

Handbook for yellow fever : describing its pathology and treatment, as observed in unintermitted practice during half a century : to which is adjoined a brief history of pestilential cholera and a method of cure, as detailed in a series of official reports made during the prevalence of the epidemic in the island of Trinidad in 1854 / by Thomas Anderson.

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HANDBOOK
FOR
YELLOW FEVER:

DESCRIBING

Its Pathology and Treatment

AS OBSERVED IN UNINTERMITTED PRACTICE DURING HALF
A CENTURY.

TO WHICH IS ADJOINED

A BRIEF HISTORY OF PESTILENTIAL CHOLERA AND
A METHOD OF CURE,

*As detailed in a Series of Official Reports made during the Prevalence
of the Epidemic in the Island of Trinidad in 1854.*

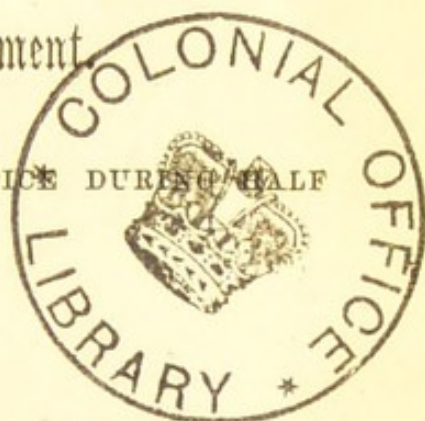
By THOMAS ANDERSON, M.D.,

AND FELLOW OF THE ROYAL COLLEGE OF SURGEONS, EDINBURGH;
HEALTH OFFICER AND MEDICAL INSPECTOR UNDER THE ORDINANCE OF 1850; AND
JUSTICE OF THE PEACE FOR THE COUNTY OF SAINT GEORGE, TRINIDAD.

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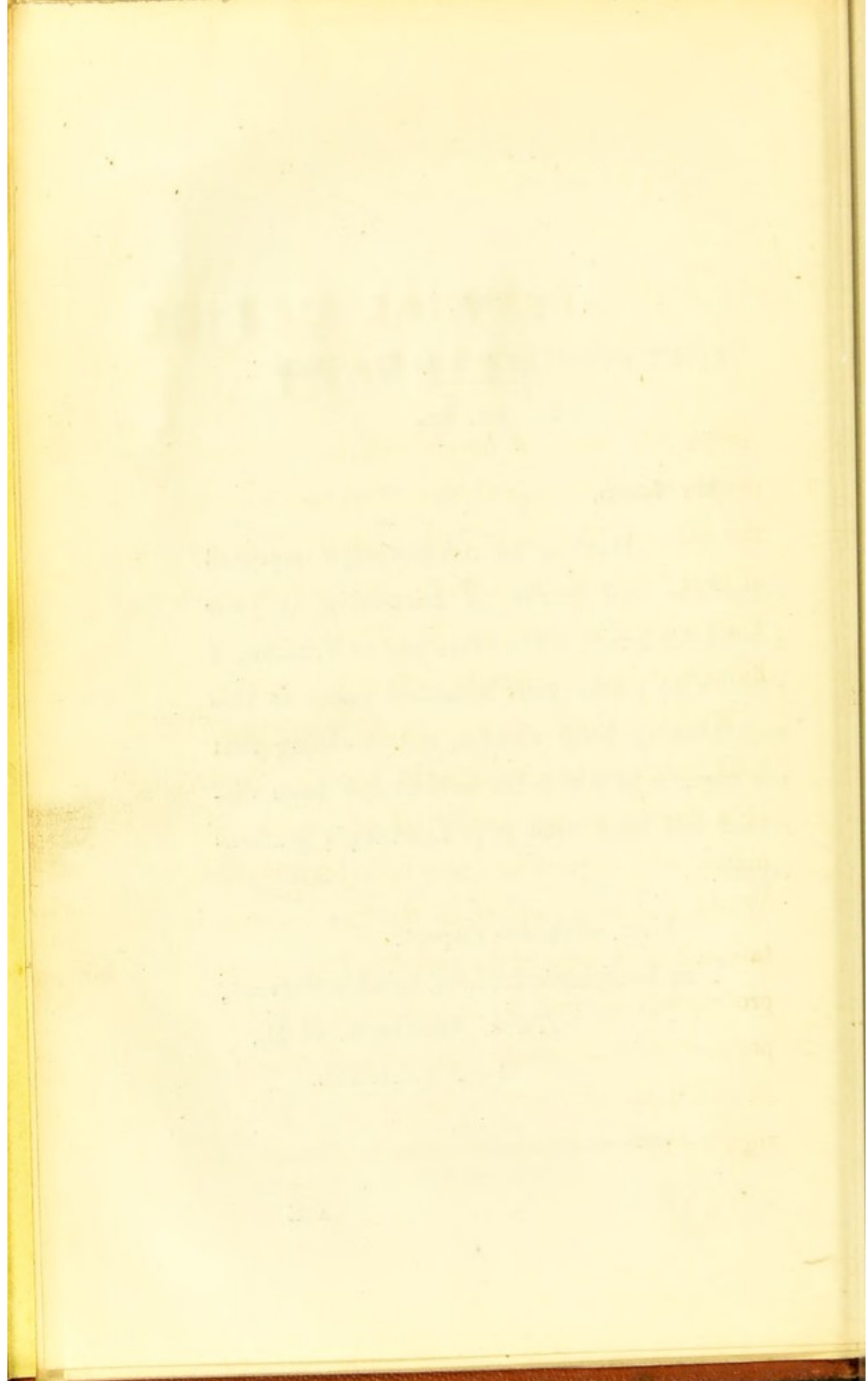
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THE
RIGHT HONOURABLE LORD HARRIS,
&c. &c. &c.

