HISTORY OF THE PROGRESS,
AND
INQUIRY INTO THE CAUSES
OF THE
YELLOW FEVER,
AS IT APPEARED IN THE ISLAND OF ANTIGUA
IN THE YEAR 1816.

BY A. MUSGRAVE, M.D.
OF ANTIGUA.

COMMUNICATED
BY DR. FERGUSSON,
INSPECTOR OF HOSPITALS.

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IN the early months of the year 1816, the island was in as healthy a state as one of equal population could well be expected to be under any circumstances or in any variety of climate. Indeed, from the time of my arrival in the West Indies, which was in November 1814, up to June 1816, I considered Antigua as peculiarly fortunate, and wondered whither had vanished those formidable diseases which in the schools of medicine are impressed upon the student's mind as the greatest

scourges to which humanity is obnoxious. Fever and dysentery, in their aggravated forms, seemed to have deserted the west for some less favoured region. No epidemic of any description had made its appearance for a very considerable lapse of time either among the white or coloured inhabitants, and Europeans were induced to flatter themselves with as great an immunity in this, as their own, generally accounted, more salubrious climate could possibly confer. A few sporadic cases of fever were undoubtedly met with at intervals, but these were not fatal, and, with few exceptions, easily yielded to the remedies employed for their removal. The severest instance I ever remember to have seen previously to the period I am about to notice, occurred in December 1815, in the person of the master of a vessel trading from Liverpool. He was remarkably robust and plethoric, and the attack appeared to have been induced by great exposure to the sun in the prosecution of his duty. The brain was the organ which principally suffered: the determination of blood towards it was alarming; but the symptoms were eventually subdued by the early and most liberal use of the lancet. At four bleedings upwards of 100 ounces were drawn. Soon after his recovery we were called to a young man, recently arrived from England, whom we found with nearly the same symptoms. A similar mode of practice was pursued as with our first patient, and the result proved equally successful. In February 1816, an officer, major

in one of the regiments stationed here, was attacked and recovered under our care, and the last instance I can at present recollect was that of a Frenchman in March, also favourable in its result. The officer alluded to had resided many years in this climate, but was a good deal exposed to the damps at night and rays of the sun by day, in travelling from a neighbouring island in a small passage boat, previously to his illness; which appeared to me sufficiently to account for it. Indeed both these cases were too completely isolated, to admit of their being viewed in any other light than as sporadic.

With results so uniform to a few scattered examples, can it be wondered that an inexperienced but sanguine practitioner, who had never viewed the disease in its more concentrated form, should be induced to think, that if *ever* a patient in fever was lost (provided he was seen on its first accession), the failure must be in a great measure attributed to his medical attendant? I sincerely wish that I had never been since constrained to relinquish such pleasing, but I lament at the same time to acknowledge, delusive confidence.

On the 18th of June 1816, two seamen were admitted into the parochial hospital, situated on Rat Island, on the footing of accidental poor. They were stated to be out of employ, and to have been taken ill at the house of a coloured woman, in the

north-west part of the town called the Point, where they had boarded for some weeks. They had been evidently attacked with fever, and, from the account received, one had but just commenced, the other had proceeded as far as the close of the third day of the disease. On visiting them I will candidly confess, that the symptoms at that time by no means impressed me with any particular dread of their afterwards assuming the character which was ultimately evinced. No headach or other uneasiness was complained of except (what they themselves attributed to a continued recumbent posture) about the back and loins; but they mentioned that they *had* suffered much from severe pain across the forehead. The febrile heat had considerably abated if it had ever been great. He who had been longest indisposed, said he had ~~thrown~~ up a good deal in the morning, but was then relieved from nausea. Their pulses were under 100, and no pain or burning sensation was felt about the epigastrium. I prescribed for them as had been usual during the remissions in those cases which have already been touched upon. The lancet of course was deemed inadmissible on account of the advanced stage of the disease. I was shocked to hear on the following morning from Dr. Daniell who had visited the Hospital, that he considered both the lately admitted patients in imminent danger. Their stomachs had become extremely irritable during the night. On one a light yellow suffusion was perceptible over the whole

body ; and to Dr. Daniell, versed by long experience in these appearances, the fluids thrown off in retching seemed suspicious and indicative of approaching black vomit. He was but too correct in his prognosis ; and the scene with both of them closed on the fifth day, preceded by this symptom, and all the others which are more exclusively attributed to the Bulam or Yellow Fever by those who attempt to distinguish it from the common form usually denominated bilious remittent.

By subsequent reflection I have never been divested of the impression that these were instances somewhat anomalous both in their symptoms and progress. That I, inexperienced as I was, should be deceived in a disease of which I then knew nothing but what I had been able to collect from writers on the subject, cannot create a moment's surprise to any individual : but when I retrace in my memory the appearance of these patients when I first saw them, and contrast it with that of others, at the same advanced stage, whom I afterwards saw fall, as they did, its victims, I look in vain for the dull, suffused, and watery eye—the parched, discoloured tongue—that peculiar anxiety and restlessness, with other marks not easily described, (but of which a description is unnecessary to those who are conversant with Yellow Fever,) the presence of which very frequently decides the attendant in a fatal prognosis, when the patient denies, like them, all local uneasiness, and replies to your

inquiries that he feels considerably better, when perhaps the pulse does not number above 90, and the stomach may be yet comparatively retentive.

But to return to my subject. These were decidedly the *two first* cases which appeared of the epidemic under consideration. Another seaman was admitted under precisely similar circumstances on the 24th of June, (which was the fourth day of his disease,) and died with black vomit in about twelve hours afterwards; and he was followed by a fourth from the same quarter, who had been also allowed to go on to the third day before assistance was called for. The termination was likewise fatal, but with this difference, that the brain and not the stomach was the organ affected. The latter was perfectly retentive to the end, and the patient died comatose; a fact of which I shall hereafter avail myself in considering another point. These two last persons had not, as far as we could learn, any communication either with the two former or with each other.

The cases now became numerous, but entirely confined to that part of the town. The individuals affected were, generally speaking, sea-faring people; but that was to be accounted for from these being the only residents there who were fit subjects to be acted upon. Where reduced circumstances or other causes obliged new comers of a different description to take up their abode within what then

appeared to be the sphere of its influence, we found that they experienced no greater exemption than seamen from the prevailing malady.

The first death which happened in what I may term private life, was that of a landed proprietor who had only been a few months in the island for the purpose of inspecting his estate. He complained first, as I understood, (for we did not attend him,) on the 6th, and died on the 11th of July. He was during his illness and at the time of his death at his own house in the country; but it was clearly ascertained that, the day before he was attacked, he had dined with a friend residing in the quarter of the town already alluded to under the denomination of the Point, and that he had been frequently in the habit of doing so, and of not returning home till late at night. It may not be improper, however, to mention *en passant*, that the dwelling-house on the property where he resided, is almost completely surrounded by marshy ground.

