

ON THE
LOCAL ORIGIN
OF THE
YELLOW FEVER EPIDEMIC
OF
BRITISH GUIANA ;

In a Letter from DANIEL BLAIR, M.D.
SURGEON-GENERAL OF BRITISH GUIANA,

TO
JOHN DAVY, M.D. F.R.S.
INSPECTOR-GENERAL OF ARMY HOSPITALS, ETC.

With Appended Documents.

X.

On the Local Origin of the Yellow Fever Epidemic of British Guiana; in a letter from Daniel Blair, M.D., Surgeon General of British Guiana, to John Davy, M.D., F.R.S., Inspector General of Army Hospitals, &c., with Appended Documents.

Georgetown,

23d December, 1850.

MY DEAR SIR,

I HAVE not seen Dr. M'William's "Notes on the Boa Vista Fever;" but I have read the article in the "British and Foreign Medico-Chirurgical Review." I find by it, as well as a notice of our monograph in the "Lancet," that the subject of contagion of our late epidemic was not handled with sufficient detail. The fact is, that the idea of contagion in yellow-fever had become here so totally obsolete, that I felt reluctant to do more on that subject than make a declaratory statement of the universal opinion. When through you I was informed that a commission of military medical officers was sitting in London to investigate and decide on the subject of the alleged contagion of yellow-fever, I did not suppose it possible that there would have been the slightest difficulty in coming to a speedy conclusion in the negative. I find that I have mistaken the professional opinion at home, and that it will be necessary to supply some additional matter on the subject. For this purpose I enclose you copies of some papers, which, with the contents of this letter, be pleased to use in any way you think best. At the same time I must observe, that the fact of the opinion of contagion in yellow-fever here being abandoned by the unanimous consent of the entire community, professional and non-professional, who had countless opportunities of observing the disease, spread over

* [As indicated in the opening paragraph, this letter was written in consequence of some remarks contained in a critique on Dr. Blair's "Monograph on Yellow Fever," which appeared in the 6th vol. of the "British and Foreign Medico-Chirurgical Review." As an answer to these remarks, the Editor of that review has permitted it to appear in a late number (vol. vii. p. 554.) with the candid admission, — "That Dr. Fraser's communication to the 'Medical Gazette' is worthless as evidence on the question of contagion, and should not be used by any one." The additional and ample evidence now adduced, it is to be hoped, will have a more important issue, especially the appended documents, a selection from which was submitted to the reviewer, and noticed by him, but not published.] — ED.

an eight years' epidemic, in all its phases, and from every point of view, seems to me testimony and proof as strong as the subject is susceptible of. There is certainly a moral certainty of the correctness of the conclusion so formed. This community is fully alive to the doctrine of contagion in disease; in fact, many diseases are reputed "catching" here, which are not considered so elsewhere. A short time since I incurred considerable obloquy by recommending the Governor to remove the Lazaretto for Lepers from the interior of Essequibo to the grounds of the Colonial Hospital, for the sake of superior superintendence. So they have not formed the opinion of the non-contagion of our yellow fever from any ignorance of the existence of such origin and mode of propagation of disease. And I submit that a universal conviction, founded on extensive experience, is very superior proof to that of any collection of facts, or process of reasoning, made by any individual after the lapse of some time from the date of the events, and without a searching cross-examination on the spot, and in which so much of the aspect of the whole question depends on the ingenuity of the advocate, and the omission, or suppression, or transposition of some facts. It might have occurred to the reviewer, in his notice of the opinion of the Medical Society, that the capability of arriving at a true and correct conclusion does not imply the power of communicating the mode by which the conclusion was obtained. Dr. Abercrombie, in his treatise on the Intellectual Powers, refers to a judge who was advised never to state his reasons, for they would be sure to be wrong, while in all probability his decision would be right. That rapid reasoning called *tact*, which the reviewer praises and recommends, is very frequently inexplicable to its most gifted possessor. And I imagine that a lover of truth in science would have been more impressed with the fact of the unanimous and perfectly disinterested conviction of the Medical Society, than any deficiency in their manner of enunciating it. The reviewer requires to know the number of practitioners in Georgetown or in the Colony, who were exposed to the quasi-contagion of the epidemic, and who escaped. It is difficult to give the entire number; but the "Local Guide" for 1843, contains the names of sixty-five, only two of whom suffered. The numbers, of course, fluctuated during the eight years of the epidemic, some dying or leaving the colony, and being replaced by others; and sixty-five therefore represents the number of only one year, who were exposed,—while three represents the number who suffered during the whole period. In the same authority — the "Local Guide" for 1843 — the names of the directors of the two hospitals are given. They number twenty-three, with the secretary. The duty of the directors was chiefly to check and pay the accounts, and visit

the wards to see that the rules and regulations were duly observed. None of these named suffered; nor do I recollect any others who suffered from an attack of the disease; in fact, it seemed as if those who were closest to the diseased, enjoyed the most perfect immunity. The number of resident surgeons of the hospitals during the course of the epidemic, whose term of service varied from six months to two years and upwards, was *six*. They also escaped. Dr. Smith, my predecessor as chief medical officer, he also escaped. All the dispensers (*three* in number, who did duty as such) escaped. He who died of the yellow fever, never did duty, but died the same evening he was gazetted to his office. All the stewards, eight in number, escaped. It is difficult even to guess at the number of nurses exposed, for they were frequently changed. They must have been very numerous. By a memorandum of Mr. W. B. Pollard, the financial accountant (and I prefer official and public documents to any others as vouchers), in 1842, the year of the second maximum of intensity of the epidemic, the average number of nurses (exclusive of other servants) in daily attendance in the Seaman's Hospital, was seven, and in the Colonial Hospital, fifteen. Washing is, and always has been, done for the Colonial Hospital by contract. The contractor is Mr. Friday Hopkinson. I do not insert any communication from him in the Appendix, as, although a man of very considerable property in houses and land, he can neither read nor write. Before 1840, Mr. Hopkinson contracted for the clothes-washing of both hospitals; and besides the assistance of his own family, required eight people constantly at work. After 1840, two women were employed separately for the Seaman's Hospital, and then only six assistants beside his own family were required by Mr. Hopkinson, and the same numbers respectively continue till now. The individual washers were often changed during the period of the epidemic, but none of them were ever affected with the prevalent disease. I hope I have now stated enough to rectify any looseness of manner with which my facts on the contagion-question have been charged by the reviewer.

The reviewer calls on me to substantiate the character which I gave to the letter of Dr. W. Fraser to Sir Andrew Halliday, which appeared in the "London Medical Gazette", and was replied to by the late Dr. Ferguson, in the same periodical, on the 24th March, 1838. It is easily done. I denounced his material statements in support of the importation and contagiousness of yellow fever, as *defective, hypothetical, or fictitious*.

His first material statement is that the disease commenced in Surinam, was transported thence to Barbados, and from Barbados was imported into Demerara. With Surinam, it little concerns us, although I have written to Baron Van Rader, the Gover-

nor, to obtain some information thereanent, in consequence of being informed by Mr. Van Oueneller of the B. G. Bank, that he was in Surinam in 1836 (the date given by Dr. Fraser), and that yellow fever did not exist there then. Dr. Fraser does not state the exact date of its introduction from Barbados. He does not state in what person, or bale of goods, or by what vessel it came. Where is the *corpus delicti*? Until the public and the profession here were startled by almost accidentally discovering Dr. Fraser's letter, twelve months after it was written, and twenty months after the epidemic had existed, no one person had ever heard of, or dreamed of, *importation*, as an imputed cause. Dr. Fraser had never trusted the secret to any one here, — neither the public, his professional friends, or the Government, whose health officer he was. About the time of the outbreak of the new pestilence, we find, in the Government Secretary's office, numerous quarantine communications regarding small pox,—but not one word about yellow fever, the danger of its being imported from Barbados, or that it already existed from neglect of quarantine regulations. Now these are fatal defects, unless they can be supplied or rectified by Dr. Fraser. Full explanations are the more necessary, as it happens that while our earliest cases in the epidemic could not in any likelihood have been earlier than the 1st of April, 1837, no yellow fever existed in Barbados during any part of the year. It is worthy of remark, in connection with this subject, that, although an immense intercourse existed between this colony and Barbados, and was not for a single day interrupted during the last lamentable devastations of yellow fever in 1847-48, of which you have had experience, we have been perfectly free from that scourge since 1845.