MY LORD,

HAVING to acknowledge repeated attentions and marks of friendship at your Lordship's hands, while Governor of Trinidad, I venture to prefix your honoured name to this unpretending little volume, not doubting that the manner in which the subject has been discussed will meet with your Lordship's gracious favour.

I am, with due respect,
Your Lordship's faithful, humble Servant,
THOS. ANDERSON, M.D.,
And F.R.C.S. Edin.

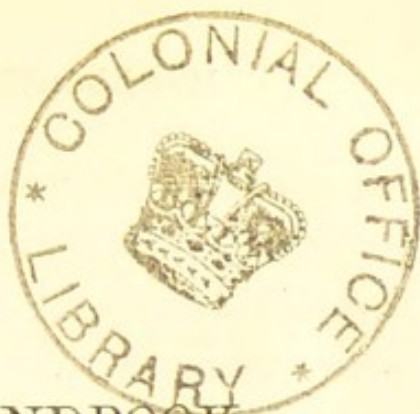


P R E F A C E.

AFTER the lapse of nearly half a century of professional labour in this country, and now in the wane of life—though, through the blessing of God, still able to attend to my profession—I am wishful to contribute to the utmost of my humble ability to alleviate suffering humanity.

With this object in view, the following Handbook, intended to give insight into the nature of a disease mainly incidental to tropical climates, and especially those of the Western World, has been indited, in the humble expectation that it may prove useful to Europeans—professional as well as others—visiting those parts of the hemisphere now so much facilitated by steam navigation. In carrying out this design, neither profit nor fame are looked for, the

sole recompense for any care or trouble employed in the undertaking, resting on the chance of its being found acceptable to the public. Whatever may be its merits or demerits, it professes to be original, but is not expected to elicit much commendation from a profession usually so chary of it. The community at large, it is hoped, will be charitably indulgent to overlook its errors and imperfections, doubtless manifold, and perchance be less fastidious than the medicos—under the circumstances.



HANDBOOK

FOR

YELLOW FEVER.

I now proceed to the subject-matter, premising that, after graduating at Edinburgh in 1815, I proceeded to Paris, where I studied for some time under Baron Dubois, at l'Ecole de Médecine—(Note last)—“suivant les cours;” then came on to Trinidad, and settled down to practise under the auspices of two experienced practitioners. This took place in 1816. Among miscellaneous practice in the port, in Port of Spain Proper and its environs, I treated many cases of fever with the ordinary results; but it was reserved till the following year (1817,) that about its middle, in July, an outbreak happened of a disease, differing essentially from forms previously seen; more intractable, and appa-

rently *sui generis*. By various nomenclatures it has been styled—Yellow Fever, Typhus Ictero-des, Bulam Fever; and by the Spanish writers *vomito prieto*, from its distinguishing symptom of black vomit.

The diagnostic marks of this, or *true yellow fever*, were as follows:—Unlike the ordinary bilious fever, it was not variably protracted; or if so in rare cases, was more regular in its course, requiring more prompt and attentive means of treatment to arrest and subdue, and much more fatal in its termination. Such were its ravages at first that a sort of panic ensued. It was also not endemial, but an occasional visitant, at intervals varying more or less from ten, fifteen, or twenty years, invading in an epidemic form and rapidly assuming its characteristic type—easily distinguished by an experienced observer. Thus my first cases occurred in 1817; but it is important to remark that an identical fever had visited Barbados the year before, where it had carried off a large proportion of the 2nd, or Queen's regiment. The epidemic was rife in Port of Spain, the vicinity, and in the harbour, from the beginning of July till October, when it began to decline, but continued to spread over

the island. It nevertheless appeared sporadically, and did not entirely cease till the end of 1818. I attended during the height of the epidemic 130 cases,—the governor, the chief justice, attorney-general, and island secretary among the number. The last was a fatal case, and the governor had a narrow escape.

Yellow fever did not again appear in Port of Spain till 1838, which it then did with its usual intensity, first breaking out in an impure locality, and did not subside till 1840 (No. 1). German and French immigrants, then numerous imported to supply the place of the emancipated slaves, suffered much from its malignancy. Fever, also, then prevailed at Barbados among the troops. This I learned from Sir James M'Grigor, Inspector-General A. M. D., at an interview I had with him about the time in London.

I shall now describe the yellow fever epidemic of 1852, partly extracted from my official reports to the local government, hereto appended, and also from my official answers to Dr. Gavin's queries as Queen's Medical Inspector, West India Colonies—the last printed for private circulation. A copy of the latter was transmitted

to my early friend and schoolfellow, Sir William Reid, by whose order it was bound and deposited in a public library at Malta, where he was governor at the time.

Prior to the outbreak of this epidemic in December, the type of febrile disease in the island was typhoid. It is, however, to be remarked that fever assumes more or less of that form about that time of year, especially when north winds set in early, or prevail more than usual. To this wind the old Creoles, particularly the French, of whom there are many here, attach an evil reputation; hence the adage, "Vent du nord, vent de mort."

The first yellow fever cases that fell under my care occurred in December, 1852, on board of H.M.S.F. *Highflyer*, from St. Thomas, and ship *Roger Stewart*, from Demerara, both infected ports. These were cases of true *vomito prieto* (*vide* my official reports to the Honourable the Colonial Secretary). On board of these ships the disease spread in the persons of the seamen (*vide* Appendix).

There is every reason to believe that yellow fever may originate in the first instance from atmospherical causes, fostered in many instances

by local impurities, and in concentration emitting mephitised effluvia, which, once engendered, may and do acquire an infectious property. The subjects principally subjected to attack are those of rigid fibre, recently arrived in the tropics, such as unacclimated soldiers and sailors, abounding in rich, glutinous blood. Women are less susceptible. Exemption in a great measure depends on long residence for such time as acclimatizes by attenuation of the circulating fluids, or by naturalization from birth: hence Creoles, whether white or black, or of mixed race removed to or brought up in northern latitudes, are not exempt. I have seen black seamen, natives of North America, die with the distinctive symptom of black vomit; but the long resident or natural Creole, even when subjected to the epidemical influence, if he contracts fever, has it in a genial form.

