as well as men could be after service on the West Coast. With respect to the washer-

women, the clothes washed by them belonged to the officers. Now, no officer, with the exception of two, (the gunner and a master's assistant, who were placed on the sick list for fever on the 1st August, and discharged to duty, the one on the 13th and the other on the 19th of the same month) had been the subject of fever from its outbreak up to the period of the arrival of the *Eclair* at Boa Vista. In the Admiralty Correspondence (page 28) it is, moreover, stated, (and, by the way, is not noticed in the "Report on Quarantine,") that the bedding and clothes of all deceased persons were thrown overboard. The washerwomen, therefore, could have washed the clothes belonging to two persons only who had suffered from fever, but none belonging to those who had died.(a)

As respects Captain Estcourt, after he went to Mr. Macaulay's house, he observed the greatest precautions after his visits to the fort, carefully washing himself and changing every article of clothing before seeing any member of his family. He became a guest of Mr. Macaulay on the 25th of August, and Mr. Macaulay and his family left Porto Sal Rey for the north side of the island, on the 4th of September, and did not return until the 27th of that month; so that, during one-half of Captain Estcourt's sojourn at Porto Sal Rey, the only persons with him in Mr. Macaulay's house were the black servants.

As regards the officers and their servants, the house in which they lived was entirely given up to them, and occupied by them exclusively. They were sent to the fort in accordance with a rule of Captain Estcourt's, rigorously carried out, not only as regarded the officers and the crew, but likewise himself. Mr. Macaulay, in a letter to me, dated at San Nicolas, March 30, 1846, says, on this head:—"Dr. Stewart states, at page 5,(b) some of the officers and their servants were attacked with fever while in the town; the Captain was taken ill while living in the town in the house of an English family. The purser lived in the house of another English gentleman when taken ill, and remained there until the day before his death."

(a) I have since ascertained, that the Gunner's clothes were not taken ashore. Those who know anything of men-of-war, are aware that the clothes of the crew are washed and scrubbed on board.

(b) Manuscript Report.

“The above passage,” observes Mr. Macaulay, “conveys a very erroneous impression. The rule laid down by Captain Estcourt, *and strictly followed in every instance*, was, that, if any of the officers or servants living in the town were taken ill, they should be *immediately* conveyed to the hospital on the small island. I was present on the occasion when one of the Eclair’s lieutenants came to request of Captain Estcourt that a brother officer who felt unwell might be allowed to remain, at least for a short time, at the officers’ quarters in the town, until it could be ascertained whether he had fever or not, as it was hoped that a dose of medicine would set him to rights. Captain Estcourt refused to comply with the request, stating, that he should require all his officers to follow the same course which he should observe himself, and to remove to the hospital at the fort, as soon as any symptoms of illness was felt. This was the conduct actually pursued by Captain Estcourt when he was attacked a short time afterwards.”

The intercourse between John Jamieson and the Consul’s family was restricted as much as possible, and Dr. Kenny lived in a house by himself. The family of Dr. Almeida was at this time chiefly at Boa Esperanza, about two miles from Porto Sal Rey; and he visited the fort once only while the sick were there, or twice at the very outside.

It never has been alleged, that Georgio or the two prostitutes Anna Gaspar and Rozina St. Antao, were infected by the crew of the Eclair. The headache and other symptoms, mentioned by Georgio, constituting as they did part of his evidence, were noticed in my Reports, as statements arising out of the inquiry, but not as matters of importance.

Athanasio Perez was relieved from his guard at once when he was taken ill at the barracks. Pedro Manoel, of the same guard was not sick, until the fever was general in the town, in which there is nothing very extraordinary; and Antonio dos Santos, also of this guard, was not taken ill until three weeks after his return from the fort. The non-infection of the soldiers at the barracks by the disease proves nothing further, than that, from those cases, or from the case of Manoel Antonio Alves, who was four or five days ill in the room behind the barracks, the disease was not communicated,—a circumstance by no means uncommon in the history of contagious disorders, and con-

stituting a mere negative fact of little moment in an epidemy, which furnishes abundant instances of positive contagious propagation. (a).

It is judged, in the "Report on Quarantine," that the fever, if contagious, ought to have been communicated to the labourers employed on board the *Eclair*, in the launches, and at the coal-heap, and by them to have been conveyed to their families at a much earlier period.