The second material statement of Dr. Fraser is, that the disease was propagated by contagion; and he illustrates this by the cases of Messrs. Wray and Howes, the first who died of the disease in Berbice, who evidently contracted it in Demerara, but who had had no known communication with the person or apparel of the sick; the family of whom did not become affected according to the testimony of the medical attendants, and whose cases, according to the same authority, had no relation with any of the subsequent cases in Berbice, except that of priority. In further illustration of its propagation by contagion, he asserts that Mr. (now Sir Robert) Schomburgk, the traveller, caught the disease by lying in a bed lately occupied by a young man who died of black vomit; that the Indian attendant caught the disease, and that Schomburgk and his retinue carried the epidemic into the "sylvan villages" of the interior. Now this is pure unmitigated fiction. Robert Schomburgk never had yellow fever,

although his brother Richard had, twelve or eighteen months afterwards. He never slept in the bed, or in the same room, in which the young man Cherrington had died. His Indian attendant never had the disease, and the disease never extended among his retinue, nor the other Indians of the interior, although a few Indians about the Sand-hills, who contracted it in town died of it there, and the disease died with them. This exquisite fiction about "poor Schomburgk," was retracted and apologised for by Dr. Fraser to Mr. Stutchbury, in presence of Schomburgk, when he next returned from the interior. What was Sir Robert Schomburgk's own opinion on the subject? In his "Description of British Guiana," published in 1840, he states that "immediate contact with the sick did not propagate the disease (yellow fever), nor did seclusion diminish it; and that there is no instance known in which it extended to the more elevated places of the interior." I cannot make out who the lady was, or what the mercantile firm which Dr. Fraser refers to, which was shut up for a couple of weeks, in consequence of the whole establishment being laid up by the prevailing malady. The case is very defective in being anonymous. It is singular that in the *beginning* of the epidemic they should all recover in that house.

We come now to the *hypothetical*. A ship, says the Dr. "arrives, and the captain uses every precaution to avoid having any communication with the shipping or shore. This precautionary sort of measure does very well for a week or a fortnight, but at the expiration of that period, the rigorous restrictions he has placed himself and crew under become relaxed, and they steal a visit to see some of their old messmates, who may perhaps be at the time very ill with fever. The visitor sits, has a long yarn with the visited; he returns to his ship," &c. &c. Now this is not only hypothesis, but impossible hypothesis, as any one who knows anything of this harbour could at once detect. The ships swing out in the river at cable length; the stream runs at the rate of three or four miles an hour; the river abounds with sharks; no approach to either ship or shore can be effected, except by the boats, which are entirely under the power of the officers of the ships. In fact, each ship is perfectly isolated, and remains so during the voyage; and whatever yarns the messmates may have with each other, they can have none with their neighbours, except through a speaking trumpet. Again, the Dr. says "an overseer of an estate comes to town with produce to be shipped; he visits some friend's house where the fever is raging; he returns to the estate, sickens and dies; and his fellow overseers go through a similar ordeal, having caught the infection from him: from this point the fever spreads itself to every family in the district." This is a mere fancy sketch, no real instance of which, I am sure, could be adduced. It is not

only not true as a generalisation, but the very reverse of truth. Dr. Fraser had no country practice during the time of the epidemic, and as, I am sure, no medical practitioner could have furnished him with materials for the description, he must have drawn entirely on his imagination. Many overseers and others who came to Water-street became affected on their return home; but the character of the cases was to have no issue, no lateral off-shoots. The epidemic seemed, in all cases, to have as it were dropped down into a family, and having struck its victim darted off to pounce down in the neighbourhood, or at a great distance. If Dr. Fraser, instead of speculating on fanciful sketches of the progress of the epidemic in the rural districts, where he had no personal experience, and, I feel confident, could have had no trustworthy correspondents, had observed the habits of the disease from his own house, he might, in a great measure, have steered clear of his gross errors. On the right hand house, there was a field for observation; on the left another; under his feet another; and before his eyes another. I, who was his left hand neighbour, took the disease. Besides having a nurse and my own servants constantly in the house, I had relays of bachelor friends, who every night watched by me and tended me. But no extension of the disease occurred in consequence. The next victim in the range was in the house to his right. Mr. McDougal, a young Scotch barrister, came up from Liguana, where he had been on a visit, caught the disease and died. Nobody else in that house (Sir Michael McTurk's) became affected. Next, his (Dr. Fraser) turn came in the centre; he had had no intercourse with either parties, and was to windward of me. His wife was not aware of his doctrine of contagion, or did not regard it, and was unremittingly attentive; his son was there; his servants did not fly away; he recovered, and nobody else in his house sickened of the disease afterwards; and his neighbour opposite, Dr. Smith, who attended all the three cases, never was attacked. Dr. Fraser goes on to state something more tangible than his hypothetical cases. He states that "every member of the medical profession, who from their avocations were necessarily exposed to the infection, have been attacked and undergone a most severe fit of sickness; none of them, however, have died." This is fiction, except the last portion of the sentence. The medical men were extremely harrassed, but there was not much actual sickness of any kind among them; indeed, if we except Dr. McNish, who I believe was laid up for a time with hæmoptysis, and Dr. Smith, who was laid up for three months from dry belly ache, during the period referred to by Dr. Fraser, I question much if the medical men generally were ever freer from sickness. The two cases of yellow fever in town were Dr. Fraser and myself. I can

account for my own without the aid of contagion. The case in the country (Dr. Reid's) has been already referred to in the monograph. Dr. Fraser goes on to remark "the mortality has been great among the clergy." This is quite true ; but the inference he would draw is not. Here again, those *most* exposed suffered *least* from the malady, and *vice versâ*. Those, the metropolitan clergy, whose avocation was among the stricken and the susceptible, passed through the ordeal least harmed ; and those whose congregations were chiefly of the negro race, such as the London missionaries, and those of the rural parishes of the Scotch Church, suffered severely. This will be seen by an enumeration of the deaths within the period referred to in Dr. Fraser's and Sir A. Halliday's letters. They were

Messrs. Wray and Howes (London Mission) died.

Mrs. Rattray	-	-	-	„	-	„
Mr. Murkland	-	-	-	„	recovered.	
Mr. Kitley	-	-	-	„	-	„
Mr. Williams (Plymouth Brother)					died.	
Mr. Bryer (1st Minister of Christ Church)				„		
Dr. Hardy (Scotch Church)				-	-	„
Mr. Stewart	-	„	-	-	-	„
Mr. Haig	-	„	-	-	-	„
Mr. McIntosh	-	„	-	-	-	„
Mrs. Forbes	-	„	-	-	recovered.	
Mr. Stevenson	-	„	-	-	-	„
Mr. Anderson	-	„	-	-	-	„
Mr. Menzies	-	„	-	-	-	„

Now of all those cases, let Dr. Fraser point out one that had its origin in contagion, or, with a single exception, one that was even talked of as being suspected, in the remotest degree, of being concerned in the propagation of the disease. But turn we to those whose duties called them most to the bedside of the sick, and the funerals of the dead ; to the clergyman of St. George's Church (now the Cathedral) ; to the clergyman of St. Andrew's Church, in Georgetown ; and to him of Christ Church, also in Georgetown (whose predecessor lived only a few weeks after his arrival here). These clergymen minister to almost all the white inhabitants of the city. Mr. Fox, besides his other duties, had, during the whole epidemic, since the foundation of the Seaman's Hospital, solemnized the service of the Church of England every Sunday to the convalescent of the Seaman's Hospital. Mr. Lugar's labours had been unremitting, and he had his nephew, Mr. Austin (then lately arrived), ill of the gravior form of the disease in his house. Dr. Struthers was peculiarly exposed by his ministerial duties among the multitude of Scotch Presbyterians who inhabit the mercantile

part of the city. In addition to this exposure, he had at various times yellow fever cases introduced into his house. The Rev. Mr. Haig's case was one; the Rev. Mr. Stevenson's another. In a third instance, the captain of the "Duke of Gordon," Mr. Longmuir, was brought to his house, and there remained throughout a most severe illness and protracted convalescence. Dr. Struthers' family at that time consisted of thirteen persons. Now, neither of these clergymen, nor any of the inmates of their houses, ever contracted the disease. The Bishop of Guiana, not now in the colony, had a large family of children and a large retinue of servants. Two of the latter (whites recently arrived) died of the yellow fever, but the disease never spread in the house. During the presence of the disease in the colony, the bringing of the sick into the midst of families was of usual occurrence. No fear was felt. There was no difficulty in obtaining nurses; no danger was incurred. Several years after my own illness, I brought a favourite white servant who was very ill to the room next my own bedroom, that I might see him two or three times during the night. My brother-in-law, Dr. Manget, did the same with one of his servants. There was nothing remarkable or heroic in this; it was a mere matter of course, and practised by dozens without remark or laudation. I have not communicated, you will observe in the Appendix, with either the Roman Catholic pastors or those of the Wesleyan persuasion. The reason is, that none of either denomination, who saw the epidemic, are now in the colony. But, as far as I recollect, the Wesleyan clergymen had no deaths among them, and only one priest died of the yellow fever, although the services of their church brought them frequently among the Portuguese immigrants in the Colonial Hospital. The priest who died was considered at the time as having inhaled the malaria in crossing the Demerara River, in an open boat, at night.