That yellow fever, though proceeding from atmospherical influence, and invading in an epidemical form, may, under certain circumstances, take on an infectious property, the following remarks will, I think, go far to prove, relating to circumstances not observable in the usual endemic fevers of warm latitudes, and will

also show that yellow fever is only an occasional visitant at places obnoxious to its periodical returns. I shall here cursorily refer to some noted authorities, viz., the Gibraltar epidemics of 1804 and 1828, those of Spain generally, and the well-attested fact of the absence of black vomit fever in the previous and intervening periods of time; also to the testimony of Baron von Humboldt—not a medical, but nevertheless a highly respectable authority—who declares expressly that vomito prieto is not a constantly present, but only an occasional visitant at Vera Cruz, Havana, and other places it frequents, where, on the other hand, the endemic bilious remittent is always to be met with.

With reference to the comparative mortality from these diseases respectively, I may state, that among the seamen of the port, as officially ascertained in my capacity of Health Officer, in February, 1828, it was much greater in yellow than in bilious remittent fever, the proportion of deaths to recoveries being in the former as three to two, while in the latter they range in an inverse ratio. This I consider to constitute an important diagnostic in the character of the diseases, irrespective of treatment. That yellow

fever has features peculiar to it, distinguishing it from the endemial bilious remittent, I infer from the following symptoms—namely, the black vomit, resembling coffee-grounds, in the advanced stage, and occasionally, not in every case, stools of similar appearance, not met with in the bilious remittent; the greater suddenness of attack; the more violent and shorter duration of the dynamic or excited stage, marked by intense headache just over the orbits, and redness of the conjunctiva; the rapid transition from the dynamic stage to collapse; the lemon colour of the skin towards the third or fourth day, not from absorption of bile but from serous disorganization; the marbled brick-dust appearance of the skin towards the termination from languid, flagging circulation; and the almost invariable termination in death, or a convalescent crisis about the fifth day from the time of attack.

In the bilious remittent the congestive symptoms are less intense, and the corporal prostration not so great, from slighter morbid impressions on the nervous system. The biliary secretions likewise are more apt to be vitiated. I have instituted many post-mortem examinations

in both diseases, but found nothing distinctive or peculiar as regards the brain; but the appearances exhibited by the stomach and primæ viæ were less equivocal; abrasions of portions of the villous coat of the latter appeared when black vomit had preceded death, corresponding with flaky matters ejected, although this did not always happen. It is absent in the bilious fever. There was, moreover, more turgescence in the vessels supplying the chylopoietic organs, pointing them out as the principal seat of congestive disease.

That yellow fever, or typhus icterodes, according to Cullen (which name it never would have had given to it if he had seen the disease), may and does assume, under circumstances favourable to its development, an infectious property, the facts I am about to relate will, I should think, prove.

Some time in the year 1818, an English brig, called the *John*, arrived here from the Mediterranean, and discharged her cargo. The master was soon after taken ill and died after a few days' illness with black vomit. The second mate was then seized, and also perished with the same symptom. A third case, a seaman who

had attended to the captain and mate, now appeared, but he objecting to the French doctor who had been employed to attend the former cases, I was called in, and succeeded in saving him. The vessel then went down the coast, when several more of the crew were taken ill and sent to town, among whom were some recently shipped to supply the place of those lost. Of the last, some also died; in short, the disease went through the ship, the sole exception being the first mate, who was under treatment for secondary syphilis at the time. This vessel was in an impure state when the disease broke out, but became healthy by subsequent purification.

Another case, in some respects parallel to that of the *John*, occurred in that of the *William* of London, some time after, in which black vomit fever affected nearly the whole ship's company, except the captain, who was in the habit of sleeping ashore; but the *William* was in all respects clean, and in good order. The disease, in this instance, went from berth to berth as if by infection. No other craft in the harbour was sickly at the time, but communication was interdicted till the ship became healthy. She was

teak-built, which wood sometimes, it is said, gives out unwholesome vapours.

In support of the conclusion that yellow fever may assume an infectious character, I may remark, that at this juncture the non-contagionists very much outnumbered those of an opposite belief, not a few of them, perhaps, judging correctly from the bilious fevers they had seen. I even doubt if Dr. Bancroft ever saw true yellow fever, though he wrote upon it, as his stay at Jamaica did not exceed two years, which it is possible, nay, probable, happened to be in one of the intervals of its visitations, which generally extend to a longer period.

In 1822 a French physician, Chervin by name, visited this island in progress of a tour he was making among the Antilles, with the professed intention of collecting the opinions of resident practitioners with respect to the contagious or non-contagious character of yellow fever. Among others of the profession, I was applied to, and gave a written declaration, that, under certain circumstances favourable to its development, it may acquire an infectious property, which I conceive to be closely connected with the want of free ventilation in the apartments of the sick,

and consequent contamination of the air. This opinion I still maintain as strictly orthodox, confidently believing that no other cause but want of opportunity of more constantly and accurately observing the phenomena of yellow fever, properly so called, has prevented this opinion from being universally adopted throughout the profession, with the exception, perchance, of a minute section of philosophic sceptics cherishing crotchets of their own—(No. 2.)

“Men convinced against their will
Are of their own opinion still.”

Hudibras.

Before entering upon the particulars of my own *methodus medendi* in this formidable scourge, I shall briefly review the various systems of practice of which I am cognisant of having been pursued here or elsewhere.

BLEEDING.

“C’est ainsi que je jugule la maladie,” says a celebrated physician of Paris, “par des fortes saignées.” “But of what use is that,” answer his confrères, “si vous jugulez les malades aussi?”