The answer to this is obvious. No labourer, with the exception of Portajo, the slave who died, ever was within the walls of the fort while the sick were there, although the coal-heap labourers mixed with the healthy portion of the crew; but many of them (Luis Pathi among the rest) were on board the *Eclair* the day on which the sick were re-embarked.

As most, if not all, of the labourers were at one time or another on board the *Eclair*, I might, with much greater reason, ask, How did they escape from the effects of the dreadful malaria alleged to have existed in the hold? The labourers, at all events a large portion of them, were continually being exposed to this supposed source of

(a) An attempt is made, in a note (pp. 306 to 317) appended to the "Report on Quarantine," to damage the value of the evidence, because Miguel Barbosa stated that Luis Briza was sick in barracks when he was, and as Briza died on the 12th November, he was ill about thirty-six days. No notice, however, is taken of the evidence of Corporal da Cruz Silva, in which he says, that "he thinks Luis Briza was not taken ill until the fever was general in the town." Corporal Silva belonged to the same guard with Briza. And as Briza did not die until November 12th, the probability is that the corporal was right, rather than Barbosa, who was himself ill at the period of which he spoke. Then there are also objections, because the soldiers of the guard did not earlier infect the barracks; because there is no proof that Luis Pathi assisted to hoist the sick in, although he was on board when the sick came from the fort; because one man—the slave of Senhor Nicolas Tavares—disputes the claim of Chico Fernandez having been the first case at Estacia, in opposition to the evidence of Senhor Tavares himself—a most intelligent man, and to that of Chico's sister, Libania; because it is doubtful whether Dr. Almeida visited the fort once or twice. These and other comparatively insignificant circumstances are dilated upon at length, and apparently with great self-satisfaction on the part of the writer. But the note throughout is indicative of a desire, it may be of a capacity, limited to carp at the occasional discrepancies to be found in the evidence—to deal, in short, only with the minor and unimportant details, and not with those main and leading facts of the case which serve to guide the judgment in the elimination of the truth from any amount of evidence submitted to it.

miasmatic poison ; but they were not within the sphere of contagion from the sick until the last.

The soldiers of the guard, on the other hand, were all the while more or less in direct intercourse with the sick at the fort, and accordingly we find among them the first attacks and the first deaths at Boa Vista.

Nor, as has been said before, is it at all necessary, as is assumed in the "Report on Quarantine," that "to prove the spread of a pestilence by contagion, communication, either direct or indirect, must be proved to have existed between all the persons attacked." ("Report on Quarantine," p. 104.)

If the first cases of yellow fever, or of any other disorder, appearing in any town or locality, are distinctly traced to a contagious source, we have no right to deny, although we may not be able to prove communication in *every* case, that the spread of such disorder is due to the same cause. If the disease be admitted to be contagious in the first cases, *à fortiori*, it must also be presumed to be so in all the other cases, although we may not be able to connect every link of the chain of propagation. Our failure to establish such an unbroken chain in all the cases occurring from the beginning to the end of an epidemy, would not show the want of a contagious cause throughout, but rather our want of success in discovering it in every such case.

"The Report on Quarantine," p. 96, observes—"According to the view of Dr. M'William, therefore, this disease must have been of a very singular character, for in its origin at Shebar it was not contagious, at Boa Vista it became contagious, while in the other islands of the Archipelago, wherever the sick and the uninfected fled, it again laid aside its contagious character, and did not spread to a single individual."

This is not the place to discuss the question of a disease primarily not contagious, having the property of contagion impressed upon it by contingent circumstances ; but it has been generally allowed, that the history of the events of the Eclair greatly favour this view. But the statement, that it laid aside its contagious qualities afterwards, demands special attention, as it rests upon no grounds whatever.

I assert, without fear of contradiction, that with one very notable exception that came to my knowledge long after my

“ Report ” and “ Remarks ” were written, among all those who fled from Boa Vista, it cannot be shown that any sick persons landed at any of the other islands. Those who fled from the island were people of the better class, and while at Boa Vista adopted precautions against infection. This was the case with the Governor-General, Mr. Macaulay, the Collector of Customs, and others who left the island after the fever had well broken out. The Governor-General, in his letter, distinctly states, “ not one of those who emigrated to the different islands of the Archipelago *had the disease, or communicated it to others.* ” Where did the authors of the “ Quarantine Report ” learn that any “ sick ” fled to the other islands ?