The next case conspicuous from its fatality, with all the distinctive marks of singultus, hæmorrhages, black vomit, &c. was that of our assistant, who was taken ill on the 15th of July. His residence, though not within the limits I have described, was still in the west quarter of the town leading towards them. Besides, poor fellow! his duty had frequently called him in the evening to visit the

sick lately admitted into the Rat Island Hospital, and both in going and returning he was necessarily obliged to pass (sometimes as late as nine or ten o'clock) through the Point, and of course was exposed to whatever was to be considered the cause of the late alarming frequency of fever. I am not unaware that it may be urged by its advocates, that he was also fully exposed to contagion in these visits. The fact cannot be denied if we admit the *existence* of contagion ; but I must refer all arguments on this head to their proper place.

At the same time that our assistant was confined, and during all the latter part of July, several examples occurred in the streets intervening between that in which he resided and the Point, and many of them in persons of the first class of society ; but it was not till the beginning of August that they extended to the body of the town. Soon afterwards, however, the disease spread rapidly, and I was on the 10th called to the officer commanding the detachment of the 4th West India regiment then in the barracks (which is directly to the eastward of St. John's) ; and at that period there was scarcely a part of the town in which there was not, or had not been, a case of fever. In one street which is termed the Pasture, where the principal dry good stores are kept, the instances were both most numerous and most fatal ; which leads me next to notice the different classes of inhabitants which more particularly

suffered ; but, previously to doing so, I must endeavour to give satisfactory answers to two queries which I am convinced will comprize a very considerable portion of the information you are anxious to obtain. 1st, What are the local peculiarities of the north-west part St. of John's called the Point, with its relation to the surrounding country? and 2dly, Whence were those seamen who first perished by the epidemic traced to have arrived, and under what circumstances?

In reply to the first it will be necessary to say but little. The houses there are not merely exposed to currents of air which have previously traversed a marshy surface, but they are absolutely standing in a swamp. Three or four streets cannot with safety be passed on horseback, and the path, which those on foot are obliged to select with the utmost circumspection, is afforded only by artificial ground. The house of the coloured woman from which the two first cases emanated on the 18th of June, forms one of a row terminating the town to the north-west. From the very threshold of her door stretching to the northward and north-west, an extent of marshy ground proceeds for nearly two miles, and also to the north-east for a considerable, though not so great a distance : and as I have already stated that three or four streets to the southward of this are absolutely built in a swamp, the inference is plain, that from whatever quarter the wind may blow, it will bring with it a

noxious impregnation; nay, from the imperfect manner in which these huts are constructed, miasmata must spring up from beneath the very beds they contain. When we reflect on these indisputable facts, we are constrained to wonder, not that an epidemic should have originated there in 1816, but that every revolving year does not bring with it melancholy examples of the baneful nature of the exhalations which we should suppose are necessarily generated in such a situation. In fact, although nothing so extensive is to be met with elsewhere, every part of St. John's may be deemed (with few exceptions) more or less exposed to the effects of marsh effluvia. Swampy tracts are seen just beyond the southern outskirts of the town, and to eastward they are abundant at some little distance, although a good deal intercepted by what is called Government Hill.

In reply to my second query, I shall transcribe the answer to a note, written by me to the owners of the vessel in which the two seamen who were first attacked arrived in the island, requesting particular information on the subject, and which I think sets the point of importation completely at rest. "Agreeably to your request, we inform you that the Achilles arrived from Charlestown on the 25th of April 1816. At the time of her arrival the crew were perfectly healthy. The two men who died at the hospital were discharged from the vessel on the 5th of May following, conse-

quently the fever which they were attacked with must have been taken since that time."

The two succeeding victims in the Rat Island Hospital I ascertained to have been equally long unemployed, to have arrived in vessels whose crews were perfectly healthy, and to have themselves continued so for a considerable period after their discharge. In corroboration of these circumstances I may also state, that no individual, either in medical or private life, has ventured to hazard a suspicion of the fever's having been derived from foreign origin, founded on any alleged fact or shadow of fact, although the doctrine of contagion has been, I believe, feebly supported by one of the former class, but by *one* only.

The epidemic in Antigua differed little in its selection of subjects from what has been invariably remarked by every writer on Yellow Fever. It for the most part attacked Europeans, and spared the native inhabitants: but of all descriptions of the former who came under its influence, the Scotch were those on whom it appeared to commit its greatest ravages. The street called the Pasture, formerly alluded to, is almost exclusively occupied by them (so much so as to have obtained the vulgar appellation of the Scotch Row), and here the cases were principally accumulated, giving a proportion of deaths exceeding any thing observed in other parts of the town. This is a

fact in my opinion worthy of attention ; for although the individuals there affected were generally young, sanguineous, and recently arrived, they were still in that situation universally believed to ensure not only a temperate, but an abstemious mode of living : they were chiefly clerks and apprentices in the different dry good stores, at once too respectable and too much under the controul of their employers to descend to the use of spirituous liquors, and too subordinate to be allowed any quantity of wine. On the other hand, almost all those who were invaded among the higher ranks of society recovered, and not a few of them where, from the short period of their residence in the West Indies, added to their general habit of body, we had every reason to anticipate an unfavourable termination. Besides, the instances were not only on an average more fortunate when they did occur, but many of this description of persons altogether escaped, and enjoyed the most perfect health during the whole course of the epidemic. This was strongly exemplified in a gentleman personally known to you. He had but lately visited the West Indies for the first time in his life ; was of that temperament supposed to be more peculiarly obnoxious to the disease ; he lived freely ; exposed himself to the sun in a manner reprobated by his friends as the highest degree of imprudence ; did not hesitate to visit any acquaintance labouring under fever ; and yet was favoured with complete exemption from the most trifling indisposition.

I am far, very far from wishing to inculcate any doctrine calculated in the most distant degree to promote excess or irregularity ; but from what I have seen I feel convinced, that generous living, short of intemperance, such as is usual with the superior classes of society in this island, (among whom, it is highly gratifying to state, intoxication is almost unheard of,) will not prove detrimental ; and that freely open bowels, induced by the frequent exhibition of saline or other cooling aperients, the habitual use of the cold affusion in the morning, and wearing flannel next the skin, which guards against all sudden transitions of temperature, will be found by our European visitors to constitute the best prophylaxis. In advancing these sentiments, I am not unaware that they militate against the generally received opinion, and particularly against that of a late respectable writer on tropical climates, Mr. Johnson ; but I cannot at the same time forget that they have an advocate in the eminent professor at present in the practical chair at Edinburgh, Dr. Gregory, whom I have heard more than once relate a fact which occurred at Leyden in a society or club of four and twenty young men, to each of whom a bottle of claret was by agreement allowed. One only of the number declined availing himself of the rule, and he alone fell a victim to fever. The Doctor's accompanying observation I transcribe as it appears in my note-book : " I must not be understood to commend a bottle of such wine as is in common

use here, for that would be too much, but a moderate allowance will certainly prove beneficial."