I have now done with Dr. Fraser's most extraordinary letter. It may be thought strange, and it is so, that no one, save an anonymous correspondent of the "Guiana Chronicle," took the trouble to expose and refute a production so unfounded, at the time when it was discovered. That *exposé*, too, never saw the light, — no doubt for some personal reason of the editor, either of ill-will to the assailant or friendship for the assailed. Colonial apathy, which in many things disregards the opinions of "home," operated, likely, as a sedative. Where all disbelieved it here, where was the use of trouble merely to set the profession in England right! Compassion for the old gentleman who had so terribly committed himself, I know moved one individual to forbearance. Some despised the production, although endorsed by Sir Andrew Halliday. For there is no use in concealing the circumstance, that although Dr. Fraser was an old prac-

itioner in the colony, he never stood high, either with the public or the profession. Neither did Sir Andrew Halliday's character stand high in this community. Here he was celebrated chiefly for his credulity, on which some of the wags of the colony cruelly played, and for his patronage of quack medicines. However the neglect of the profession may be accounted for, Dr. Fraser's narrative remained without public contradiction from the faculty. No doubt many a successful fable has been similarly established. None of the chief practitioners seemed to regard the effect of Dr. Fraser's letter abroad, where the true circumstances were unknown, nor to care for it, except Staff-Surgeon Hackett, and his hands soon became too full of his own special duties to allow time for extraneous work.

I think the reviewer is hardly fair or correct in his estimate of the treatment described in the monograph. He says there is nothing new in it, and that it has been tried five hundred times, and that it is founded on a crazy hypothesis long since exploded. I suppose he refers to Dr. Chisolm's mercurial treatment, which also was extensively tried and given up as useless here, when he inveighs against calomel. But the treatment recommended, I submit, is a very different affair. It is founded on no hypothesis whatever. It is purely empirical, and became established from the surprisingly beneficial effects found to follow its adoption. I should be very sorry indeed if the remarks of the reviewer were to deter any medical man, who has to encounter such fevers as are epidemic or endemic in this colony, from trying the plan recommended. The making of our medical men acquainted with the power of the combination of calomel and quinine *in large doses* in febrile diseases, I look on as a considerable compensation for the ravages of our late epidemic. The physician here now wields a power over the most formidable disease, such as he never before possessed, and with results as striking as the feats of the surgeon. On the day on which I got the October number of the "Medico-Chirurgical Review," while it was yet in my carriage, I had to see the daughter of Mr. W. Hick (a merchant, in Water Street) in consultation. I was told that on the Thursday previously, she had had apparently a paroxysm of intermittent fever; it left her on Friday, and she went out on Saturday morning. While out the fever returned. She had taken no medicine in the intermission. Notwithstanding active treatment, by purgatives, diaphoretics, &c., the hot stage never remitted up to Monday, at 3 P. M., when I saw her for the first time since the attack. She was then intensely hot; pulse rapid; headache intolerable; extreme restlessness and jactitation. We prescribed the large dose of calomel and quinine, and a blister to nape of neck; went back in four hours, and found a state of complete

apyrexia, and enjoyed a hearty laugh at the expense of the reviewer, whose criticism we then related to Mr. Hick. Calomel is very much disliked in this colony. It has hitherto been up-hill work for the practitioner to induce his patients to take it in any form, and it has frequently to be given in disguise. This repugnance to the mineral was inherited from our predecessors the Dutch, who considered mercury should never be given except in venereal disease, and existed long before the modern and improved views of the use of that medicine obtained in England. In some parts of Holland, I believe, it is considered disreputable to be known to have a mercurial prescribed for one. Influenced by this prevalent dislike to mercurials here; and from the ill effects that no doubt frequently follow the excessive use or abuse of them, I have sometimes been tempted to try a small dose of the compound, or a reduced proportion of the calomel, but I have seldom failed to regret the experiment. The formula became completely established for the treatment of yellow fever, and since the departure of that disease from among us, it has been most successfully extended to all the intensified forms of our endemic intermittent, except the congestive. I shall mention an instance, which has just now occurred, in illustration, and with the intention of enforcing my view, that the combination of calomel and quinine, given in large doses, is not the same thing as *with calomel alone*, as it is unfairly regarded and represented by the reviewer. It is a case now under my care,—Mr. R., a young Irish lawyer, only a few weeks in the colony. He came here on account of incipient phthisis, which commenced in July last, and which had proceeded to purulent expectoration, much emaciation, and some hæmoptysis. He has now no pectoriloquy, nor cavernous respiration, but humid rhonchus, and dulness under both clavicles, chiefly the right, as I found, in an examination at my own house. He had been a patient, he says, of Dr. Stokes, of Dublin, and, I believe, Dr. Townsend, of Cork. (?) He has been using, during all the voyage out, and while here till Saturday morning last, two or three table-spoonsfull of cod-liver oil daily, and keeping up a tartar emetic eruption below the right clavicle. Since he arrived in the colony, he says, he has gained five pounds in weight. I was called to him, for the first time, on the morning just mentioned. He was then suffering from fever, which had commenced the night before with a very slight coldness of the fingers. He had already taken purgative medicine, which had operated; I prescribed a draught of sol. acet. morph. and spt. æther. nitro., to be followed by six-grain doses of quinine when the fever subsided. Believing the case an ordinary intermittent, I did not return till the following morning. I found that although the fever had never subsided, he had taken the quinine, and was

cinchonized. Believing the fever kept up by bronchitic inflammation, I prescribed small doses of calomel and antimonial powder ; the total amount of the former being four grains, and of the latter twelve grains. But the fever continued all Sunday and last night, and this morning I found it higher than ever. Still expecting it to subside, there having been free purgation during the night, and the skin, although burning hot, showing some moisture here and there, I left him without prescribing medicine. At half-past 1 o'clock I returned, found him lying on the sofa, as I had directed, his face and forehead deeply flushed, his eyes much injected, his pulse rapid, his skin burning hot, though moist ; his tongue covered with a thick grey coating, but brown and dry at tip ; no local pain complained of, *no headache*, even on shaking the head ; *no irritability of stomach*. Except the injection of the eyes, there was no symptom in the slightest degree suspicious of yellow fever. I thought of bleeding him, to relieve the great vascular engorgement, but feared its after effects, and prescribed the twenty grains of calomel with twenty-four of quinine. At my visit this morning, I had the gratification to find a state of perfect apyrexia.* So much again for the resolvent effect of that combination on fever. I think that this case of intermittent fever, protracting its hot stage, so as to be of a continued type, was modified and exasperated by the previous course of cod-liver oil, but which he will resume when convalescent from the fever.

I see in the September number of the "Pharmaceutical Journal," a paper by Dr. Pereira, in which he speaks very disparagingly of musk as a medicine. I need only remark, that with it, as with every medicine I enumerated in the yellow fever "Materia Medica," I have seen its unequivocally beneficial effects over and over again. I don't know what chemists would say of it, but it seemed to invigorate and cheer, as if it had been a concentration of beef-tea. While at the Government Secretary's office, the other day, making sure that it contained no reports from Dr. Fraser on the importation-origin of our last epidemic, a conversation occurred between Mr. Austin, the assistant-secretary, Mr. Bent, secretary to the chief-justice, and myself. "As for my brother Hugh," said Mr. Austin spontaneously, and rather inconsequentially with the particular point of conversation, "he dated his recovery from his first dose of musk." His brother was Mr. Austin, who was ill in the archdeacon's family, and his case proceeded on to the snuff-like and clay-deposit vomit, at which stage the musk was prescribed.

* In a postscript of later date, it is mentioned, that his convalescence took place immediately, and without relapse.

I quite agree with the reviewer, that not to give the number of observations materially diminishes the value of the table, which proposes to show the influence of age on the mortality of yellow fever. I admit, also, that considerable improvements might be effected in the mode of grouping the *post mortem* appearances by the numerical method. But I don't think the candid inquirer can be at any loss to know how many livers were examined, when it is told that ninety-seven *post mortem* examinations were made. Louis's anatomical character of yellow fever was looked for on every occasion. I have not the review beside me, nor within easy reach ; but, if I mistake not, the reviewer says that it is possible, according to the showing of the table, that only twenty livers were examined. Now, I deny this, unless it is possible for seven of that number to be "*enlarged*" and "*unusually small*" and "*natural*," at one and the same time. The obscurity of the table in reference to the liver, I think, arises chiefly from a redundancy ; and the easiest remedy, I think, would be to strike out the first line, marked "*natural 3*," altogether. The table should record departures from the normal or healthy appearance only. I am of opinion, that the discrepancy which the reviewer affirms to exist between your description of the spleen and mine, in the fatal cases of yellow fever, is not discrepancy, but a very significant and harmonious coincidence, and helps to explain the difference of the results of treatment, and some difference in the constitution of the disease.

In regard to the severe remarks which the reviewer makes on the military authorities, about the site of the military hospital, it is possible they are undeserved. Might not the shifting of the fore-shores have materially altered the sanatory condition of the site? It is long since I read Sir Andrew Halliday's "*Notes on the West Indies*," but, if my memory serves me right, he then (1833 or 1834) states that the lately-built hospital was *within fifty yards of the sea*. If my reference be correct, then it is highly probable that its site was determined on when no such marsh as that described in 1840 existed, and that the authorities are not open to the measure of reprobation heaped on them by the reviewer.

Believe me to be

Ever yours faithfully,

(Signed) D. BLAIR.

Dr. John Davy, M.D., &c., &c.

APPENDED DOCUMENTS.*

No. 1.

*To the Editor of the "Medical Gazette."**Demerara,*

November 10th, 1838.