“ When,” says Mr. George Miller, “ the ship that conveyed the Governor-General and his suite to Brava, was entering the harbour of that island, one of His Excellency’s servants was found to be suffering from the fever. The dismay and confusion at this discovery were great ; but it was quickly resolved upon that the servant should be landed and placed in a cavern at some distance to leeward of the landing place, and there kept in strict quarantine. The sequel is this : the poor man died, all his things were burned, and the body was, with the observance of great caution, buried. The disease was not communicated to the shore ; and the Governor now issued a Portaria, declaring Boa Vista infected, and subject to the most stringent quarantine regulations ; and most rigorously were they enforced.”

I found it impossible to arrive with any degree of certainty at the correct amount of the population of Boa Vista not attacked. As an approximation to the truth, I supposed that a third of the whole probably escaped. But we know, without doubt, that, with the exception spoken of, Don José di Norronha and his suite, consisting of sixty persons, (a) Mr. Macaulay and his family, Mr. Pettingall and his family, the Consul and his family, Mr. Martines and his family, who left the island, all escaped, except those that afterwards

(a) In my “ Report ” there is a mistake (whether owing to an error in the manuscript Report, or to a typographical error I cannot say) concerning the suite of the Governor-General. It is stated, that the “ suite ” consisted of sixty Europeans. This was not the case. There were sixty persons, but by far the greater number were natives of the islands, and the remainder were Europeans.

returned and had intercourse with sick persons. If we add to these, Dr. Almeida's family and servants, and those who segregated themselves at Espinguera, at Cantor, and at Agua dos Caballos, we have, on the most moderate computation, 250 persons, among them upwards of fifty Europeans, who adopted precautionary measures, and all escaped.

Now, I will put it to any unprejudiced person, whether favourable or unfavourable to the doctrine of contagion, how, supposing the disease to have depended upon a cause existing in the general atmosphere, Don José, his suite, and all the other families, could by any means escape? Can it be believed, that not one, even among the Europeans, was susceptible of this alleged generally pervading influence?

Judging from all experience of the action of miasmatic poisons, the escape of so many persons is inexplicable, on the assumption of the disease having been owing to a virus floating in the general atmosphere. But their immunity can be rationally accounted for, under the precautionary circumstances stated, on the ground of the propagation of the disease having been dependent upon intercourse with the sick.

The opinion of the Governor-General, as expressed in a letter that appeared in the *Gibraltar Chronicle*, attributing to the fever at Boa Vista an endemic origin, is very prominently paraded in the "Report on Quarantine." His Excellency's letter to Dr. King, an extract from which is given in my "Remarks on Dr. King's Report," p. 10, telling him that no such disease as that which devastated Boa Vista was ever known in those islands before the arrival of the *Eclair*, and that "the fevers which have a local or indigenous origin, are called by the doctors *miasmaticas*," is passed by in silence in the "Report on Quarantine." In a letter to me, dated Jan. 8, 1848, (also to be found in my "Remarks," p. 10,) His Excellency says: "You here see I have changed my first opinion. I am quite convinced that the fever was contagious, and that it was introduced into Boa Vista by Her Britannic Majesty's ship *Eclair*." Long before His Excellency wrote to Dr. King, he stated (in a letter to Mr. George Miller), "I am convinced the fever was contagious from its commencement, and during its progress over the island."

These statements, of which the authors must have been

fully cognizant, are never alluded to in the "Report on Quarantine."

Nor is there in the "Report on Quarantine" the slightest notice taken of the well-established instances of exemption from fever procured during its prevalence at Boa Vista by isolation and segregation of healthy individuals from infected districts, which are detailed in my "Report," pp. 107, 108, and in my "Remarks," p. 10. "At *Espinguera*, near Mount Broyal, at *Cantor*, near Mount Ochello, and at *Agua dos Caballos*, situated little more than a mile from Cabeça dos Tharafes, I saw so late as May, 1846, little colonies, amounting in all to fifty-seven persons, who, in the early part of the epidemy, had fled from Joao Gallego, and other villages, and cut off all communication with them. Not one that remained was attacked."(a)

I would ask,—Is the omission of all notice of these statements dealing fairly with the question? There surely appears in such a mode of procedure a one-sidedness more becoming a reckless crusade against Quarantine and contagion, than a philosophical and impartial search after truth.

In a note appended to the "Report on Quarantine," pp. 237, 238, there is an extract from Dr. King's "Report," in which, after speaking of the murrain among the cattle, it is stated, that "there was this remarkable coincidence,—that after an interval of *some months*, and the disappearance of the disease both in man and beast, the same fever broke out again in the towns and villages about the rainy season."