This episode will explain how doctors differ ; manifesting that no prescriptive indiscriminate practice can be applied to all cases. When I began to treat fever cases here, two systems were in vogue, each having its followers and proselytes, viz., the Depletory and Brunonian : the first depending on copious general blood-letting, not unfrequently carried to deliquium animi, and several times repeated at short intervals ; the other trusting to mercurials and stimuli, chiefly brandy and ammonia. The first was the least successful, and was in a great measure exploded after the death of its principal promoter, Staff-surgeon Safe, who was treated strictly according to his own principle. Brandy and champagne were on the other hand palatable, and succeeded better than the phlebotomising plan. The maxim I followed was "In medio tutissimus ibis." I succeeded accordingly, and, though very young, gained great renown. Since then I have had occasion to alter and modify it, as will be explained in the sequel.

As a general rule, although bleeding may be dispensed with, there are cases where it may be resorted to in moderation—in the early onset, that is to say, where there is much plethora, or

an inflammatory or rheumatic tendency, but not so as to weaken the circulation, but only to ease it; not to impair the reactive powers of the system, always the result of inordinate destruction of the vital fluid.

SULPHATE OF QUININE.

The exhibition of this excellent drug has acquired repute from its successful use in marsh or malarious fevers in Africa and elsewhere, to which calomel, believed to act specifically on the hepatic organs and portal system, has been occasionally conjoined, under an impression that the secretions of the liver and the functions of the spleen are more or less deranged or vitiated in such cases. This is, to a certain extent, true; but, like all that is useful, may be perverted or misapplied, and so prove hurtful, if carried too far, as there is reason to surmise has occurred in the last fever epidemic in Demerara, St. Vincent, and in the French Antilles, where excessive quantities of these medicines have been administered. I am also under an impression that a similar treatment here has, in some hands, proved equally unfortunate. This, the returns

of cases made to the Local Government at Dr. Gavin's suggestion, will probably exemplify, when properly digested in England apart from local feelings and bias. The early cases I particularly refer to, as some practitioners have, in a proper spirit, acknowledged their error by renouncing heroic doses of quinine and calomel, and had, in consequence, improved success in practice. Nor am I surprised at results so unsatisfactory from such injudicious treatment. In 1817, I have known sixty grains of calomel given in one dose, and in 1840, even larger were administered to the French and German immigrants, with the worst results in both cases—recoveries being more the exception than the rule. Quinine and calomel combined were extensively employed, as I understand, in treating the yellow fever cases on board H.M.S. *Dauntless*, at Barbados. The appalling mortality among the crew of that ship is notorious, amounting to more than half of the whole complement. I shall presently contrast this instance with that of the *Highflyer*, a sister ship, where I attended professionally. In Demerara, a claim has been advanced for success in hospital as well as private practice with large doses of

quinine and calomel. As regards the ships which arrived here in 1852, according to the statements of the masters, this was by no means well founded; most of them had lost men on board or at the hospital, the proportion of recoveries being small as compared to deaths. I can account, however, for the repute acquired for these medicines in Demerara practice. Fevers there originating among residents are often of a malarious description, and, as such, prone to visceral obstructions, of the liver and spleen especially; the use of quinine, therefore, as an antiperiodic, and calomel as a deobstruent, in moderation, constitute a rational mode of treatment. (No. 7.)

Some of these shipmasters had received some vague directions from the hospital officials at George Town respecting their sick, having had it impressed on them that too much quinine could hardly be administered, and on this dogma it would appear they acted and erred. I was called officially as health officer to investigate a case of death on board the *Captain*, which signally proved this malapraxis. The man had been doctored by the master with large doses of quinine and calomel without weighing

them, given at hazard, and from the evidence taken, it appeared that from 100 grs. to 150 grs. of quinine had been taken, besides the calomel, in two days, with the result of cerebral congestion, convulsions, and death within that period. The fatal termination was thus probably accelerated by three days—the usual term of yellow fever cases being five days. This was an undoubted case—the post-mortem appearances, its history, and the termination with black vomit, proved it.

Is quinine, then, pernicious as a curative means in yellow fever? By no means, if properly and judiciously administered. It is then a valuable therapeutic agent, and fortunate we are to possess one so useful at command. During the Peninsular war, when it was unknown, there was no good Peruvian bark supplied to the hospitals, and it was found unavailing to make complaints never attended to. In default of a better febrifuge, arsenic had to be used. Of this I was assured by an army surgeon who served throughout the Peninsular campaigns. But if skilful practitioners eschew poisonous doses of arsenic, why do they give excessive doses of quinine?—a drug which, in an overdose,

addles the brain and over-excites the nervous system, inducing tinnitus aurium, indistinct vision, dilatation of the pupils, and finally congestion of the brain, with its grave consequences. Even in moderate doses, too long continued, it has a tendency to assimilate in the system, and create watchfulness and irritation, often difficult to allay. When this condition sets in, quinine, persevered in, does not check the return of fever. The want of experienced doctors in the Crimea, I am credibly informed, often led to this error, which even now shabby pay and illiberal treatment are not likely to mend. When the invalided officers went to Constantinople on leave, this was explained by more experienced men, and the proper sedative correctives were employed.

I shall now describe my own particular treatment, duly sensible that I have no right to impugn that of others without valid reasons; while unquestionably not debarred from deprecating injurious malapraxis. If monster doses of quinine do harm, how do excessive doses of calomel operate? In cases consulted in 1817, when that practice was pursued, the stools became dark and tar-like, attended by torpid

action of the bowels, indicative of disorganised action of the chylopoietic system—harbingers of evil. Cases I saw at the European Immigrant Hospital in 1840, announced similar symptoms. In the latter, sulphuric acid had been exhibited with, or after, the calomel, and probably converted it into a bichloride of mercury, which it is more than likely had cauterised the lining membrane of the bowels; the stools had become putrid and bloody, and the secretion of bile was obstructed through the ducts, jaundice having ensued. These people died, with few exceptions. Since then, I beware of giving medicines together which may react chemically on each other. The question of such combinations, and the consequences to result, can be only satisfactorily determined by skilled pathological analysts.