Among the Europeans, I must confess my surprise at finding that little distinction was made by the disease between the full-blooded and those of a different description, or between males and females : its attacks on the latter, indeed, appeared at times to be marked with augmented virulence. The period commonly allotted by authors for assimilation appeared likewise to be too much limited, for many sufferers had resided four or five years, or even a much longer time in the climate. Our assistant, whom we lost as I formerly mentioned, had been two years and a half in the island ; was necessarily during that time, from the nature of his profession, inured to exposure to the sun and every vicissitude of weather ; and was of as sallow a complexion and spare (I would almost say emaciated) habit of body as will be found in one of a thousand who have never from their birth been beyond the range of the tropics.

Although the native inhabitants were, as I said before, generally spared, they were not altogether exempt from the prevailing influence. We met with three or four cases among them in our practice, favourable however, and all in individuals who had at some time or other changed the climate for Europe, except the infant child of a merchant. This last was indeed a very singular

instance: the attack was ushered in like the infantile remittent fever so well described by Dr. Pemberton, but in its subsequent progress it assumed all the appearance of the epidemic. Decided black vomit and corresponding evacuations seemed to menace a speedily fatal result; but our patient, nevertheless, to our great surprise recovered. Here Dr. Daniell and myself were joined in consultation by Dr. Doig, a practitioner deservedly eminent, and familiar from long experience with the appearances alluded to. My friend Dr. Coull has also informed me, that two children born in the island, but of European parents, died under his care with black vomit and other marks of Yellow Fever. I attended myself a coloured child who threw up just before death a matter greatly resembling black vomit; but as the fever during its course was attended with convulsions and other symptoms indicating the presence of worms, I am inclined to conjecture that grumous blood poured out from the eroded internal surface of the stomach and intestines, and mixed with their other contents, was the cause of this seeming analogy; as I have not heard of one clearly authenticated case of the disease occurring in any but a white subject during this its last prevalence in the island.

While the epidemic thus pursued its course in St. John's, the inhabitants, white and coloured, both in town and country, *who did not suffer from*

fever in some form, were, I think, more than usually exempt from other diseases. Intermittents were, as I shall soon have occasion to notice, both more frequent than ordinary, and more severe in their paroxysms ; but although the managers and overseers are largely composed of Europeans, the form of attack under consideration could never be said to be *general* among the estates. A case now and then occurred, but not till its progress was considerably advanced, and it was long (as you must be already informed) before it reached the troops at the Ridge and Monk's Hill. I omitted before to remark, with what singular precision it would occasionally select its subjects. A short pause in the succession of cases would not unfrequently lead us to flatter ourselves with being at length released from the presence of our unwelcome visitor : but if at such a time an European came only from a neighbouring island, he was most probably speedily attacked. This happened even with a gentleman (unusually plethoric to be sure, but still a West Indian by birth,) who had not changed the climate for many years ; and as late as the 6th of February, with the lady of an officer of the 1st West India Regiment recently from Barbadoes, a case which proved malignant in the highest degree, and terminated fatally : indeed I sometimes fear that its present cessation proceeds only from a dearth of subjects.

Having now considered as far as time and recol-

lection permit, your first, second, and (collaterally) your sixth query ; comprising the commencement and origin of the fever, its subsequent progress as it affected the different classes of society, and the state of health of the inhabitants, coloured and white, in town and country, who did not suffer from it during the time it was epidemic, I shall proceed to take up your third query, or “ Whether contagious or not ? ”

In reply to this I can declare decidedly for Dr. Daniell and myself, that we never met with or heard of a single instance of the disease, which could not be accounted for in a manner perfectly satisfactory, without attributing to infection the most trifling agency ; and I believe there is in this opinion not above one dissentient voice among the whole body of practitioners (of whatever description) in the island. All those gentlemen with whom I have conversed on the subject, entertain not the smallest doubt of the non-contagious nature of Yellow Fever ; and some of them whose ideas have been formed, not from this single epidemic, but from the experience of a series of years, more particularly when it was extremely prevalent in 1802.

It cannot be denied, that from the disease invading in succession several individuals in the same house or family, a colour of argument is sometimes afforded for its being contagious ; but those who

avail themselves of reasoning so fallacious, must surely wilfully overlook the plain and simple explanation so readily offering itself of a fact, which I am far from intending to controvert, namely, that all persons so situated are usually under similar circumstances, and consequently exposed to the influence of the same causes which induced the attack in those who were primarily affected. Could one authenticated instance be brought forward, where assimilated West Indians (by which I mean such as have not recently or for any length of time changed the climate,) who resided in the house with an European suffering from Yellow Fever, were successively seized, my creed might be shaken, although certainly not altogether overthrown after the mass of evidence which has fallen under my observation : but I venture to affirm, without fear of contradiction, that no such instance was afforded by the epidemic as it lately pursued its course in Antigua ; for of the few native residents who were included, none, except Dr. Daniell, had had any previous communication with the sick ; while, in verification of what I advance, proofs were multiplied as often as the matter was put to the test. Two or three are all that my limits admit of being particularly enumerated.

When the seamen, mentioned as the first examples of the disease, were brought into the parochial hospital at Rat Island, there were many patients, and those neither black nor coloured, in

the very wards which received them, labouring under trifling complaints, as ulcers, &c. There were also resident in the hospital the matron and several members of her family, and yet we did not find that one out of the whole number became infected.

A vessel arrived in the harbour from Point à Petre, Guadaloupe, at the time our fever was at its height. It also prevailed at the port she had quitted; and although she had been healthy while there, the captain felt himself unwell a short time before he landed, and sent for us immediately on doing so. We found him with the usual symptoms; and six of his crew, which consisted only of twelve, were subsequently under our care. These were all landed and received into a boarding-house, but not a single instance occurred of an attendant suffering in consequence.