Dr. King has not supplied us with the facts upon which he built this statement; but I am in a position to prove, that the first case after I left the island occurred on the 19th or 20th July, 1846, in a person well supplied with the necessaries of life, in one of the largest, cleanest, and best-ventilated houses in the town. Recovery took place after extreme peril. The next case was a respectable salt-merchant, who also lived in a good house, and had visited the first case. The third case was also a salt-merchant in good circumstances, and living in a good part of the town. I could multiply the cases if necessary. I shall only add, that communication

(a) Dr. King, in his Report, does not allude to the negative evidence derived from these sources, or, indeed, from any source whatever. This may be explained upon the circumstance of his never having visited any one of these places of refuge.

with sick persons was in each case proved, and that the two last-mentioned cases died during the illness of the first. The girl "Perpetua" died at Moradinha, on the 1st of June, and on the 13th of the same month the remaining patients were convalescent. (a) When these dates are compared, the actual interval between the disappearance and re-appearance of the fever will be found to shrink considerably within *months*. The interval, in short, instead of being *months*, as stated by Dr. King, was little more than *one month*, or about the same as that between the last cases at Joao Galego (the end of April) and the outbreak at Moradinha (the 30th May of the same year). By Dr. King's own account, the rainy season of 1846 did not set in until about the middle of August.

The note adds:—"Dr. Almeida, of Boa Vista, considered the disease alluded to as an aggravated type of the bilious remittent, and in such belief he positively continued until after the arrival of *a communication* from the British superintendent of Quarantine." In a foot note, it is stated, on the authority of Dr. King, that "Dr. Almeida was a general merchant, who sold a few simple drugs, and gave his advice gratis. It might hence be inferred, that his opinions, even if they had been fixed, could have been of no great value."

Dr. King held no such despicable estimate of Dr. Almeida's opinion, when he brought it forward, rather triumphantly, and in contradistinction to the opinion of every one else on the island, in his "Report," p. 4, to the effect that the disease at Boa Vista was "an aggravated type of bilious remittent."

In my "Remarks," p. 14, I adduced Dr. Almeida's evidence, given eight months before Dr. King saw him, and a letter written by Dr. Almeida six months after Dr. King left Boa Vista, showing clearly, that Dr. King was entirely in error regarding Dr. Almeida's opinion as to the nature of the disease. After this, any disparagement of Dr. Almeida must come from Dr. King with a bad grace. It is too late to tell us, now, that Dr. Almeida's real opinions do not suit Dr. King's views,—that they are not to be relied upon.

I am also enabled to assert, that no communication was ever sent, either directly or indirectly, to Dr. Almeida by the British Superintendent of Quarantine, nor did Dr.

(a) Vide Dr. M'William's "Report," etc., pp. 94, 95.

Almeida know anything of the opinions of Sir William Pym regarding the fever up to the time I left Boa Vista.

But, as it appears that, notwithstanding the evidence and the letter to which I have just alluded, doubts seem to remain, in some quarters, regarding Dr. Almeida's views and the nature of the fever that devastated Boa Vista, I am compelled, although most reluctantly, to append the following extract of a letter from Dr. Almeida to myself on this subject:—

“From conversations that Dr. Leao and myself had with Dr. King, we discovered, that his object was to prove that the yellow fever was not imported into this island by the steamer *Eclair*. He always found us opposed to this; and we proved to him by positive facts, that he was in error. I told him, that during nearly forty years' residence in Boa Vista, I had never before seen a case of yellow fever, either here or in any of the other islands of the Cape de Verdes Archipelago; but that I had occasionally seen intermittent fevers at Rabil when, in the rainy season, the waters remained stagnant for some time. Dr. King has, in his report, been pleased to pervert these conversations to suit his own erroneous views, not remembering, perhaps, that to foist them upon the public he has misused the name of one who, like himself, is in the Profession.”

In the same spirit, and proceeding from the same source, an attempt is made in the “Report on Quarantine,” p. 107, to deteriorate the value of the evidence obtained at Boa Vista, the witnesses being described as poor and ignorant, giving their “evidence in the loosest possible manner; their statements as to details and occurrences alleged to have happened several months before the inquiry took place were received implicitly, without examination into the correctness of their answers and the credibility of their testimony;—all the witnesses of this class appear to have spoken under the influence of the strongest feeling of self-interest, with a view to establish a claim to pecuniary compensation, should they make out a case against the *Eclair*.”