SIR,

A SHORT time ago I received from a friend in London a set of the "Medical Gazette," from the commencement of the present year to August last. In the first number I chanced to take up, was a letter from Sir A. Halliday, embodying an extract from one received by him from Dr. Fraser, Health Officer of this place, in which the latter endeavours to prove that the malignant fever that has unfortunately been so prevalent here for the last twenty months was propagated by contagion; he mentions three instances in which he states it was so, and which he says came under his own personal observation. Unfortunately *one* of his assumed facts is so contrary to the real, that I should deem myself wanting in my duty to the public, did I not take notice of it. The worthy Doctor says, "Mr. Schomburgk, the traveller sent out by the Royal Geographical Society of London, returned to us in June last, from his excursion up the Corentyne River, bringing with him, as his attendant, an Indian, indigenous to that part of the colony; Mr. S., be it remembered, had had repeated attacks of the colony fever and ague, and the colony bilious remittent fever, not only while engaged in his exploring duties in the interior, but while residing in Georgetown, after his return from his former expeditions. On his late return, however, he took up his quarters in the house of a druggist up town, who accommodated him with a bed and bed-chamber, in which, two or three weeks before, a young man belonging to the establishment had died of yellow fever and its terrific derivative, black vomit. Poor Schomburgk and his Indian attendant had no sooner come within the pernicious influence of the fomites of the bedding, &c., of the room, than first he was seized, and soon after his attendant, with the yellow fever, from which they both made a very narrow escape. Many of the Arrowaak and other Indians, who had come to town with their little commodi-

* The copies of documents in the Appendix are not numbered from any connection by which they should follow one another, but chiefly as they came to hand.

ties to traffic, caught the infection, returned to their sylvan villages, and not only fell victims to the disease, which they had casually caught, but communicated the infection to others of their tribe, who had not on that occasion left their homes, and of which some also died." The fact was, a young man died at our house during the prevalence of the fever, after about fourteen days' illness; however, amongst the symptoms of his disease he had NOT *Black Vomit*, nor was it (I have the authority of the medical gentleman who attended him for saying so) a decided case of yellow fever. Mr. Schomburgk, with whom I have the honor to be on terms of friendship, arrived in town about the time the Doctor mentions; he was invited to spend the short time he intended remaining in town at our house; he was not, however, accommodated with the same bed and bed-chamber in which two or three weeks before the young man had died (a decent manner, by the way, of accommodating a friend, even disbelieving as I do, the contagious nature of the disease); on the contrary, he never slept in the same room, much less upon the same bed, which indeed was never in the house during Mr. S.'s stay with us. Dr. Fraser must therefore have written upon very erroneous information, when he communicated his opinion to Sir A. Halliday. Of the nature of the disease, not being a medical man, I am not competent to speak, but I have frequently attended with impunity upon persons suffering under it. Another young man belonging to our establishment, newly arrived in the colony a short time since, was taken ill with the prevailing fever. I had him immediately brought into my own room, being more airy, and put upon my bed; he recovered, and as soon as he was convalescent, returned to his own room; I have in two other cases done the same, and have slept with impunity upon my bed afterwards without thought or fear of contagion. I have had frequent communication with Mr. Schomburgk since he departed upon his last expedition; in no one of his letters does he mention anything about the Indians, who accompanied him to town having died, or communicated the infection to others of their tribe; he certainly states that both himself and most of the Indians who accompanied him had suffered from fever, but he does not state it to have been of a malignant description, or that it in any one case terminated fatally. I should not have trespassed so long on your time, but when I reflect upon the dreadful consequences that might ensue from the spread of such a doctrine, I think it to be the duty of every person, as far as in his power lies, to controvert it.

Your obedient servant,

(Signed)

I. S. STUTCHBURY,

Druggist, Georgetown, Demerara.

No. 2.

Georgetown,

28th December, 1838.

MY DEAR SIR,

I REGRET that I cannot now enter into all the particulars that may be required in order to refute totally the opinion of Dr. William Fraser, in reference to the contagious nature of the yellow fever now prevalent in Georgetown. The reason is, the letters I expected from Berbice have not yet arrived, and therefore I am yet without *authentic* accounts as to the commencement and spread of the yellow fever in that county. As, however, I promised you to have some answer prepared to his strange epistle by to-day, I now proceed to notice some of the proofs of the contagious nature of the yellow fever as addressed by him in the "Medical Gazette" of the 20th January last. If you please to read over the ninth paragraph of Dr. Fraser's letter relative to Mr. Schomburgk and the Indians, you will find the particular propositions in reference to the point of dispute, viz., that Mr. Schomburgk and his Indians had yellow fever; that Mr. Schomburgk got it by sleeping in a bed, and residing in a bed-chamber, where a person had previously died of yellow fever and black vomit; and thirdly, that the Indians carried this disease into the interior where it spread. This is the most tangible of the cases adduced as proofs by Dr. Fraser; the rest of his cases are either anonymous or hypothetical, or placed beyond the reach of easy inquiry. On seeing this proof, I immediately went to Mr. Stutchbury's, a respectable chemist and druggist in America Street, and an intimate friend of Mr. Schomburgk, where Mr. Schomburgk had resided during his last visit to Georgetown from his expedition up the Corantyne River, and I made all the inquiries necessary, in order to obtain the true statement of facts. I also inquired of the medical gentleman* who attended the sick Indian in the retinue of Mr. Schomburgk, and read over the several letters which have been received from Mr. Schomburgk since he quitted Georgetown on his present expedition. What was my surprise to find that every assertion in the ninth paragraph of Dr. Fraser's letter is unfounded, first because Mr. Schomburgk *never had an attack of yellow fever*; that his only sickness while in town was a pulmonic disease, to which he is occasionally subject, and a slight attack of his usual fever, for which he took his usual remedy, quinine; secondly, that he came to reside at Mr. Stutchbury's a month after Cherrington's death, but never inhabited the room where the patient had died, nor even the same floor, nor

* Dr. Bonyun.

slept in anything but his own hammock while in town; that the patient (Mr. Cherrington) who died on the 23rd June, after eleven days' sickness in Mr. Stutchbury's house previously never had black vomit, and that his bed had never been used after, having been accidentally destroyed in consequence of being put out to sun, and forgotten till the rains had rotted it. As to the Indians (about six or seven in number) there happened no fever case among them. There were three deaths: the first was an Indian woman named Catherine, who died in Georgetown of dropsy, her husband named Solomon (who came from the Macousi country), was worn out by fatigue, suffered from nostalgia, was quite unfitted to accompany Mr. Schomburgk in his present expedition, was left behind, with his wife Catherine, in Georgetown; on the day of her death, 22nd September 1837, he left Georgetown for Berbice on his way home, but died shortly after his arrival on the Corantyne coast; he never was known to have had a day's fever all that time. The account of the third death I have from a letter of Mr. Schomburgk, now lying before me, dated "Mausi Village, Pirara, June 25th, 1838." I take the liberty of extracting the portion relative to this death. After lamenting for poor Catherine and Solomon, who died after he left the town, and of whose fate he had just then heard, he continues, "Their death has much concerned me. Solomon was a good Indian, and much attached to me. I have lately suffered another loss; my servant Van Meurs, a relative of theirs, died on the — instant. We were attending divine service; a missionary (the Reverend Mr. Youd) having lately arrived here under the direction of the Church Missionary Society, Van Meurs used that period, and broke in with his comrades upon the lately arrived brandy, and must have passed all bounds. We found him drunk; and I am much afraid he must have had another sup in the course of the night, having likely hid some brandy. Enough, we found him next morning in a most dangerous situation. All possible means in our power were resorted to, and towards evening we considered him past all danger; but about eight o'clock on Tuesday morning he breathed his last. With the exception of his immoderate love for spirits, he was a most useful and faithful servant."

This is all Mr. Schomburgh mentions of deaths among the Indians in any of his letters, up to the very last one received in Georgetown about a fortnight ago. He never mentions any epidemic or contagious disease at present or then among the Indians, nor of any deaths happening among his followers in the interior, except the case of Van Meurs; how, therefore, Dr. Fraser got his information, I cannot divine. I know of no other traveller lately in the interior

than Mr. Schomburgk, nor any other more authentic accounts from the "sylvan villages" than those received from Mr. Schomburgk within the period of the commencement of his last expedition, and his letters bearing the date of last month. I cannot, therefore, account for the perfect antithesis to truth which is observed in this part of Dr. Fraser's letter. I firmly believe Dr. F. to be incapable of doing a dishonest or dishonourable act, or of uttering a syllable of wilful untruth; but how miserably he has been deceived on this point, you may perceive by comparing the ninth paragraph of his letter with the facts I have here adduced, and which are known to o many professional and non-professional persons of this town. Dr. Fraser denounces (in his conversation here with me and others of our profession) Sir A. Halliday for having published his letter, which he considered to have been strictly a private one, and not prepared or written for the public eye: be this as it may, his letter is published, and his proofs are untrue. I hope shortly to have the pleasure of communicating to you a few more facts, which will further expose the fallacies contained in Dr. Fraser's letter, and some observations which I myself have made on this malady (the yellow fever), which is now as prevalent in the colony as it ever has been since its first appearance in the month of April, 1837.