Two remarkably fine young men came from a neighbouring island merely on a visit of pleasure, who, although Europeans, had been for some considerable time in the West Indies. Soon after their arrival, one, without its being traced to any exposure to infection, contracted and died of the disease. The other followed him in a few days; but of a very numerous acquaintance who were engaged in the closest attendance on them, not a single individual was attacked. The particulars of this melancholy occurrence I became acquainted

with from their notoriety only, not having seen either of the patients; but as at first view they appear to act as a double-edged weapon, let us consider whether they are to be regarded as supporting or militating against the doctrine of contagion. The facts speak for themselves; and as they exemplify what is constantly observed in every parallel case, the inference to be drawn from them comprizes, in my opinion, all that could be said, were I to protract the discussion to an octavo as large as Dr. Bancroft's. The unfortunate young men were both fit subjects to be acted upon, and equally exposed to the prevailing cause of fever; but their friends were differently circumstanced from long assimilation to the climate or from being natives of it, and consequently unsusceptible of the influence which proved fatally active with them.

I should imagine that a disease positively would shew little regard to distinctions of colour or minute varieties of constitution, and would invade indiscriminately all classes of persons exposed to its immediate operation. This we know to be the case with small-pox, measles, &c. and if we admit the same with respect to Yellow Fever, how can we account for the following fact? His Majesty's ship *Brazen* being detained in our harbour on some duty, her crew became dreadfully unhealthy, and at length the surgeon himself being confined, in November it became necessary to land the sick.

The Naval Hospital at English Harbour having been closed on the breaking up of the establishment there, an order was given for their admission into the Military Hospital at St. John's; and thirteen or fourteen cases were accordingly placed under my care as acting medical officer at this port. They proved as malignant in their progress as cases possibly could be. Several privates of the 4th West India Regiment were in a contiguous ward*; and in so small an establishment I could not have prevented, had I been most anxious to do so, the freest communication between them and the seamen. The bedding, &c. covered with black vomit and hæmorrhages from those who died with these fatal symptoms, (although every precaution was taken to ensure cleanliness,) were not destroyed; and yet, neither during the time the patients continued there, nor after the hospital was cleared of them, (now upwards of three months,) has one individual, who was in attendance, or in any manner connected with the detachment at the Barrack, laboured under a disease at all resembling Yellow Fever. Indeed, from what I saw in that and other instances, I feel convinced that the disease cannot be propagated even by subjects brought from on shipboard, whence the most plausible arguments are derived in favour of contagion. As you have yourself so justly observed in your paper recorded

* The wards of that hospital had no doors; the communication was therefore perfectly open, and the intercourse unrestrained.

in the Medico-Chirurgical Transactions, it cannot be refuted that the undue accumulation of human effluvia in a crowded ship or prison will in the West Indian, as well as other climates, prove productive of temporary pestilence; but this is only because these unduly accumulated effluvia assume, in such situation, the baneful qualities of miasmata and other agents which give rise to the same disease on shore, and cannot proceed from the body's having acquired the power of itself communicating the infection: for remove and place it where free ventilation is procured, and it will prove to be altogether innoxious. But to return to the proofs of non-contagion as they presented themselves in Antigua.

Were I to adduce, in myself, an example of one who never having passed through the disease, escaped under the most complete and long continued exposure to infection, had it existed, it might be urged that idiosyncrasies are not to be admitted in opposition to general rules; but can this argument be extended to every member of a family enjoying equal immunity with me, to whom I not unusually returned, after visiting my patients, with clothes stained by the black vomit, so suddenly and to such a distance ejected, (a characteristic of this symptom,) as to preclude my avoiding its direction? Indeed, a medical friend of undoubted veracity has informed me, that he once, while inspecting the tongue of a patient, absolutely received

this matter, not only over his whole face, but part of it into his mouth. He could not but feel uncomfortable under the circumstance, but no injurious consequence ensued. Again: it was not only that Europeans residing with West Indians did not infect them; but in many instances where Europeans themselves were for days together in the fullest manner open to the operation of contagion, (as where a wife attended on her husband or *vice versa*,) they underwent the exposure with perfect impunity: nay, I once saw the wife of a sailor stowed into the same cot in which her husband lay with this fever in its worst form, and yet escape under every predisposition that could be conceived in a full blooded and unassimilated subject.

The cases also, after the disease extended beyond the Point, did not go progressively from house to house or from street to street; but, generally speaking, the sufferers had had no sort of intercourse with their predecessors, and I often ascertained that they had never been within a considerable distance of a house containing a patient.

Could evidences such as these fail to bring with them conviction to my mind, that communication with the sick had no influence whatever in disseminating the disease? Lastly: I cannot omit once more to advert to what was recently ob-

served, that many Europeans who arrived here towards the decline of the epidemic, when not one case was to be found in town, and who never entered a house in which one had previously lain ill, were almost immediately attacked. Was this to be ascribed to contagion, or to some other latent cause to be sought for in the general atmosphere they inhaled?

Your fourth, fifth, and ninth queries, viz. Whether capable of affecting the human frame more than once? What is its connexion with fevers commonly supposed to originate in marsh miasmata? and Whether it ever begins as an intermittent or breaks off into that form? I shall take up in conjunction, as they are so intimately blended, that it is impossible to attempt answering one, without at the same time adducing facts which must tend considerably to elucidate the discussion of the others. Here, in my opinion, all ingenuity of argument is totally misplaced. Points like these are to be determined only by a plain but accurate statement, and an unbiassed survey of what has fallen under the observation of those of the profession who have had extensive opportunities of seeing the disease.

Had no one instance occurred during the late prevalence of Yellow Fever in Antigua, where an individual was twice affected, few, I imagine, would differ from me in considering *that* circum-

stance by no means conclusive as to the possibility of such an event. This would be but *negative* evidence on one side, which, however frequently adduced, and under circumstances however varied, must necessarily yield to one *positive* and well-authenticated proof to the contrary. But here it happened, that for a period so limited, the matter was more clearly, and I may add fatally decided, than could well have been expected, even had the disease never been supposed to indemnify those who had been once attacked from all future risk of its invasion. The first example we met with inimical to the doctrine, of late so warmly supported by Mr. Pym and others, was in the person of a young, full-blooded, and recently arrived European, who sent for us on the 6th of August, at which time I have before observed that the epidemic was at its height. We found him with a quick and full pulse, flushed face, suffused eye, acute pain in the forehead and in his back and limbs; in a word, with all the usual precursors of the disease in its most violent form. He was instantly bled from a large orifice till he was perfectly faint: his bowels were smartly opened, and the cold affusion administered. By these means the fever was speedily subdued, and he returned shortly afterwards to his duty as clerk to a merchant in town. On the 27th of the same month we received another summons to attend him with the same symptoms as before. The treatment was similar, but the attack more obstinate; it ran on

to the fifth day, and he narrowly escaped after the most distressing irritability of stomach had come on.