As the chief of these allegations against the people originated with Dr. King, one is led to inquire how, from such sources, was it possible he could obtain his “indubitable facts”? As to the length of time intervening between the occurrences and the inquiries into them, if this be raised as

an objection, it must apply with greater force to Dr. King's inquiries than to mine, because I preceded him on the island by eight or nine months. As regards our respective methods of conducting the inquiry, I might waive the discussion of this part of the subject, and leave it in the hands of others, observing, however, that high legal as well as medical authorities have considered the value of the evidence in the very opposite light to that which the "Report on Quarantine" might lead people to suppose.(a)

The assertion, that the statements of the witnesses were received, "without examination into the correctness of their answers," is at variance with fact. When so many persons were examined, and upwards of 1600 questions answered, it could hardly be expected that some discrepancies would not occur. I think, however, it will be generally allowed that in every essential point, the evidence of the people tallies with that of the higher orders at Boa Vista, and also with the information that has since come to light from Consul Rendall and others.

In a case of this kind judgment ought to proceed, not from a few casual discrepancies, such as occur in the evidence, and which are so eagerly caught up in the "Report on Quarantine," but from the general tendency of the evidence. The order of events may be noted without precision as to dates; but in the main points, as regards the first attacks at the Fort, at Porto Sal Rey, Cabecada, at Boaventura, Estacia Velha, Fundo das Figueiras, and Joao Gallego, the dates are given so as to be correct within one or two days. There is less certainty about the dates of the invasion of the other villages by fever; but the first attacks are in every case defined, and the radiations of the disease are followed out more or less extensively from each of these foci.

I consider that the following observations on the *Summary*, contained in pp. 114, 115, of the "Report," to be justifiable from the whole tenour of the evidence adduced in the case of the Eclair and Boa Vista:—

1. The fever which broke out in the Eclair, when on the

(a) For Dr. King's method of inquiry, see Dr. King's Report, p. 4. The mode I adopted is to be seen in my "Report," and in the "Remarks," p. 11.

west coast of Africa, was the common endemic, which became altered in character as the cases increased at Sierra Leone, between Sierra Leone and Boa Vista, and at Boa Vista, is proved—

By the great proportionate increase of mortality at those periods.

By the report of survey of the medical officers, held Sept. 13, by order of Capt. Buckle, senior officer at Boa Vista, in which it is stated, "*the extremely malignant character of the fever which has resisted the treatment usually found successful in the common endemic fever of the coast.*"—(Admiralty Correspondence, p. 48.)

By the opinion of Dr. Carter of the Growler, who, according to a letter from Capt. Buckle to me, considered "the disease among the Eclair's crew at Boa Vista to be contagious," and, "therefore, by his advice," adds Capt. Buckle, "I restricted the intercourse between the Growler and the Eclair as much as the pressing nature of the service would admit."

By the opinion of Sir W. Burnett and of Dr. Bryson, who, on the ground of the disease having become contagious at the fort, account for the attack of Dr. M'Clure.—(Admiralty Correspondence, p. 55.)—"Fevers of Sierra Leone," etc., by Dr. Bryson, p. 134.)

2. The petty officers and a few of the sailors did get leave after the arrival of the Eclair at Boa Vista; but there is no reason to suppose, that any of those who had this indulgence were at all sick. The officers who lodged in the house at Santa Barbara, on the beach at Boa Vista, were removed from it the moment they had even a premonitory symptom of disease; the house was exclusively occupied by them and their servants, and none of them when sick were nursed by the inhabitants.

3. The washerwomen who washed the linen of the officers (the crew of men-of-war do not send their linen to be washed on shore) were not infected by reason of the washing. But, up to this period, two officers only had been on the sick list from fever; one for a period of twelve days, and the other for eighteen days, both cases recovering. The clothes of one of these officers only were sent on shore. The bedding and clothes of deceased persons were carefully thrown overboard. Moreover, it has not been contended that the power

of fomites to propagate infection, is at all equal to that of intercourse with the sick.(a)

4. The labourers were not infected, nor did they infect their families while the Eclair was at Boa Vista; which is not to be wondered at, seeing that they had not, until the last, direct intercourse with the sick, although they mixed on duty with the small portion of the crew that remained healthy.