Having disposed of quinine and calomel, I now notice the effects of

BLOOD-LETTING.

How do the advocates for its copious and indiscriminate use justify it? I do not believe it can be on any well-founded plea of success. Some cases in which it is practised certainly do

get better, just as they recover from hæmorrhage, but this is no proof that the loss of blood was the curative means. It is not improbable such cases would have turned out mild under other circumstances. This of course the out-and-out phlebotomists deny. I have even known cases of bleeding practised on convalescent patients to support false pretensions to success. It is rare that inflammatory action coexists with true yellow fever: the disease is typhoid in character. In such cases, therefore, advantage to be derived from bleeding is more than doubtful. There is a dynamic stage, it is true, of ephemeral duration, but not invariably, as there are cases algid from the beginning in which cutaneous heat is never above natural, or even below that standard. To bleed them would be perdition. The adynamic stage rapidly follows that of excitement; here bleeding would, one would think, be unjustifiable, yet I have seen it done only to precipitate the patient's doom. All this, however, does not prevent boasting of great success in the Sangrado practice, and sometimes imposing on the credulity of persons otherwise sensible and well informed. (No. 3.)

I have yet to notice another remedial agent of the irritating class lately extolled, as I am informed, in St. Vincent as a useful medicine, and even given here, it is hoped, with impunity to the sufferers. As to giving castor-oil as a remedy in fever, I can only regard such a thing as an absurdity, having ever found it a severe irritant. I only employ it now as an enema, and then with caution, suspended in mucilage or albumen. I have nevertheless heard of certain of the profession administering it in nostrums of their own, called peristaltic persuaders. This I had from parties consulting me concerning the gastric irritation thereby occasioned.

HOMŒOPATHY.

This system, if it merits the name, is said to have been notedly successful in Barbados during the last yellow fever epidemic. Its attributes, it appears to me, resolve themselves into the comparative good or evil effects of the *médecine expectante* and the *médecine perturbatrice*. The former is the principle on which homœopathy depends. In Barbados, it is probable the majority of cases so treated were those of natives.

In such, the epidemic fever, left to itself, is rarely acute; it commonly assumes a benign type. The fatal cases among the acclimated, I venture to surmise, were treated on the *perturbatrice* plan, most likely with heroic doses of calomel and quinine. Under the quiescent system, these would have had a better chance of recovery: hence the success claimed for the homœopathists. That the insignificant practice advocated by the followers of the system can have much effect in any form of disease I discredit. The *vis inertiae* and *vis medicatrix naturæ* stand their friends. In opposition to this, I know it has been said, "Oh, the homœopathists sometimes give very strong doses of physic." I have seen printed accounts of something like this, indicating doses of the narcotizing vegetable drugs taken from the natural order "*Luridæ*," sometimes prescribed, chiefly in Germany, where first employed. These, with some exceptions, are of slight efficacy in any disease, and less so in fevers than in other complaints.

I am impressed with the firm belief that such questionable promulgations are made with the design of mystifying people into a credence that there is some reality in the system, which

I am satisfied is only a tissue of imposture throughout.

TREATMENT.

In describing my own practice, which can only be done cursorily and imperfectly, it will be necessary to refer to collateral circumstances and cases.

Fever appeared in the harbour of Port of Spain in December, 1852, in the *Highflyer*, from St. Thomas, and *Roger Stewart*, from Demerara, both infected ports. These were cases of true vomito prieto, and were officially reported to the Executive; but epidemic fever did not break out till early in 1853, when it appeared at first among Europeans and natives of Madeira with the destructive symptoms attending it. By the suggestion of Dr. Gavin, a statement of fever cases was sent in to the Colonial Secretary in regular returns by all the local practitioners, from the beginning of October, 1852, to the end of June, 1853, when it was considered to have ended.

I shall presently give the results of my returns, but may incidentally remark, that besides the cases reported in town, a good many

died at the Colonial Hospital, not then a well-organised establishment as it now is, and at a temporary seaman's hospital, badly placed in the centre of the town, in default of a better site.

On the 6th December, 1852, H.M.S. frigate *Highflyer* arrived here from St. Thomas, after five days' passage. I was immediately called upon by Captain Matson, her commander, as health officer, to visit the ship under the circumstances of having come from a port where yellow fever prevailed, and having several of her crew ill; the sick without medical attendance, the surgeon being also down with fever. The assistant surgeon had been shortly before invalided, and not yet replaced. It appeared that the *Highflyer* had coaled at St. Thomas from two ships alongside, both of which had suffered mortality among their crews. Her departure was hastened as much as possible; nevertheless, two days after, a case of fever appeared in the person of the purser's steward, who, in course of duty, had been much on shore, and by the time she anchored here several more were on the sick list. Not being able from other avocations to devote the strict attention required, I secured the attendance of Dr. Littlepage to take medical

charge, visiting the sick in the first instance along with him; and again, two days after, at Captain Matson's special request. Having consulted and agreed upon a plan of treatment to be pursued, the success that followed our practice was most satisfactory. The first case we had pronounced hopeless, and had the man removed to the Colonial Hospital to avoid the effect of panic on the crew in the event of a fatal result. This prognostic was verified in his dying there the next day with black vomit. Many more cases were taken ill and treated, amounting in all to twenty-one—nearly all becoming convalescent in a few days, one more only dying—a case early attacked.

The arrival of the flag-ship relieved Dr. Littlepage of his charge.