A young man, arrived from Scotland about the middle of August, had not been above a week in the island when he was seized by the epidemic. We were not his medical attendants, but Dr. Daniell saw him in consultation. The fever did not entirely leave him till the fifth day, and although he survived, it was certainly contrary to expectation. About three months after his recovery he was attacked on an estate where he had been employed as overseer, to all appearance, with an ordinary intermittent paroxysm. Our assistant visited and prescribed for him; and from the reports received, we concluded him to be going on well, (though with regular quotidian returns,) till I was called to him, I think it was about the sixth day of his disease. He then had hiccough, great irritability of stomach, and that indescribable anxiety which I have before alluded to. Yet, singular enough to say, the fever continued apparently to intermit for some days, leaving, during the intervals, the stomach comparatively quiet, and the singultus by no means distressing. At length, however, the symptoms became continued; and when I saw him about twelve hours before his death (which took place on the fourteenth day,) he was yellow—the appearance of his eye characteristic—his vomits of the most decided black, and

there was considerable hæmorrhage from the nose, mouth, and anus, with incipient low delirium. This was the only case in which I saw hiccough (in my experience a more fatal indication than even black vomit) occur so long before death. It usually announces a speedy termination ; but here it was present, with more or less severity, for upwards of a week. Soon after this, a gentleman holding one of the first public offices, and recently from Europe, who had about two months before recovered from a very alarming participation in our epidemic, was again attacked in the country with all the usual symptoms. He was treated as usual, and the fever, we thought, had quitted him in eight and forty hours. It however returned next day, and continued to be quotidian till the fifth from its commencement, when it finally disappeared.

A merchant in town, an European by birth, but some years resident in the island, about three months after a very severe continued attack, complained of nearly the same symptoms as had ushered in his former illness. In their progress they shewed more evident remissions than before, but did not entirely subside till the usual period of the fifth day.

The last case I shall particularly notice as affording direct evidence of the possibility of a second attack of Yellow Fever, occurred under the

most melancholy circumstances. A young man, the son of one of the most eminent merchants in England, was sent out to this island, where his father is extensively connected, in order to avoid the winter, being supposed to have a tendency to consumption. "*Incidit in Scyllam qui vult vitare Charybdim*"—he had been but a few days among us when the usual symptoms shewed themselves. On the 10th of December he fell under my care, and Dr. Daniell being then unable to attend to business, I was joined in consultation by Dr. Osborn, who, although retired from practice, was kind enough to act as a friend on the occasion. His symptoms assumed the most acute form, and did not yield in violence till he had been at three different times blooded to fainting, or rather to perfect coldness. He however completely recovered, and assumed his former habits of life. On the 30th of January he was again attacked. No exertion—no attentions were spared by Dr. Osborn, Dr. Daniell, and myself, to avert the fatal termination. One of us was almost constantly with him, but every thing proved unavailing, and he fell a victim to the disease on the close of the fifth day.

Did my time and the limits of this brief communication admit it, I could collect many additional cases from the practice of others, corroborating what I consider established by the above facts, falling as they did within the sphere of my

individual observation. I am not unaware that solitary instances of this sort are to be found on record ; but what should we say of the antivariolous powers of the vaccine, or of the security afforded by one attack of small-pox or measles, if the experience of a single practitioner, during a few short months, could adduce so *many* proofs militating against an opinion which is even generally received ? My second example, indeed, may be said not altogether to answer the usual description of Yellow Fever ; but this argument cannot be advanced by those to whom alone it could prove useful, for it was “attended with the fatal symptoms peculiar to Bulam Fever, viz. the black vomiting and a peculiar bloated appearance of the countenance*.”

I have often smiled at the idea of the following observation of Mr. Pym, which (although I cordially subscribe to it,) is abundantly singular, as falling from one pretending to expound the means of accurate diagnosis between two important diseases which have hitherto been confounded. “In mild cases, however, of this disease, it is impossible to point out any symptoms distinguishing it from attacks of fever from any cause ; and even in bad cases, until the *fatal symptoms* make their appearance, I may say (excepting its prevailing epidemically) that it is as difficult to decide posi-

* Pym.

tively upon its real nature, as it is in the fever of small-pox before the appearance of the eruption." What inference, then, are we to draw from this admission? The only obvious one is, that Mr. Pym is never satisfied as to the nature of the disease he is treating, till his patient is on the very verge of death; and consequently can never determine what plan is to be adopted, till that period arrives when all will prove equally abortive—a circumstance which we cannot but regard as truly unfortunate, when we reflect that he in the sequel assures us the remedies adapted to each are essentially distinct, nay almost opposed, in their nature. If his object be to contend, that *black vomit* never occurs twice, few, unfortunately, will be able to bring forward instances in refutation of his doctrine, and I presume he means to reject as spurious, all those actually adduced, which do not stand this trying and indisputable test. I shall therefore make but one additional observation which naturally arises out of that quoted from himself, viz. that had the occurrence of the eruption subsequent to the fever in small-pox proved as invariably fatal as that of black vomit in Yellow Fever, the point of indemnity in the former by means of one attack would have been far, very far from being distinctly ascertained even at the present moment. But to put all this entirely out of the question, I shall now endeavour to prove the impossibility of any such peculiarity being attached to this disease, by establishing the identity of it with remittent and

intermittent fevers engendered by marsh miasmata, and that its seeming variety entirely depends on modifications of constitution, habit, atmosphere, &c.

Had Mr. Pym, Dr. Gilpin, or any one holding their opinions, practised in Antigua during our late epidemic, still prepossessed with the idea of black vomit being distinctive of Yellow Fever, I venture to assert, without fear of contradiction, that he or they (spite of every preconceived notion) must in candour have admitted, that a disease, at least answering in every respect the description given by themselves, could ostensibly be produced by miasmata alone; and that on comparing a mass of cases occurring in town and country, with Creoles and Europeans, a continued chain could be traced, link by link, from the most concentrated form as it invades new comers, to the simple intermittent which we so frequently meet with among the slaves. Indeed, were I to be asked in which of the two modifications of fever, the concentrated or the remittent, black vomit more usually occurs; I should say, from my own experience, in the last: but no general rule, I am convinced, can be framed; for it is impossible to predict in the first stage which of the organs, the brain or stomach, will ultimately suffer. Thus much, however, is pretty certain, that if one be once decidedly selected, the other will be afterwards comparatively little disturbed.

Out of the cases which I formerly mentioned, when on the subject of contagion, as having been brought from Guadaloupe, two proved fatal. The similarity of circumstances and of situation—every thing conspired to shew the diseases to be identically the same ; and yet one died comatose, retaining every thing on his stomach ; the other with black vomit, but perfect possession of his faculties till immediately before death, when low delirium supervened. The same was exemplified at the Rat Island Hospital among the first patients admitted there. At the Military Hospital, when the seamen from the Brazen were landed and placed under my care ; and in innumerable other instances where the head and stomach seemed to be, as it were, alternately marked as the object of destruction*.