5. The Cape de Verds are within the yellow fever zone, and they have experienced severe outbreaks of epidemic fever; but never within the memory of man, either before or after 1845-6, was yellow fever known at Boa Vista, or at any of the other islands of the groupe.(b)

7. The physical and social conditions of Boa Vista are those which might originate fevers; but the theory of "localising influences," as applied to the yellow fever epidemy, signally failed, more especially at the Ravine of Rabil; where the alleged localising influences were in greatest abundance, there was the smallest mortality. Moreover, fever broke out at Moradinha, in the Ravine, where there was nothing like any appreciable, local, physical condition to produce it. The failure of this theory to account for the outbreak in July, 1846, was, if possible, still more remarkable; inasmuch as the fever on this occasion first appeared in one of the best ventilated and cleanest houses of the town, and the person first attacked was well supplied with the necessaries of life, and such was the case with the great proportion of cases that took place at this time. The disease for some time was confined to the very best part of the town. No rain fell until a month after the disease had re-appeared, and several cases had died before any rain fell.

(a) Few, I imagine, will agree with Dr. King when he says, in his "Report," p. 7, "If the disease possesses the power of reproduction, its poison must have been as certainly communicated through the medium of fomites, as by direct contact with the sick on board, or at the fort."

(b) Some of the islands of the Cape de Verds have, within the last two years suffered from ague and remittent fever; but in no part of the documents in my possession regarding the disease, is there any sign of yellow fever mentioned. No case of black vomit occurred. In fact, the disease was perfectly amenable to common treatment. My friend, Mr. Thomas Miller, recommended by the Governor-General to the Portuguese Government for the decoration of the Order of the Tower and Sword, for his conduct during the sickness, took forty people from San Nicholao to St.

How is the occurrence of these cases to be explained on the ground of a "localising influence," such as is alluded to in the "Report on Quarantine"?

These cases took place, not only in the cleanest part of the town, but in the cleanest houses of the town; there was no crowding; indeed, in the first case, the fine, large, airy house was occupied by one person and two native servants. The weather was beautiful; there was no rain for nearly a month afterwards, nor was there anything upon which to build even the slightest supposition of the existence of any epidemical constitution of the atmosphere at this period.

To assume that these cases were merely sporadic cases,—mere messengers sent to announce the near advent of another epidemic, may be a very convenient formula for the Board of Health by which to account for cases they cannot otherwise dispose of; but such a mode of explanation will not, I imagine, carry much weight with the Profession.

8. It is entirely erroneous to state, that yellow fever was prevailing at Porto Praya when the Eclair arrived at Boa Vista. No such disease prevailed at Porto Praya at this period, nor are there any grounds for supposing that it existed there at any other period.

9. With regard to the outbreak of the epidemics, both as regards 1845 and 1846, most severe and fatal cases had occurred before any of the alleged atmospherical or other phenomena had appeared. It is also to be borne in mind, that *the so-called sporadic cases occurred only in persons who had been exposed to a source of contagion.*

10. The epizooty did not take place until the end of the dry season of 1846, when the fever had well nigh left the island. The epidemy on the island of Boa Vista commenced on the 12th October, in the person of Anna Gallinha. Anna

Vincent, during the height of the fever at the latter place. Nearly all were attacked; but one only, previously debilitated, died. The Consul, in his letter, states, "that no family nor person having the common necessaries of life, or the means of common treatment, died." Had the disorder been of the nature of yellow fever, those who had the means of treatment and the necessaries of life in greatest abundance, namely, the Europeans, as at Boa Vista in 1845-6, would have suffered most. But the very reverse of this was the case, for the blacks suffered most—nay, almost exclusively. The disease, in short, was maintained by exposure to vicissitudes of weather, and by starvation.

Texeira, her son, Manoel Affonso, and others, living in the same neighbourhood, were attacked immediately afterwards.

At Rabil, the first case was Luis Pathi, about the 25th September, the disease attacking his family in the beginning of October. Manoel Fachina's wife, living next door, and visiting Pathi, was attacked at this time, and many others in the neighbourhood within a reasonable period from the arrival at Pathi. The exemption of the eastern villages, and of some of the other villages for some time, may be explained on the ground of their comparative little intercourse with Porto Sal Rey and Rabil, and partly also from the adoption of precautionary measures; but their exemption seems wholly inexplicable if the disease is to be attributed to a general atmospherical cause.

I think, then, that the whole of the "countervailing considerations" assumed in the *Summary*, at pp. 114-15, of the "Report on Quarantine," to be "admitted" facts, are, in every essential point, entirely destitute of foundation.