The treatment was as follows:—In the early stage an infusion of ipecacuanha root was administered to eject the contents of the stomach and relax the system, unless spontaneous vomiting had previously occurred, in which case it was omitted. A full dose of calomel (10 grs.) was then given, followed in an hour by castor-oil to unload the bowels; as soon as this was effected, a mixture containing quinine held in solution

by sulphuric acid, largely diluted, with nitric ether added, was exhibited in divided doses, not exceeding 5 grs., at intervals of three hours, till 30 grs. had been taken. This quantity is estimated to equal in febrifuge power three ounces of the best Peruvian bark, according to Magendie, which I have verified experimentally, and saturates the system with the medicine—most patients then experiencing ringing of the ears and other symptoms of excitement in consequence. A pause should now be made, and saline remedies taken to dilute and correct putrescency in the fluid circulation. Quinine may by-and-by be cautiously resumed, but at prolonged intervals. Liquor ammon. acet. and nitric ether should also be persevered in to promote the functions of the skin and kidneys, and so reduce cutaneous heat. Should there be irritability of stomach present, effervescent draughts are indicated, to which Seidlitz powders may be added also. If obstinate, minute doses of hyoscyamus or morphia are indicated, also carminative epithems and blisters. In persistent headache, when cold evaporating lotions fail, use pediluvia, made derivative with mustard and salt, at intervals of hours, and blisters to the nape of the neck. If a state of coma super-

vene, sinapisms to the feet and legs should be applied. When practicable, enemata are always a useful expedient, and never do harm; but sailors are much averse to them. As diluents, besides the common tisanes of barley, toast, and rice-water, iced if possible, I never refuse porter and water, or seltzer; the latter with light wine, if preferred. The best aliments are the vegetable jellies, sago in particular; when there is much debility, cinnamon and a minute portion of brandy may be added, as grateful adjuncts, especially if the bowels should be too relaxed.

For further particulars bearing on the subject, I now refer to my official reports to Lord Harris and the Colonial Secretary, written on the spur of the moment, *currente calamo*. My practice among the other seamen in the port was equally simple, and making due allowance for sailors' cases treated on shipboard, with many appliances wanting, nearly as successful.

Although influenza, as well as fevers of a mild typhoid type, prevailed in the Port of Spain in December, 1852, the only cases of acute fever seen or heard of in the island were those of the *Highflyer* and *Roger Stewart*. A case visited on board the *Louisa*, and others reported to me

on board the *Pomona*, were slight, showing that the outside epidemical influence had not yet reached it. Thus I attended, during December, 22 cases of Creoles of white race, and 26 cases of Europeans, or Madeirans, with one or other of the undermentioned diseases, namely, influenza, typhus and other fever, including those of the *Highflyer*, all of which got well, excepting Beardmore, of the *Highflyer*. The mortality was 1 in 43. A note of these cases I delivered to Dr. Gavin, at a meeting of the Board of Health, in April, 1853.

In January I treated 18 cases of fever, of which 8 were Creoles and 10 Europeans or Madeirans. Of the former, none died, of the latter 3, of whom two were seamen of the *Roger Stewart* and *Annabella*, both from Demerara, and both were relapses after previous attacks while there. In February I attended 3 cases of the epidemic fever in Europeans and 3 Creoles: all recovered. In March 9 cases—2 Europeans, 7 Creoles—no deaths; in April 13 cases, namely, 11 Creoles, 1 European, and 1 Madeiran. The last was moribund when first visited, and not to be taken as exceptional to my almost constant success in the treatment

of Portuguese patients. It was nevertheless returned as a fatal one.

After the meeting of the Board of Health in April, returns were sent in to the Colonial Secretary by the medical practitioners. On reference to mine, it appears that since the 6th April, inclusive, up to the 13th June, when the epidemic was considered to have ceased, and returns were no longer required, 66 cases had been returned, of which number 4 were casualties, leaving 62 recoveries. A difficulty having arisen as to when the epidemic commenced, it was settled by Dr. Gavin, by common consent, by reckoning from 1st January. I numbered my cases accordingly, so that the last return completes the number 153; but the total number of cases I saw from the beginning of December, 1852, may be stated as follows:—

	Cases.	Deaths.
Treated in December, 1852 . . .	47	1
„ January, 1853 . . .	18	3
„ February, 1853 . . .	6	0
„ March, 1853 . . .	9	0
„ April, 1853 . . .	13	1
„ May and June, 1853 . . .	66	4
	159	9

Adding the 47 cases I attended in December, 1852, to 153 returned, leaves 46 unaccounted for. Of this total, 5 are stated in the last return, 13th June, remaining under treatment, and the remainder are referable to the various classes of chronic intermittent cases transferred to others, and cases removed not heard of since last seen, the results not known, but which need not materially affect the rates of mortality, which may be as nearly as possible, taken altogether, in 200 cases treated from 5th December to 13th June, at a fraction under 5 per cent. It is proper to add, that in no case classed prevailing epidemic, was bloodletting employed. In addition to the treatment described, wine and porter were given with due caution from first to last, and in some cases no calomel was taken.

In relation to the treatment of fever generally, no prescribed line of practice can be applicable to all cases; each one will manifest some peculiarity requiring modification in treatment to be necessarily left to the judgment of the physician.

Is yellow fever contagious? In the strict etymological meaning of the term, it is not. There was a time when not to side with the

non-contagionists was enough to raise a hue and cry against the rash dissentient: now the question is more calmly considered, and consequently with better judgment.

Yellow fever may be classed in the same category with typhus gravior, epidemic cholera, scarlatina, or puerperal fever, whenever it shall break out in a crowded, impure, ill-ventilated part of a town, or ship, or hospital, or other confined space; and in whatever manner in the first instance engendered, is susceptible of propagation by means of the corrupted air in subjects exposed to its effects, under such circumstances, by emanations from the lungs, bodies, and egesta of the sick. Hence the more diluted the poison in the atmosphere, and the freer from polluting agencies, the less contamination will there be in breathing it; hence the necessity of thorough ventilation in the apartments of the sick. Change of air and locality are also, when practicable, never to be neglected (No. 4). In resisting fever, much will depend on the physical and moral stamina of the individual. The nervous temperament is the most easily struck down, being sometimes death-struck from the beginning. Moral causes—such as friends or

relations ill, dying, or dead, then act in full intensity. Everything tending to sustain vitality should be resorted to, with moderate stimulation throughout (No. 5).