I am

Yours, very truly,

(Signed)

D. BLAIR.

Dr. Hackett,
Staff Surgeon.

No. 3.

New Amsterdam,

30th December, 1838.

MY DEAR SIR,

ON receiving your letter, requesting me to make certain inquiry regarding the malignant fever which prevailed here in the autumn of 1837, I submitted your questions, in the form annexed, to Dr. Hollingsworth, which he answered, as you will see in the column opposite the questions. I also have written to Dr. Beresford, from whom as yet I have received no answer; but if it comes to hand before I conclude this, I will enclose it.

The rotation of the early cases was as follows:—

May 1. Rev. — Howe.	}	One domicilium. A. R. Hollingsworth, M.D. Both fatal.
„ 2. Rev. John Wray.		
May 3. A young man recently from Europe, <i>viâ</i> Demerara.	}	Dr. Beresford. Recovered.
June 16. Rev. Joseph Ketley, a few days from Demerara.	}	E. P. Cameron, M.D. Recovered. Saline treatment ; Dr. Stevens' plan.
July 4. Mr. Parish, schoolmaster, London Missionary Society : never any intercourse with Mr. Wray's family.		
	}	Dr. Hollingsworth. Fatal case. Black vomit. Bled ; saline treatment.

After these five cases the disease began to appear among the sailors, and continued to rage among them until November, when it suddenly disappeared. I never saw any thing to lead me to suppose the disease in the slightest degree contagious. I myself have slept in the same apartment with a confirmed case of yellow fever, which terminated with black vomit ; and more, a young gentleman, a few days from Europe, insisted on relieving me on my watch ; nor was he attacked by any symptoms of malignant or other fever, although in a state of body at the time, from the irritation of mosquito bites, which might have rendered him in an extreme degree susceptible of contagion. Another strong fact is, that, in the garrison at Fort Canje, Assistant-Surgeon Turner thought it his duty to recommend all intercourse between the town and garrison to be cut off. You may find the date of the garrison order then issued by Captain Warburton, who commanded here at the time. No malignant case had appeared among the soldiers previous to the order, but shortly after, in consequence (if I may presume to say so) of the hucksters being excluded with their daily supplies of vegetables and refreshing fruits, and the men, being confined to one sort of diet, they betook themselves to the canteen, drank impure spirits, and went into hospital in a few days with yellow fever. Poor Turner himself was seized with fever ; but I could see no symptoms to lead me to call it yellow fever. Dr. Beresford, I am satisfied, will agree with me in calling it a pure case of inflammatory fever ; and I have no doubt that this medical officer fell a victim to anxiety of mind and fatigue in the discharge of his professional duties. The disease cannot be said to have extended itself into the country districts of Berbice at all. The few genuine cases that did occur might certainly have been traced to town, if the circumstance of visiting New Amsterdam for a few hours, without having any intercourse with the sick, can be supposed to account for their sickening of yellow fever. Since my return from Demerara in October last,

I had a case on board the barque "Highbury," whose second mate died with black vomit; and although the ship lay here for six weeks thereafter, no other case occurred. He was treated on board, and in the cabin where the mate and captain slept. I could add to the above a number of facts disproving the contagious nature of this obscure disease; and, if called upon, will do so in a more connected manner.

My dear Sir,

Yours, sincerely,

(Signed)

E. P. CAMERON.

Dr. Blair.

Answers to Questions relative to Yellow Fever proposed by Dr. Blair.

Questions.

Did you see anything to lead you to suppose the disease in question contagious?

Who were the individuals attacked, and what the order and termination of the attacks?

Did the disease spread immediately after the death of Rev. Messrs. Howe and Wray?

Did the yellow fever break out in the country, or town of Berbice first? If in town, what part of it?

What signs, in reference to the tongue, eye, skin, pulse, and ejections of the stomach, do you consider necessary to indicate the presence of yellow fever?

Answers.

Never; on the contrary, much to lead me to form the opposite opinion.

1. Rev. — Howe. Fatal.

2. Rev. J. Wray. Fatal.

3. ————— Recovered.

4. Rev. Joseph Ketley. Recovered.

5. Mr. Parish. Fatal.

1st. Two cases; one house at the Back Dam.

3rd. Clerk; store of Messrs. Foderingham & Co., Front Dam, or Water Street.

5th. Schoolmaster; residence, Middle Dam.

4th. Taken ill on plantation Blezendaal, six miles from New Amsterdam.

After July, the disease broke out among the ships in the river. The disease did not spread *immediately* after the death of any of the above fatal cases, there being a long interval between the last case on shore and the first among the seamen.

The disease broke out first in town; the first two cases at the Back Dam, in Mission Chapel House; the next, Front Dam, store of Messrs. Foderingham & Co.; again at Blezendaal; and the fifth case on the Middle Dam of Town: very few genuine cases occurred in the country.

Tongue at first dry and rough, gradually becoming brown, frequently red at the tip and edges; vessels of conjunctiva injected; pulse below the natural standard; skin dry and hot, becoming, sometimes *suddenly*, at other times *gradually*, yellow; in some cases minute petechiæ made their appearance; ejections from stomach *generally* at first

Questions.

Answers.

What is the site of the headache generally complained of?

In cases of genuine yellow fever happening in Berbice, can you discover if the patients had been recently, before their illness (say fourteen days), in Georgetown?

dark coloured, but as the tongue, petechial skin, together with a hemorrhage from nose, commissures of the mouth, or even from the tongue itself, indicated the presence of a confirmed putrid disease, the black vomit speedily followed, unless the patient either rallied, or sunk from exhaustion.

Across the temples and behind the orbits.

Mr. Ketley came from Georgetown to Berbice, where he sickened; and the clerk at Messrs. Foderingham & Co.'s had recently arrived from Europe, *viâ* Demerara. The majority of my other patients were seamen.

(Signed) E. P. CAMERON, M. D.
Berbice, Dec. 1838.

No. 4.

1. Did the Rev. Messrs. Wray and Howe die of yellow fever, and with or without black vomit?

2. How long after leaving Demerara did the attack commence?

3. Had these gentlemen one and the same, or a different domicilium?

4. How many inmates were in the family, black, coloured, and white?

5. Did Mrs. Wray or Mrs. Howe, the Misses Wray, or sick nurses, sicken with the same kind, or any other kind of fever, during, or shortly after, the illness of Messrs. Wray and Howe?

6. Did any person, doctor, or other, who might have been exposed to the exhalations of the sick chamber, sicken of the *same kind of fever*, then, or soon after such exposure?

7. Did the disease spread THEN; and who were the individuals attacked, the order of the attacks, and the termination?

8. Did you see anything to lead you to suppose that the disease in question was contagious?

1. Mr. Howe died of yellow fever, and with decided black vomit. Mr. Wray had no black vomit, nor was his skin unusually yellow until after death.

2. Mr. Howe was attacked on the second day after leaving Demerara; Mr. Wray on the third day; and were ill five days: both died within twenty-four hours of each other.

3. They were both in the same house.

4. The family were nine in number; and during the illness of Messrs. Howe and Wray, four coloured nurses were added to the number.

5. No person residing in the house, or any person in attendance, had any fever at that time, or shortly after, to my knowledge.

6. Answered above.

7. Many cases occurred after, but the disease was principally amongst the sailors.

8. By no means.

Questions.

9. In the early cases of *genuine* yellow fever, how many of your patients had been shortly before their illness (fourteen days) in Georgetown?

10. What signs, in reference to the tongue, eye, skin, pulse, and ejections of the stomach, do you consider necessary to indicate the presence of yellow fever?

11. What is the site of the headache generally complained of?

Answers.

9. I had no patients with any kind of fever, who had been in Georgetown fourteen days previous.

10. Furred tongue; eyes at first red, soon after yellow; pulse strong; skin yellow; ejections from the stomach dark coloured.

11. The headache, in almost every case, is in the forehead, and pain in the eyes.

The above questions were put by me on the one side of the page, and answered on the other by A. R. Hollingsworth, Esq. M.D., who was the medical attendant on the two rev. gentlemen.

(Signed) E. P. CAMERON, M. D.

No. 5.

Hoff Van Aurich House (Essequibo),

16th December, 1838.