The only diagnostic indication which could possibly attract attention among those enumerated by Mr. Pym, is that of the different shade which is

* I cannot pass over in silence a peculiar instance of evident metastasis from the stomach to the head, which once, but once only, occurred in our practice. A female servant of our governor's suite was attacked with symptoms the most rapid in their progress of any I ever saw. In thirty hours from her first feeling indisposed, hiccough was observed, and within thirty-six decided black vomit, but no particular affection of the sensorium. Suddenly, however, stupor came on with even a degree of stertor in her breathing, and the stomach became instantly quiet and retentive, and remained so till she died after an illness of only sixty hours' duration.

observed in the colour of those labouring under the concentrated, continued, and the remittent form of the disease. In native or assimilated constitutions, the yellow was generally deep, approaching to orange. In new comers a pale lemon more nearly represented the tint. But this is almost as futile a distinction as black vomit. It does not always occur in either form, and when it does, only serves to mark the intensity of the disease and its degree of danger. In a word, it is rather a means of prognosis than of diagnosis. Mr. Pym also lays down as an essential point of distinction between the two forms, (and it would assuredly be a most important one if correct,) that the Bulam Fever does not bear bleeding, while the bilious is relieved by it. I think, however, I shall hereafter shew, that (except he means to confess all his own characteristics fallacious, and to contend that the disease we had to combat here was not the Bulam Fever,) it is indisputable that blood-letting is in both forms our sheet-anchor—the only pillar on which we can securely rest any hope of extensive success. But all the arguments of these gentlemen (plausible to read, but deficient in fact as their basis,) must necessarily fall to the ground, when one instance of the disease is produced, not only evidently arising (as far as we can possibly determine from relative circumstances,) from marsh effluvia, but absolutely commencing as an intermittent, and terminating with all those symptoms which they themselves declare to be peculiar to

the Bulam Fever. One such instance I have already afforded, when illustrating the non-exemption from second attacks; but another, if possible, more conclusive occurred in the practice of my friend Dr. Coull.

The subject was a female, who, although an European by birth, had resided for a considerable number of years in the island. The place where she was taken ill is a short distance from St. John's, and notorious, on account of the exhalations to which it stands exposed, (as indeed is the case with almost all our inland situations,) for the prevalence of intermittents at the fall of the year. A chilly fit, succeeded by febrile exacerbation, created no alarm, and she applied for no assistance. It wore off and returned next day, but still she disregarded it. On the third day, however, her stomach becoming extremely irritable with an unusual protraction of the paroxysm, Dr. Coull was sent for and found her extremely ill. I was requested to meet him on the fourth day, and at that time had Mr. Pym seen her, he would have found an exact representation of his last stage—the snap-dragon face, the peculiar eye, black vomit, and, although to no great extent, hiccough. She died in the course of the next four and twenty hours.

These are cases which all must admit as authority, for they were fatal, and fatal with black vomit; but others occurred which perhaps will prove

not less satisfactory to you, although destitute of this recommendation.

The brother of our unfortunate patient, managing the estate on which she died, had, previously to her illness, nearly himself fallen a sacrifice to the slight importance he attached to a paroxysm of fever which he was led to believe the same he was yearly accustomed to. Each succeeding paroxysm, however, increased in severity, and when I was at length sent for I altogether despaired of his life. His stomach would not retain the smallest quantity even of cold water. The hot stage had then lasted far beyond the usual period; indeed the fever had become continued. The surface of his body was subsequently tinged universally yellow, and although he eventually recovered, it was not without the severest struggle. It may not be unworthy of attention, that at the very time he lay ill, the overseer under him (a man of an emaciated appearance) was labouring under an intermittent in its most ordinary form. I could multiply to any extent, were it necessary, instances like these, but shall content myself with closing my illustrations of the occasional commencement of Yellow Fever under an intermittent guise, by the relation of one more most remarkable case. A man arrived here from Santa Croix about the middle of August as the manager of a company of players. Shortly after he had been in the island he consulted me, stating that he had been for three

years harassed by an obstinate ague, of which he bore in his countenance and general appearance the undoubted traces. I prescribed for and frequently saw him in the paroxysms of a well-marked intermittent, ushered in by rigors and ending in profuse sweats. At first the type was quartan—shortly it became tertian—then quotidian—till at length the attack, although commencing as usual, proved not equally transient. The symptoms became aggravated; coma afterwards supervened, and death closed the scene on the fifth day, the tongue being covered with a black crust, the teeth with sordes, and all the other marks being present which were usually observed when the brain was the organ selected.

I did not include this among the *indisputable* proofs of the intermittent commencement of Yellow Fever, because it was deficient in Mr. Pym's *sine quâ non*, black vomit; I however have no hesitation in viewing it as such, as I have already endeavoured to establish, and I trust not without some success, that this last is by no means essential to constitute the disease, it being apparently a matter altogether of uncertainty, on its first accession, whether it will subsequently fix on the stomach or head as the seat of its ravages. Besides, this case is incalculably valuable as exemplifying, in itself, the gradation, not only from the intermittent, but the intermittent's mildest quartan form, to the concentrated disease which we are

now considering. It clearly demonstrates, that what under gentler influence could continue for years without immediate danger to life, when exposed to that inexplicable baneful activity, which the exhalations here mingled with our atmosphere had acquired, speedily though gradually increased in intensity till it ultimately proved fatal.

Having now, I think, shewn in the least exceptionable manner that the Yellow or Bulam Fever may begin as an intermittent; I may add, that I have, though less frequently, seen it break off into that form.

This happened with one of the patients formerly alluded to as having been twice affected, and with others which it would be tedious more particularly to notice. But if additional proofs were wanting of the intimate chain connecting all those different forms of fever, they might readily have been extracted during the late epidemic from the increased frequency and severity of intermittents among those whose constitutions and habits rendered them unsusceptible of the more aggravated degrees.