Having concluded my history of yellow fever, I shall proceed casually to notice other forms of the class pyrexiaë, sometimes confounded with it—together with their usual exciting causes and peculiar symptoms. Of these I may enumerate bilious, remittent, double tertian, quartan, and tertian intermittents, besides quotidians; all of them more or less obstinate and troublesome at times. Such fevers often proceed from exposure to the exhalations from swamps or morasses, and from malaria of other kinds, the latter not always palpable to the eye or the senses: but they also occur independently from other causes; and long residence is not a certain preventive, though it may act in some measure as a mitigant. The biliary secretions are very commonly deranged and vitiated in such fevers, with which the functions of the liver and spleen are intimately connected: hence calomel, with proper adjuncts, is a necessary part of the treatment to correct them, in old inhabitants especially. The general rules already laid down will

also apply here, especially the use of quinine, which in intermittent fevers is quite specific, and should in obstinate cases be given, in anticipation of the periodical returns, a few days before the lunar equations (No. 6). Where engorgement of the spleen has taken place, which is apt to happen in neglected, especially children's cases, small doses of calomel to act as an alterative are required, and are always useful. They should be continued for some time.

So far, I have not particularised the ailments of the lower classes. To these I shall now succinctly advert, as they do not properly belong to the subject in hand. While these people are by no means exempt from fever, it is more often in their cases symptomatic than idiopathic; arising from erysipelas, local injuries, &c., of ephemeral duration and easy of cure. Children's cases are, however, the worst, from the neglect and quackery of the mother, and there is great mortality among them in consequence. The diseases most common are infantile remittents, tabes mesenterica, and diarrhœa. Public dispensaries do not exist, and the public hospital is too far distant to be available to the required extent. These, if established, would counteract in a great measure the evil of selling drugs, not

unfrequently practised by unqualified salesmen. Much of this undue mortality, amounting to fifty per cent., may be traced to this cause, as publicly reported at the Town Council Board. There is nothing in the climate to account for this early loss of life otherwise, as the ordinary children's epidemics are less fatal here than in Europe. The better classes are prolific in the extreme, much more in many cases than the providing means are. Dispensaries might be made partly self-supporting. There are parties capable and willing to contribute for the advice and medicine they might receive, according to their means. It is a duty incumbent on the upper classes to protect and foster the native population and treat them well, so as to prevent their leaving the country to go to Venezuela, where quite a multitude emigrate yearly; where, it is said, pay and allowances are much better than in Trinidad.

An ordinance not long ago passed, to ascertain correctly the returns of disease and mortality, remains mainly inoperative by reason of the provision for a properly-qualified medical inspector not having been yet carried out, with which some Town Council opposition is mixed up.

APPENDIX.

Port of Spain, Trinidad, 6th Dec. 1852.

THE RIGHT HON. LORD HARRIS,
Governor, &c., &c., &c.

MY LORD,

I HAVE the honour to report for your lordship's information, that I was called upon officially yesterday afternoon, by the commander of H.M.S. frigate *Highflyer*, for my advice and assistance, under the circumstances of having come from St. Thomas, and having several sick men on board deprived of medical attendance from the illness of the ship's surgeon.

I accompanied Captain Matson to the ship forthwith, and having seen and conferred with the doctor, and visited five sick men in their hammocks, beg leave to report as follows:—The first case taken ill occurred soon after the ship left St. Thomas, in the person of a man

employed in the steward's department. This individual was a good deal ashore while at that island in the course of his duty, and in consequence much exposed to the epidemic influence of yellow fever there prevailing. As the case evinced symptoms of congestive fever of a grave character, I considered it advisable to have him removed to the Colonial Hospital in the probability of a fatal result.

The reasons weighing with me in thus acting were, in the first place, the ill effects to be apprehended from panic on a susceptible crew of mostly unacclimated persons in the event of a fatal termination. With respect to the health of the town, I considered that of less moment on the score of infection in the case of the hospital inmates, for the most part unsusceptible Creoles. Moreover, in the want of a lazaretto, which had it existed would have been preferred, I felt I had no alternative but to proceed as I have done. The other cases of fever, as well as that of the surgeon, are apparently of a milder type.

With the concurrence of Captain Matson on the pressing necessity for immediate medical advice, Dr. Littlepage has undertaken the at-

tendance on these cases until the doctor shall be sufficiently recovered to resume his attendance.

I have the honour to be

Your lordship's very obedient, humble servant,

THOS. ANDERSON, M.D.,

Health Officer of Shipping.

Port of Spain, 10th Dec. 1852.

THE HON. W. L. WILDMAN,
Acting Colonial Secretary.

SIR,

I HAVE the honour to enclose the report of Dr. Littlepage on the cases of fever under his charge on board the *Highflyer*.

I accompanied that gentleman early this morning to the ship, and examined carefully all the cases, most of which appear to be in a convalescent state. The disease has yielded so far to the treatment with great facility, and there is not at this time any case manifesting the type of yellow fever, properly so called, and only *one* evincing symptoms of a grave charac-

ter, and this man (Beardmore) is stated to be subject to occasional illness from trivial causes.

The treatment pursued has consisted in early attention to unloading the bowels, with administration of quinine in solution with sulphuric acid, which is found to act both as an anti-periodic and sudorific, in abating and carrying off feverish action—so much so as to have rendered many cases very short in duration.

Blood-letting was not employed in any case. The general treatment has been regulated by the symptoms.

Free ventilation is in course of being carried out, and purification of the ship by the most approved disinfectants.

I have the honour to be,

Your very obedient, humble servant,

THOS. ANDERSON, M.D.,

Inspector of Health of Shipping.

Port of Spain, 10th Dec. 1852.