MY DEAR SIR,

YOUR letter of the 4th did not reach its destination until the 14th. I have much pleasure in replying to your inquiries. With the exception to be mentioned, in all the cases of yellow fever that have occurred in my practice, the sufferers had been *recently* in *Georgetown*. The disease most commonly showed itself immediately on, or a few days after, their arrival on this coast. In a late fatal case of Mr. Howe's, the disease did not appear for about a fortnight after he left town. I know no other instance in which the attack was so long suspended. The exception to the remark that Demerara was the source of the disease to all my patients, occurred in *this house*. In August, 1837, there resided here Mr. and Mrs. Bratt, Mr. and Mrs. Fowler, and a white servant-boy of the latter. Mrs. Bratt, without having been in Demerara, was seized with yellow fever, had black vomit, and died. Mr. and Mrs. Fowler were much alarmed, feared contagion, and left the house just before the death of Mrs. Bratt. Their servant-boy had then been unwell for some days; but in the general alarm his case was overlooked, the more readily as he had managed to discharge his usual duties. When his master left this house, the boy was too ill to be moved, and I was called to him. I found him very ill; his

mouth filled with black vomit ; he was delirious, and the pulse hardly perceptible. That I might appear to do something, I ordered a blister over the stomach, and hot brandy to be administered in teaspoonfuls. He recovered ! owing very little to the *Materia Medica*. There was another victim ; Mr. Bratt, after suffering excessive grief for the loss of his wife, at the end of a week, got likewise the disease, and died of black vomit in two days. The grounds around this house were last year, as now, ill drained. That the yellow fever is *not* contagious I am as sure as that I exist. I make a habit of smelling at the breath of those suffering under the disease, hoping to detect in a patient salivation ; I am often bedaubed with the blood of the sick and with the matter they vomit ; I sit for hours on the bedside, watching ; I constantly observe the relations and attendants similarly exposed, and with absolute impunity. I shall be happy at all times to give you any information you may desire, and that my experience of eleven years in this colony furnishes.

I am, my dear Sir,

Yours truly,

(Signed) JAMES FRASER.

To Dr. Blair.

No. 6.

Georgetown,

November 15, 1850.

DEAR DR.

IN reply to your note of yesterday, requesting me to state what prevented me in 1838 from sending the letter you have enclosed to me (which I gave to you some years ago), addressed to the Editor of the "London Medical Gazette," in reference to Dr. Fraser's communication with the late Sir. A. Halliday, as far as my recollection serves me, I think the circumstances were these ; — that as my attention had not been directed to the article in question until so long after its publication, and never hearing an opinion expressed amongst my acquaintances other than that the disease was *not* contagious, and from the nature of my business, and residing in the part of the town where the fever was most rife, I was peculiarly favourably situated to hear what the opinion of the non-medical public was respecting it, — upon reflection, I thought the subject no longer one of public interest. I may add that, some months afterwards, I had an opportunity of re-

monstrating with Dr. Fraser for sending such a statement as he did without sufficient information. He admitted that he must have been misinformed; but that Sir. A. Halliday had made use of a private letter he had addressed to him which he had never intended for publication. This explanation confirmed me in my intention of not sending the letter.

I am,
Yours truly,
(Signed) I. S. STUTCHBURY.

Dr. Blair,
Surgeon General.

No. 7.

Georgetown,
12th November, 1850.

MY DEAR SIR,

I HAVE only this moment received the enclosed from Mr. Forbes, which is a minute and I believe a correct statement of the cases detailed. Those with which I am acquainted are as follows : —

1. June, 1837.— Rev. Dr. McIntosh of St. Mary's, in the colony since 1829 ; ill about seven days.

2. July, 1837.— Rev. W. Haiys, formerly three years in the colony ; only three weeks in Georgetown from Granada.

3. Nov. 1837. — Rev. W. Stewart, about two years in the colony ; left Georgetown with me for Essequibo, and died on the fourth day at Cullen.

4. June, 1840. — Rev. R. Coltart, three years in the colony ; died after four days' illness.

5. June, 1841. — Rev. J. Train ; died in Georgetown, after upwards of two years' residence there and in St. Mark's.

6. In addition to these, there were the Rev. Mr. Gadstone, who died after two days' sickness in Georgetown, July, 1836 ; and

7. The Rev. Mr. McDonald, of St. Mary's, who died about the close of 1841 ; but I am not quite certain that theirs were cases of yellow fever. In none of the above list, however, did any contagion accompany or succeed the case ; and I knew most of the persons who attended them. In my own house Mrs. S. and the children, as well as

myself and the servants, were frequently in the sick room, and we neither feared nor experienced any sinister results.

I have the honour to be,

My dear Sir,

Yours very sincerely,

(Signed) J. STRUTHERS.

Dr. Blair, &c., &c.

Nos. 1, 2, 3, 4, 5, were well-established cases of yellow fever.—J. S.

No. 8.

I LANDED in Georgetown on the 13th July, 1837, with Mrs. Forbes and a white domestic, Anne Nicoll. None of us had ever been in the Tropics before. We went to Berbice on the 19th to the house of the Rev. J. Anderson: next morning I was attacked by what proved a long but not dangerous case of yellow fever; Mrs. Forbes, Anne Nicoll, and the Rev. Messrs. Anderson and Menzies, attended on me constantly through the disease, as well as others; none of them took it. Subsequently, about the beginning of October (the yellow fever having then become slightly epidemic in Berbice, for until then it was not, every case having been brought from Georgetown), Mr. Menzies was seized with it, and recovered: Mrs. Forbes saw him frequently during the disease. Mr. Anderson also was attacked on the 17th October, and was in very great danger; Mrs. Forbes and Anne Nicoll, as well as others, were with him several days during the course of the disease, but did not take it. Mr. Anderson had been some three years and a half in the colony, Mr. Menzies about two. Rev. Dr. Hardy about one month in the colony, and fresh from Georgetown, was attacked in my house at Bohemia, eight miles from New Amsterdam, and died of it on the 24th October. Mrs. Forbes, Anne Nicoll, Mr. Heyland, and several others were often with him, as well as his wife, Mrs. Hardy, constantly; but none of them took it. Rev. Mr. Buchanan landed in the colony in beginning of 1839, and died in Georgetown on the 28th September. He was said to have caught the disease from imprudently sleeping two nights on board a vessel in the river, in which vessel several of the men had died. Rev. Mr. Graham came to the colony in 1839, and died of yellow fever (black vomit) on August 28, 1842. Mrs. Graham, Mrs. Forbes, Rev. Stevenson, and

myself were with him constantly the last three days, and when he died: no one of those in attendance took it. Rev. Mr. Wray and Rev. Mr. Howe of the London Missionary Society were some days in Georgetown in May or June, 1837. Immediately on their return to Berbice the disease declared itself, and they died; but none of their families ever took it. I have never met any one in the colony who believed yellow fever to be contagious. A man seeing the disease and its sudden spread in a large community like Georgetown might be pardoned for believing the yellow fever to be contagious. But any one who has seen the disease, as I have done, in many isolated cases and scattered over a considerable period of time, and no one case of contagion even suspected, must be impervious to common sense if he still retained such a belief.

(Signed) FRANCIS FORBES,
Minister of St. Luke's.

November 11th, 1850.

No. 9.

MY DEAR SIR,

I BEG to apologise for not replying more promptly to your note of yesterday, but I have been much occupied with pressing business. With regard to the inquiry which you do me the favour of making as to my opinion, founded on my own experience and my knowledge of the sentiments of others, on the question whether yellow fever is contagious or not,—it is now a good many years since I have witnessed much of its ravages, and I cannot at this distance of time remember distinctly the observations of others; but my impression is, that it was not generally considered contagious, and this certainly was my opinion. As to your second inquiry, Have I myself suffered from proximity with those suffering from the disease? In 1838 and 1839 I attended, as a clergyman, very many who laboured under the disease, and I had no apprehension of contagion. Before I came to the West Indies I was for some years a curate in the north of Ireland, and there was in the habit at times of visiting persons suffering from typhus fever; and the feelings were very different with which I visited the two classes of patients. The typhus cases I attended with the grave consciousness that my taking the disease myself from the sick was a very possible contingency; but I do not recall to mind that in visiting persons suffering from yellow fever I had any apprehension

whatever of incurring any personal risk. No doubt, as I had not at that period been long resident in the colony, the possibility of myself taking the disease was often present to my mind; but the danger was connected in my thoughts, not with contagion, but with the primary causes of the epidemic, whatever those might be.

I remain, my dear Sir,

Very faithfully yours,

(Signed) WILLIAM FOX, A. M.,
Minister of Christ Church.

D. Blair, Esq., M. D.,
Surgeon General.

No. 10.

Georgetown,

14th November, 1850.

MY DEAR SIR,

IN consequence of the non-contagion of our late yellow fever epidemic having been questioned in high quarters at home, it becomes necessary even at this late period to obtain some further evidence on the subject; and from the many opportunities of observing, and from the many personal exposures which your sacred calling entails on you, I hope you will excuse this reference to you, and be good enough to favour me with answers to the following questions. Did you ever suffer by communication with those sick of yellow fever? Did you ever know or hear of a case which was imputed to contagion? When Mr. Austin was sick of the epidemic, did it appear to spread to any person in the house, to any visitor, to any nurse or washerwoman? With many apologies for the trouble I put you to in replying to the above queries,

I remain,

Very truly and respectfully yours,

(Signed) DANIEL BLAIR.

The Venerable Archdeacon Lugar.

The Parsonage, Georgetown,

14th November 1850.

MY DEAR SIR,

WITH respect to the several questions contained in the above communication, I have no hesitation whatever in answering them by a

decided negative. Should you require this reply in any more formal manner, I shall be happy to give it you.

My dear Sir,

Yours very faithfully,

(Signed) JAMES LUGAR, A.M.

Daniel Blair, Esq., M. D.

No. 11.

6th November, 1850.