Such conclusions as those contained in this *Summary* could never, in my opinion, have been arrived at, had all the circumstances in the *Eclair* and at Boa Vista been fairly and impartially weighed. Nor do I believe, that they will be received by any one who will take into account the numerous mis-statements in the "Report on Quarantine," which I have pointed out and corrected, and the omission, in that document, of so many matters important to the elucidation of the truth, which I have taken leave to supply.

In my humble opinion, the history of the epidemy at Boa Vista comprehends every condition upon which the proofs of the infectiousness of a disease are supposed to rest, namely:—

The healthiness of the island before the arrival of the Eclair, with Yellow Fever on board.

The outbreak of the same disease among the inhabitants of the island within a reasonable period afterwards.

The immunity of distant villages for long periods until the arrival of infected persons, and the radiation of the disease in every district from infected foci.

The comparative immunity from the disease obtained by persons who adopted common but partial precautionary measures against infection.

The absolute immunity from the disease procured by persons who adopted strict measures of isolation and segregation.

Before closing this communication, I am desirous it should be distinctly understood, that none of the observations I have taken leave to make on the "Report on Quarantine" are intended to apply to either of the lay members of the General Board of Health whose names are attached to that document.

There is one passage, however, (that in which, at p. 101, the inhabitants of Boa Vista were charged with "giving their evidence under the strongest feeling of self-interest," to establish a claim for compensation," etc.,) to which I cannot help regretting that they should have given even an official concurrence.

The inhabitants of Boa Vista, consisting chiefly, in fact almost exclusively, of the negro and mixed races, badly educated, in a great measure destitute of the benign influence of religion, living on a wretchedly arid soil, with the curse of slavery as part of their social system, are, it is true, generally "poor and miserable;" but it does not follow, that, even under these adverse circumstances, all virtue in human nature should be supplanted by fraud and dissimulation. I was in every village, and I spent much time among the people; and I feel assured, they gave their evidence freely and candidly; and to charge them with exaggerating their statements from selfish motives, I feel to be as unjust as it is ungenerous.

It is to me a matter of deep regret, to find the honoured name of Lord Shaftesbury, connected as it ever has been with noble and philanthropic sentiments and feelings towards the lower classes, *whether black or white*, of all countries, giving even official sanction to so unworthy an insinuation.

As respects the medical member of the Board, he is no longer young; he is a respected member of a Profession honourably distinguished for its humane character and tendencies; and it is said that, at a former period of his life, he exercised a higher and even more sacred function. From such a quarter, one might have expected some degree of caution in giving countenance to an aspersion against a poor, but industrious and generous people, which, on further inquiry, he might have found to be wholly unmerited.

It is, however, consolatory to know, that the Government of this country were in no degree influenced by any such ungenerous views. A handsome sum of money was trans-

mitted by the British Government to the distressed islanders, which, with the donations of provisions from Portugal, from the late Mr. Macaulay, from the English Consul, from the Messrs. Miller, of San Nicolas, and other benevolent sources, must have relieved much distress, and proved the saving of many lives.

Judging from what I saw in 1846, when distributing to famishing women and children the large amount of provisions brought me by Commodore Jones in H.M.S. Penelope, and the liberal supplies also sent from Sierra Leone and the Gambia, I feel satisfied, that the bounteous charity of the British Government was met by the blessings and the gratitude of the whole population of Boa Vista. (a)

(a) Never was relief to a beleaguered and starving garrison more welcome and thankfully received than were the provisions brought me by Commodore Jones, in H.M.S. Penelope. This bountiful and well-timed supply consisted of Rice, 210 large bags; Farinha de pao, 50 bags; Guinea corn, 50 bags; besides several boat-loads of Yams.

I may, perhaps, be pardoned for yielding to the temptation to make the following extract from my private journal on the occasion of the first day's distribution of the provisions among the people:—

“With Dr. Almeida, the Mayor, Senhor Joao Baptista, and John Jamieson, employed the greater part of the day dealing out provisions to the people, who are in great want. It was a goodly sight to see their black, shining faces full of joy and thankfulness as they received their loads, varying in amount according to the number in the family. No Englishman could look upon this scene without being proud of his country. Thousands in this comparatively little known island are starving; no sooner is this known, than the gladdening hand of British generosity is at once extended to them. 1118 persons relieved this day. This is something to sleep upon.”

Trinity-square, Tower-hill.