Although the island was more exempt than usual from all diseases except fever in some shape, it was astonishing how numerous intermittents were among the blacks on those estates where, from their marshy neighbourhood, they are yearly more or less met with. I always found the sick-houses

crowded with them, and though not fatal they were undoubtedly more obstinate than ordinary. Among the coloured population they likewise extensively prevailed, assuming rather a severer aspect than with the class last alluded to ; indeed, deaths were here and there met with, which, while we could not exactly say they were preceded by the absolute symptoms of the epidemic, were yet accompanied by those so little dissimilar, that I could not help concluding that these people were not altogether exempt from a participation in the general danger. A coloured servant of his Excellency the Governor who had recently arrived from England, shewed symptoms the most closely allied of any we observed among this description of persons : the event, however, was favourable. Many of the whites, too, natives of the climate, and for years taught to look at a particular period for a mild intermittent attack, were surprised to find the paroxysms doubly severe to what they had been accustomed. One instance I particularly remember in a gentleman resident on his estate, where I became not a little alarmed at the great determination which invariably took place to the head inducing delirium with every return of fever. In fine, my dear Sir, so firmly have these, and other facts which I cannot at this moment distinctly call to mind, impressed me with the conviction that intermittent, remittent, and Bulam or Yellow Fever differ but in degree ; and that they are all only modifications of effect from the same

cause, the modifications being influenced by the degree of concentration of the deleterious miasmata, and the varieties of assimilation, &c. in the subjects on which they operate; that it is a matter of the most serious surprise to me how any diversity of sentiment could ever have obtained upon the subject*.

The state of the atmosphere as to moisture, ventilation, &c. presented nothing peculiar to our notice. When the epidemic first broke out, the wind was to the southward of east; and it continued so with little variation during the whole period it prevailed. The weather was generally fine, with the occasional intervention of a showery day. The heat was by no means unusually intense, and indeed I must candidly confess my utter inability to attempt any explanation, recommended by the slightest shadow of probability, why the ordinary causes of fever should at that time have assumed so unusual a degree of virulencet.

* The complete immunity enjoyed by Montserrat, St. Kitts, and other mountainous islands, even during an uninterrupted communication with us while suffering so deeply, cannot but obtrude itself as a proof of the marshy origin of this fever and its non-contagious nature. Point au Pitre, Guadeloupe, was sickly, but we know that part abounds in swamps, although the island is generally composed of elevated ground.

† About the months of September and October the heat was oppressive, but that was after the epidemic had established itself, and even then not more so, I am convinced, than we have lately experienced it without any corresponding pernicious consequences.

The only observation we made which I think worthy of notice was, that after each day of rain, the crop of cases (if I may so express myself) immediately succeeding, was more numerous and seemed marked with greater severity than before : a fact, however, not difficult to be accounted for. A sharp gale, almost amounting to a hurricane, blew from the eastward in September, which we were inclined to hope might work some salutary change in the atmosphere ; but no benefit whatever was derived from it : the cases continued to occur as if nothing of the kind had happened.

I had certainly intended, previously to the commencement of this communication, to enlarge more than I shall now be able to do on the symptoms and mode of treatment, for I must be brief in order that this may reach you before your departure for England.

The general appearances, as they presented themselves here, answered pretty nearly to the description given by Bancroft and others, not excluding Mr. Pym. The mode of attack, however, (although precisely as described by those authors in by far the majority of patients) presented occasional varieties. I have already shewn that the disease sometimes commenced as an intermittent. In a few rare instances, where the blood was evidently and forcibly impelled towards the head, we found the temperature of the extremities even below the

natural standard, while the countenance was flushed, with great heat about the upper parts of the body and intense pain across the brow.

In the mate of a vessel trading here we counted on our first visit the pulse as low as 44, but full, with the above described symptoms. We almost fancied this unusual slowness might be constitutional; but on opening a vein it gradually increased in frequency, and after the loss of a considerable quantity of blood it numbered 80, with nearly complete relief from every uneasy sensation. Sometimes a chilly feel would accompany the attack throughout its whole course, altogether precluding the use of the cold affusion; for although the heat as indicated by the thermometer was obviously and generally increased, still to keep themselves at all comfortable the patients would, if they could be by any means procured, load themselves with bed-clothes, notwithstanding every direction to the contrary. Our experience led us to consider this an unpromising omen. Hæmorrhages were frequent from the nose, mouth, and anus; but petechiæ or vibices we never met with or heard of. Hiccough proved a mortal indication in every case where it fell under my observation*, and (besides

* I once, however, saw it occur in a manner as purely accidental as if the patient had been in health. I say accidental, for it was only 18 hours from the first attack, when the violent symptoms had obviously yielded to the lancet, and did not last above a couple of minutes. The circumstance, nevertheless, gave me

the infant formerly mentioned) I never knew but one individual survive that dreadful prognostic black vomit, and he had laboured under the remittent form of the disease with deep bilious suffusion. The unaccountable quantity of these dark fluids thrown up, as compared with those taken into the stomach, was a source of great astonishment to me. I have seen this deadly symptom come on as early as the commencement of the third day, although the patient has survived to the fifth; and within forty-eight hours, when the third has terminated his sufferings, I have discovered its incipient traces in matter thrown up, where the stomach had retained till that moment every thing that had been swallowed, and no burning sensation had been complained of as preceding it: indeed, this last, although it sometimes did happen, was by no means so prominent as I expected to find it from the descriptions of writers. I have known the black vomit, when it shewed itself early, apparently intermit, nothing coming up for hours but the medicines and nourishment taken, and not unfrequently it entirely ceased, the stomach retaining every thing for some time before death. A wedgelike sensation at the cardia, or as many themselves described it, "as if a marble were sticking there," always excited the utmost apprehension of the approach of this symptom. Eva-

great alarm; nor could I divest myself of the idea that the case would turn out ill for a considerable time.

cuations similar in appearance seldom occurred without corresponding black vomiting; once, however, they did to a remarkable degree, but the patient survived them*.

Recoveries were most rapid and indeed singularly so, after the concentrated or continued form, but sometimes (as was illustrated in my friend and partner's case, Dr. Daniell,) extremely tedious in the remittent.

We never met with what could strictly be called a relapse but once. It happened with a sailor who had imprudently exposed himself to the sun, and resumed the immoderate use of spirituous liquors before his strength was nearly recruited, and proved fatal with black vomit in four and twenty hours from the time he again felt himself unwell. Visceral obstructions as a consequence, as far as we have yet been able to ascertain, have been extremely rare, I may almost say unheard of.