DEAR SIR,

IN answer to your note this morning, I beg leave to inform you that no other person in my family had yellow fever in 1837 but Dr. Fraser.

Dear Sir,

Yours very truly,

(Signed) M. FRASER.

Dr. Blair,

Surgeon-General, &c., Georgetown.

No. 12.

Prov. N. Chapel, Georgetown,

14th November, 1850.

DEAR SIR,

IN answer to your inquiry per note just received, I beg leave to state, that while I thought it always prudent, personally, to use every necessary precaution against contagion during the prevalence of the epidemic yellow fever, I remember but one instance in which the opinion of the disease being "possessed of contagious or infectious qualities" appeared to be confirmed; and even that seemed to me as likely to have arisen from predisposing circumstances as from infection. The case was that of the widow of her deceased husband, who, after his death and burial, gave herself up to excessive grief, and would not leave the very part of the bed on which he died. It was in the beginning of the epidemic in 1837, that the late Rev. John Wray of Berbice came to Demerara, and caught the infection by walking through Water Street; but his infection was not by contact with the diseased, but by the inhalation of the miasma occasioned by the rubbish used in the filling up or repairs of a certain part of the

street; for it was from that moment he began to complain, and believed himself to be ill with yellow fever, of which he died. It was thought that his son-in-law had caught the infection from him, as he died only a few days afterwards; but if it had been infectious, I should have expected that the other members of the family would have suffered, only one of whom was laid aside, but recovered. I went to Berbice on the occasion of their death, and after great exhaustion from excessive efforts in endeavouring to improve the death of my ministerial brethren at distant places, was myself taken dangerously ill of the same disease of which they died, though I never entertained the idea that I had caught the infection from visiting their abodes;—from personal contact I could not, as both were interred before my arrival at Berbice. As to “opinions,” I have heard them variously expressed for and against, but without being satisfied on the point, I have ever considered it prudent to exercise due caution.*

I remain, my dear Sir,

Very respectfully yours,

(Signed) JOSEPH KITLEY.

Daniel Blair, Esq., M. D.,
Col. Surgeon General.

No. 13.

Tweedside,

20th November, 1850.

I HAVE delayed somewhat in answering your letter (31st Oct.), wishing not to depend entirely on my own conviction in regard to the two questions you wish for information on. From my own recollection, as well as from that of others, there was no yellow fever in Barbadoes in the year 1837. In 1836, from the month of June or July to December, we were visited by such an epidemic, but I cannot learn that a single case occurred in the year 1837; and I have never

* In my letters of inquiry to the clergy, I gave the utmost latitude for the most discursive reply, inviting not only their own opinions and observations, but also what they had heard expressed by others. I had no previous communication with the clergy on the subject; and I have taken their reply to my inquiries without re-examination or suggesting any correction. You will observe that Mr. Kitley revives an old rumour of one of the Berbice missionaries' wives having been affected by yellow fever from contagion. This subject, however, was long settled, and the report shown to be erroneous, by the testimony of the family medical practitioner, Dr. Hollingsworth. (See his replies to my inquiries.)

heard that it was even suspected at any period to have been brought from Surinam; and I am borne out also on this latter point by every one with whom I have conversed on the subject since receiving your letter.*

No. 14.

Examination of the Newspapers.—“*Royal Gazette*,” 1837.

1st June.—A letter, signed “Medicus,” appeared, in which the causes of the “dreadful fever which is carrying on such destruction in the town” are discussed; and therein no mention is made of importation, but local causes, such as filling up the old Dutch canals in the streets, and the entrance of miasmata from the interior by the lately made Lamaha canal, alone are referred to, and suggestions that the Board of Police should open the street canals.

12th June.—Mr. Cherrington died.

26th June.—“Humanity” recommends the burning of tar-barrels to remove the epidemic.

12th July.—“W.” asks for public prayers to avert the pestilence, which is seconded by an editorial article in which the visitation is imputed to sabbath-breaking.

12th July (same date).—“A husband and a father” calls on those medical men who treated the disease successfully to make public their method, *pro bono publico*.

26th July.—Charles McDougall died.

1st August.—Rev. Charles Rattray’s wife died.

15th August.—“A mortal” calls on a commission of chemists to analyse the filthy trenches and the dreadful “low water stench at the Stelling.” The editor recommends the communication, and remarks on the stench around the news-room, which he calls “a cave of Avernus.”

5th August.—“W. H.” writes a letter; states that the disease prevalent is *not yellow fever*, as “IT IS NOT INFECTIOUS;” and recommends tartar emetic.

29th August.—The Rev. Mr. Bryer died.

5th September.—“Civis” disapproves of the site of the temporary

* This statement is in accordance with the return from official documents inserted by me, p. 46.—ED.

hospital for seamen as unhealthy. Says that the medical men with whom he has spoken consider the disease "only ordinary colony fever" under an unfavourable atmosphere.

4th January, 1838.—The editor of the "Royal Gazette," in his retrospect of the year, refers to the epidemic yellow fever as extinct.

19th April.—Dr. Hackett, staff surgeon, writes to the governor about the wretched state of the barracks; and the editor, in a comment, calls on the authorities to look after the drains, &c., as we are now approaching the time of year when the yellow fever broke out.

17th September.—A public meeting was held in the Court of Justice, his Honour the high sheriff in the chair, to consider the propriety of establishing a seaman's hospital. An editorial article appeared on the 15th recommending the object. The public meeting was attended by all the influential merchants of Water Street, many ship-masters, &c., four of the city medical men. Committees were appointed; correspondence with the governor and Court of Policy took place. At an adjourned public meeting a report was adopted which the colonial government acted on, and established the present seaman's hospital. An angry discussion between two or three parties continued to occupy the newspapers for some time after the first meeting. One party suggested a floating hospital; but that was overruled, as, unless in a very inconvenient situation, the hospital would be moored in the disease-bringing locality. Another party wished the colonial hospital to be enlarged for the admission of seamen; but this was also overruled, as it *would be exposing the seamen to the contagious diseases of the colony*; and, to prevent any such risk, a separate establishment was almost unanimously determined on.

22nd November.—The letter of Dr. Fraser having become known in the colony, Dr. Hackett, staff surgeon, sent as an antidote and reply a paper of Dr. Ferguson on yellow fever.

3rd August.—There appeared in the "Guiana Chronicle" a letter, signed Thomas K. M'Lennan, M. R. C. S. L., on the yellow fever. After stating the imputed local origin of other epidemics of that disease, he remarks, "Now it is from sources of the same nature as some of those described above, that the fatal fever of last year, which is not yet extinct in this town and harbour, is propagated." "The bad drainage of the town; the full and dirty small drains and privies, situated in improper and disgraceful places, which in case of heavy rains are but very partially swept down to the front of Water Street, where a horrid and infectious swamp is formed all the way from Dr. Rodie's Lots in Cumingsburgh to M'Inroy, Landbach, and Co.'s (with the exception of the improvements made by Messrs. Glen and Co. and their spirited neighbours in their division of the town), together

with the filling up of so many mud lots and stellings with all kinds of decomposing materials;—the combination of these create sufficient material to account for the sickness we have experienced.” Not a word is said of contagion or of importation.

26th November.—A letter signed “W.” appeared in the “Guiana Chronicle,” referring to the now discovered letter of Dr. Fraser and Sir A. Halliday, insinuating that Dr. Fraser obtained the office of health officer through Sir A. H., and asserting that they shared the emoluments, which of course would be largely increased by the indiscriminate quarantine which the two recommend.

21st December.— Appeared, in same paper, an editorial article, acknowledging the receipt of a communication from “W.” of thirteen pages of foolscap, but which he, the editor, does not publish, as four of the pages consist of vituperation against Dr. Fraser. The object of “W.’s” letter was to refute the statements of Dr. F. in his letter to Sir A. H. The editor publishes the letter of Dr. F. as it appeared in the “London Medical Gazette”—its first publication in the colony; and after stating, “We can only express our surprise that all our medical practitioners in this colony should so long have been uninformed of the existence of such a letter, and should betray such indifference on the subject after its publication in so generally circulated a periodical, and under the sanction of so respectable a medical recommendation as that of Sir Andrew Halliday,” he goes on to make his own non-professional observations on it. He asserts, but in friendly tone, that Dr. F.’s description is overdrawn; that the epidemic, instead of causing so much sickness, alarm, and destruction of human life *throughout* the colony, as represented by Dr. F., was only *partial*, and the representation of Dr. F. was “greatly exaggerated;” that the statement now made, of the disease having prevailed in Surinam and Barbadoes prior to our epidemic, and that it found its way from thence to this colony, should be carefully inquired into. The editor proceeds: “These statements, we are told, have decided the scepticism of Dr. Fraser as to the contagious nature of yellow fever. We own that further evidence as to the correctness of these statements will be required before we shall feel induced to change our opinion, founded on eighteen years’ experience and observation, tending to an opposite conclusion.” . . . “That the mortality among our shipping, and with new comers, especially in Water Street, was very great, will not be denied; but the subsequent statement, that its pestiferous force from thence emanated, and spread its infection to every quarter and corner of the colony, we wish to see disproved by higher authority than our mere assertion.” . . . “The assertion that seven or eight funerals formed the daily average of this awful and

calamitous period of the destroying angel's visitation, would be best answered by a publication from authority of the obituary of the time. We have seen it, and venture to say that it will not support this highly-wrought picture, although occasionally sufficiently melancholy. We believe we may assert that the daily average of deaths was one and a fraction." . . . "The remainder of this long section, where it is stated that no shade or caste of colour made the least difference; that it at last carried off its victims from every description of the human race inhabiting this province, will probably surprise our readers, who, we venture to say, have scarcely heard of any instance of death by yellow fever except among the shipping or new comers from Europe residing in this town, chiefly along the river side." . . . "In fact, we have not heard of any estate in the colony losing a single negro by yellow fever for many years past." . . . "We shall not proceed any further in our notices on this letter, as it is less our object fully to reply to it ourselves than to induce others better qualified so to do."

The editor concludes by, "We think it especially behoves the medical faculty of this colony to animadvert on this letter of one of their body, unless they wish to have it understood that they sanction all the statements and theories it contains."

22d December. — There appears in the "Royal Gazette" a short letter, signed "W.," complaining of the injustice of the editor of the "Chronicle" in suppressing his communication regarding Dr. Fraser's letter, although he criticises that of "W." It is probable that "W." is the *nom de guerre* of Dr. Bascome.

1839 contains no communication on the subject of the epidemic, but many attacks on the mode of conducting the New Seaman's Hospital; all, however, successfully repelled.

No. 15.

List of Physicians, Surgeons, and Licensed Practitioners in British Guiana. — From the "Local Guide," 1842.

Georgetown. — J. H. Alleyne, Joseph Bankhead (Col. Hospital), E. Bascome, D. Blair, G. R. Bonyun, F. Clancey, C. Clifton, H. G. Dalton (Seaman's Hospital), J. M. Fraser Dodgson, J. R. F. Hutson, J. M. Johnstone, H. A. Kock, E. J. M'Nish, E. A. Manget, Sir M. M'Turk, J. H. Pollard, T. Pollard, M. C. Van Well, H. Hutson.

East Coast. — J. Scott, J. Merry, N. Martin, David Spence, Thomas Reid.

Mahaica. — T. M'Creath.

Mahaicony. — T. K. M'Lennan, T. Gilbert, sen.

East Bank, River Demerara. — — Houston, Wm. Bruce, Hon. W. Rankin, W. M'William.

West Bank. — S. S. Forte, A. S. M'Farlane, J. G. Clifton, — Black.

Hobaboe Creek. — H. Rodie.

West Coast. — P. F. Watt, J. Paton, J. M'Lagan.

Leguan. — E. G. Boughton, W. Miller.

Wakenaam. — H. A. Dobridge, P. Croal.

West Bank, Essequibo River. — — Cooper, W. C. Stack, H. S. Vandamzorg.

Arabian Coast. — James Fraser, E. Cullen, D. Brydges.

Pomeroon. — W. Paton, T. Gilbert, jun.

Penal Settlement. — S. Cramer.

Berbice. — J. J. Dare, J. B. Beresford, John M'Kenzie, W. H. Tucker, E. P. Cameron, John Cameron, John Fairman, R. Smith Dupré, J. C. Jamieson, W. Richardson, A. R. Hollingsworth, jun.

No. 16.

Canal, No. 1.

29th November, 1850.

DEAR SIR,

I DULY received yours of the 14th instant ; and I will now supply, so far as I can, the information required on the subject referred to. I believe the disease of which Mrs. Rattray died was yellow fever. . . . I have no reason whatever to believe that the disease was communicated to her through any afflicted person or by contact with any infected thing. I am not aware that any other case of yellow fever, or supposed yellow fever, occurred in this district in 1837 except one, that of an overseer, a *new comer*, who died on the second day of Mrs. R.'s illness : between him and her there could have been no possible communication ; and neither myself, nor children, nor any person employed about the house, nor any visitor, ever had any thing like yellow fever at the time of Mrs. R.'s illness or after her death. I had just completed my third year in the colony ; and when she was taken ill, I was suffering from the *first* attack of intermittent fever that ever I had. . . . Our house had been finished in May ;

it was then painted; and we went to live in it in the early part of June. The weather was close and sultry, and wet, though the rains were not very heavy. Our new house was situated on the south-west corner of an abandoned coffee estate, where two acres of land had about seven months before been cleared, leaving the high bush on the east and north sides. By the time that our house was finished a thick crop of wild starch had grown up; and when we came to reside there it was cut down. The new house recently painted, in short not yet dry — the mass of recently-cut vegetable matter lying around during the close weather, with now and then a few hours of very hot sunshine — the high bush so close to our residence on the windward — may have combined to make our situation there unhealthy at that particular time.

I remain, dear Sir,

Yours very truly,

(Signed) CHARLES RATTRAY.

Daniel Blair, M. D.,

Col. Surgeon General.

P. S. I recollect the Rev. Mr. Murkland had the yellow fever in 1837. He was taken ill in town, and lay at Mr. Ketley's. He was very ill, but recovered. I know Mrs. Murkland had no symptoms of it after waiting on him; and I never heard of any of Mrs. K.'s family having any such symptoms. Dr. Clifton attended him.

C. R.

No. 17.

Names of the several resident surgeons, dispensers, and stewards who served, varying from a period of six months to two years and upwards, in the Seaman's and the Colonial Hospitals, during the yellow fever epidemic.

Drs. Johnston, Rowe, Bonyun, Koch, Dalton, and Bankhead.

Dispensers. — Harris, Hessener, Driver, and Allen. Mr. Bill, who died the same night he was gazetted to the office, never served.

Stewards. — Gillis, Myers, Jones, Burke, Stewart, Wicham, Rice, King.

No. 18.

Names of Board of Directors of Colonial and Seaman's Hospital, extracted from "Local Guide," 1843.

COLONIAL HOSPITAL.

President.—Honourable U. J. F. Bach.

Members.—Venerable Archdeacon Lugar, Rev. Jas. Struthers, D.D. (the minister of the Dutch Reformed Church), Rev. E. Macnamara, Colin Simson, Thos. Naghtan, Adam Vinfhin, Peter Miller Watson, John Cooper, and Alex. Wishart. W. E. Peirce, Secretary.

SEAMAN'S HOSPITAL.

Sir Michael M'Turk, Hon. H. E. F. Young, William Davison, William Brand, George Blacklock, Thomas Kirkpatrick, P. Gilbert, Geo. H. Loxdale, J. C. Preston, Westaway Howes, and Alex. Duff.

Note.—None of the above named gentlemen suffered from an attack of yellow fever.

Extract from the Hospital Rules and Regulations.

"Two of the directors shall visit the hospital at least twice every week, in such order and rotation as may be from time to time appointed, and shall investigate any complaints that patients may have to make regarding their treatment in hospital."

No. 19.

Copy of tariff of fees paid by the schooner "John," of about 30 tons, every time she cleared from this harbour, in her trade with Surinam, contained in letter of complaint from Captain Forbes in the "Guiana Chronicle," 1st March, 1836.

	Guilders.	Stivers.	Charges in Surinam.
"Harbour-master's fee	- f	15	f 3
Boat with health officer	-	6	f 3
Health officer	- -	12	f 3
Bill of health	- -	11	f 3
Receiver's office	- -	20	10
Gov. sec. office	- -	20	f 5
High sheriff's office	- -	12	
Pilot's office	- -	22	
	f	118	10

Note.—The health officer is paid extra for visits when a vessel is in quarantine.

No. 20.

Certificate of parties put in quarantine on the return trip of the schooner "John," 19th March, 1836. Quarantine imposed for three days, viz, till date of certificate.

"We, the undersigned, passengers on board the schooner 'John' from Surinam, do declare that there was no contagious disease prevailing in that colony, and that the colony is generally healthy.

(Signed) { " HUGH M'LEOD.
" M. G. VANDERPANT.
" WIDOW N. RIGUBOUT."

Quarantine Grounds,
21st March, 1836.

No. 21.

Minute of financial accountant, showing daily average number of NURSES (exclusive of cooks, &c.) in attendance in Colonial and Seaman's Hospitals, for 1842.

Office of Financial Accounts,
23rd December, 1850.

SIR,

IN accordance with your request for information as to what was the average number of nurses employed in the Seaman's and Colonial Hospitals during the year 1842, I have made up a statement from the pay-lists of both hospitals, and the result you will find at the foot of this communication.

I have the honour to be, Sir,

Your most obedient servant,

(Signed) W. B. POLLARD, A.F.A.

To Daniel Blair, M. D.,
Colonial Surgeon General.

Average daily number of nurses in the Seaman's Hospital during 1842, seven (7). Average daily number of nurses in the Colonial Hospital during 1842, fifteen (15).

W. B. POLLARD, A.F.A.

Note.—As the search involved considerable trouble and time, I did not ask from Mr. Pollard more than the average of one year, viz. 1842, the year of the second culmination of the epidemic.

LONDON:
SPOTTISWOODES and SHAW,
New-street-Square.