As for the treatment, I sincerely trust all differences of opinion on this head, at least as far as regards the earlier stages, will speedily cease. The man who wishes to save his patient must act with decision, or he will fail in his object. He must

* An unusual velocity in the pulse, as when it numbered for instance any thing exceeding 130, either in the commencement, but more particularly in the progress of the disease, augured in general a melancholy result.

bleed—but he must bleed early, from a large orifice, and till some manifest change is produced in the circulating system. I have not unfrequently gone to the bedside of a patient, found him with hot skin, flushed face, parched tongue, intense headach, &c. and have not long afterwards quitted him perfectly cool and free from all uneasiness, and the symptoms have never recurred. But while the practitioner can scarcely err in the extent of his first bleeding, when his subject is plethoric and recently attacked, nothing requires greater judgment and more careful deliberation than the frequent repetition of this evacuation, or than its adoption at all at the more advanced stages of the disease. An error committed here may prove productive of irreparable mischief, and I would therefore hold it a safe rule in doubtful cases, to be cautious with the lancet after the first four and twenty hours, and to throw it aside altogether after eight and forty have elapsed. But in the commencement when a vein is opened, let not imaginary dangers induce us too hastily to close it; for if they do, we shall have debilitated our patient without affording him any actual relief. We have repeatedly with success taken upwards of forty ounces of blood at one bleeding. With equal success, in several cases, we have renewed the bleeding up to the third and even the fourth time; but, generally speaking, those which require such reiterated evacuation, evince an obstinacy not likely to admit of a favourable result under any mode of

treatment. It must also be remembered, that every one who applies for assistance is not alike able to bear this liberal depletion. Those of spare habits and with constitutions long assimilated to the climate ; persons addicted to the immoderate use of spirituous liquors, and children, we found for the most part improper subjects for such treatment, indeed with them it was not equally called for. But general rules are ever likely to mislead. In all cases, therefore, where the propriety of bleeding is doubtful, either from the advanced stage of the disease or the habit of the patient, the practitioner must rely solely on his own judgment, carefully comparing the symptoms and calculating the chances of success likely to result from his determination for or against it. Sometimes of two evils we shall be induced to choose the least, and rather adhere to the adage, "*remedium anceps potius quam nullum*," than allow the symptoms to hurry on our patient to certain destruction. The exhibition of purgatives is subject nearly to the same restrictions as the use of the lancet. In our practice, the bowels were always freely evacuated by calomel and jalap or some other active medicine in the first instance, and were kept soluble during the whole progress of the fever. But i think I have seen the fatal event accelerated, where, from an over anxiety in this respect, medicines too harsh were administered at a late period, by which the most debilitating catharsis has been induced, not to be checked by any means that could be devised.

The cold affusion we employed more extensively at the commencement than at the close of the epidemic. At first we used to continue it every hour for a considerable time, but we found that its marked effects were not to be expected after a certain period, and that the fatigue caused by the constant exertion more than counterbalanced the advantages derived. Latterly, therefore, after five or six trials we laid it aside for cold ablutions, which were unremittingly persevered in, except where a distressing chilliness absolutely forbade it. When this occurred only to a slight degree, we substituted with benefit tepid for cold water. Bark we always found a most valuable medicine, but chiefly where it was early exhibited. As soon as the circulating mass is lessened, and the intestines fully emptied, its administration ought to be commenced. If we longer delay, if we wait for a marked remission, the foundation of the very mischief we wish to avert will have been laid. The stomach will reject it, and we shall be constrained altogether to relinquish its use; for it must be evident that no benefit can be derived from continuing a remedy which only tends to irritate an organ, whose state so materially influences the result. The powder should be first attempted, but in the event of its oppressing the stomach from its bulk, the combination of serpentaria with it in infusion, adding a proportion of the *sp. æth. nitros.* was generally an admirable form of prescription. Blisters proved useful auxiliaries in affections of the head, irri-

tability of stomach, and in the last stages more extensively as stimulants. When used from the first cause, we thought they produced a better effect applied to the nape of the neck and occiput, keeping the rest of the head closely shaved and covered with cloths wet with the coldest lotions. I could not avoid remarking, that no individual died in whom strangury had supervened on their use ; and I have since understood that the most beneficial power has been lately ascribed to them depending on the absorption of the cantharides. Emetics and antimonials we considered out of the question.

Of the mercurial treatment, as it regards its specific effect, I can give you but little information. Although calomel entered largely into the composition of all our purgative prescriptions, we never ordered it with any particular view to salivation till a late period of the epidemic, after we had heard its efficacy very much extolled by some medical friends (attached to the army and navy) of whose judgment and abilities we entertained the highest opinion. Many cases were then successfully treated under its use, but as we never allowed it to interfere with what we ourselves chiefly relied on—the depletory system on the first accession—we could not of course ascribe the success solely to its operation. On one occasion, after having used the lancet twice to a great extent, we began

to pour in calomel. On the commencement of the third day, (before any obviously bad symptoms were observed,) the gums were evidently affected; yet, notwithstanding this, the stomach became irritable—the matter thrown up gradually became black—the ptyalism bloody and profuse, and the patient died on the fifth day. This case was as late as February, and occurred in the wife of an officer of the First West India Regiment. She was pregnant, however, and had been only a few weeks in the climate—both of these circumstances peculiarly unfavourable to any mode of treatment. In the remittent form, where bleeding has not produced the wished for effect of giving an immediate check to the progress of the symptoms, I think I have observed the greatest advantage derived from its employment; and I have satisfied myself of the slighter degree of irritation caused both to the stomach and bowels by large, than by more minute doses of calomel. Fifteen grains or a scruple may be given with perfect safety, and the dose repeated every four or six hours, the practitioner of course watching the effect and acting accordingly. I not very long since prescribed the first quantity four times in eighteen hours, with the production of only two or three bilious evacuations, without griping or any unpleasant effect. The mouth became touched, however, and I omitted any further repetition of the medicine. The saline mixtures, both still and

effervescing, the carbonate of ammonia, the whole class of stimulants in the last stage, and all the minor remedies which we had recourse to in order to obviate particular symptoms, or rather to appear not to neglect our patient, I shall not detain you by separately enumerating, but hasten to conclude this letter, which I fear has been already protracted to an unprofitable length*. By practice such as I have thus cursorily described, Dr. Daniell and myself lost not above one, on an average, out of ten who fell under our care. But as it is not my object to mislead, I am anxious to be distinctly understood. I do not pretend to assert that this was the proportion afforded by the whole mass of cases we were called to, of every nature, and at every stage. Certainly not: I except the instances I have described at first entering the Rat Island Hospital at so advanced a period, and all similar ones. I also exclude those in which we attended in consultation only, for while I must acquit myself of the slightest intention to reflect on my professional brethren, it must be obvious that those, in which extraordinary assistance is called for, are usually already discovered to be the most

* By breaking up small pippins in rum, and applying them to the region of the stomach, vomiting was sometimes subdued without having recourse to a regular blister; and as an internal means of checking this symptom, nothing answered better than fifteen or twenty drops of laudanum, with half a teaspoonful of calcined magnesia, in a wineglassful of mint tea.

obstinate and unpromising in each man's practice. But I repeat that, on a review of those which presented themselves in time for the due exhibition of the means I have enumerated, our success was fully equal to what we claim.

St. John's, Antigua, June 7th, 1817.