SIR,

IN reply to your communication, I beg leave to report that there have been, in all,

nineteen cases of fever on board of H.M.S. *Highflyer*, eleven of which have taken place since her arrival in port. Four of these have returned to duty, and the remainder, with the exception of one case and that of the surgeon, are nearly convalescent.

I beg leave further to state that the violence of the disease seems to have been very much diminished within the last two days. You are already aware that the case sent to the Colonial Hospital terminated fatally.

I have the honour to be, sir,

Your very obedient, humble servant,

A. W. LITTLEPAGE,

Acting Surgeon.

THOMAS ANDERSON, Esq., M.D.

Inspector of Health of Shipping.

Capt. MATSON's Note to Dr. ANDERSON, received 9th December, 1852:—

MY DEAR SIR,

IF quite convenient to you, have the kindness to accompany Dr. Littlepage on board

this afternoon. He is to be at the King's Wharf at 2 o'clock. Everything appears to be going on satisfactorily, but there are a number of new cases, and I am anxious that every precautionary measure should be adopted.

Believe me,

Yours very truly,

H. J. MATSON.

Thursday, Noon.

Port of Spain, 11th Dec. 1852.

SIR,

I HAVE the honour to inform you of my having been relieved from duty on board of H.M.S. *Highflyer* by a medical officer from the flag-ship.

Since our last visit, there have been two more cases of fever, but of a milder type, owing very probably to the panic having subsided and the fumigation of the ship yesterday. The remainder are convalescent, with the exception of the case mentioned in my last report. The ship was

visited this morning by the surgeon of the flagship and the medical officer now in charge.

I have the honour to be

Your very obedient, humble servant,

A. W. LITTLEPAGE.

THOMAS ANDERSON, Esq., M.D.,

Inspector of Health of Shipping.

NOTE.—Captain Matson was next taken ill and died here. The ship then was ordered to Jamaica, and then to the northward. Many more cases occurred, but with small mortality. It is probable the treatment found so successful at first was adhered to.

T. A.

Port of Spain, 21st Dec. 1852.

THE HON. JAMES L. WILDMAN,

Acting-Colonial Secretary.

SIR,

I HAVE the honour to report for the information of his Excellency Lord Harris, that I visited officially this morning the ship *Roger Stewart* from Demerara.

This ship arrived here on the afternoon of the

19th inst., direct from British Guiana, where an epidemic fever is now raging, with cases of fever on board, of which I was not apprised, and only yesterday accidentally learned that a fatal case had occurred on board of her, and that another case had been landed and sent to the Colonial Hospital, so that I was debarred an opportunity of complying with his Excellency's injunction, not to allow fever cases to be sent there without previous consultation with him.

The captain reports that fever was rife there during four weeks the ship remained, some ships having lost their entire crews. Three cases had occurred on board, of which two died, one in the ship, the other at the hospital, the distinctive symptom of black vomit occurring in both instances. Another case occurred on the passage here, which was fatal about the fourth day, also with black vomit, and a second, a boy, died yesterday morning, likewise with the characteristic symptom. A third case sent to the Colonial Hospital remains to be accounted for.

I had the people on board mustered, and found all apparently well; but as there is no doubt

that a pestilent air must have been created in the ship, in the confined space allotted to sick and well, I am of opinion that means should be adopted without delay to neutralise the infectious effluvia by proper means of purification. Fires were burning between decks at the time of my visit, made with sea-coal. This cannot effect the purpose; the simple combustion may attenuate the air, but the benefit thence proceeding is rendered nugatory by the evolution of carburated hydrogen gas. Other disinfectants, such as Burnett's, sulphuric acid, and nitre vapours from hot vinegar, and the use of hot lime-wash, are far better; a previous thorough ventilation and cleansing of the ship should not be neglected.

In order to effectuate these sanitary measures, and to secure undivided and proper attention on the part of the master and crew, the purification should take place in quarantine, apart from the body of the shipping, which has been the usual practice. I may incidentally remark that the European Sanitary Commission has recently decided that yellow fever is one of the diseases in which quarantine cannot be wholly dispensed with.

I have delayed sending the ship to the quarantine ground till in possession of his Excellency's answer.

I have the honour to be, &c.

Port of Spain, 12th Jan. 1853.

THE HON. JAMES L. WILDMAN,
Colonial Secretary.

SIR,

WITH reference to former communications respecting the ship *Roger Stewart*, I have the honour to report for the information of his Excellency the Governor, as follows:—

I was required by the captain, on the 3rd inst., to visit three seamen taken ill the preceding night, who had been sent to the Colonial Hospital, but refused admission there.

Two had fever of a grave congestive character, the third of a milder type. This last was convalescent the next day, and the two others appeared likely to do well at my visit on the 7th; nor did anything portend a different result on the 8th. The case which had appeared the worst at first being convalescent and soon got well; the other terminated fatally on the 10th.

D



He had eaten too freely of oatmeal porridge given to him improperly. It was rejected by vomiting, followed by a train of unfavourable symptoms which treatment failed to arrest. In cases of this kind, that is, of relapse, which this last was, a fatal result often ensues in yellow fever.

During my attendance on these cases, two others, in the persons of the mate and steward occurred, both mild in character. These men slept in the cuddy, which is airy, and in a great measure free from the noxious influence of the 'tween decks. To obviate the latter, I caused a windsail to be placed over the main hatchway, apparently with a good effect.

The treatment was as follows :—To clear out the bowels in the early onset with a mercurial purgative—not repeated. Then a mixture was administered, composed of sulphate of quinine dissolved in diluted sulphuric acid, to which was added sulphate of magnesia 1oz., dissolved in 20 ozs. of water, along with 3 fluid drms. of nitric ether, to be taken in 3 oz. doses at intervals of two or three hours, till 30 grs. of quinine had been taken, with the object of combining a tonic and antiperiodic action in the system, pro-

moting proper secretions, and the functions of the bowels, skin, and kidneys, in all which respects it apparently acted well. Quinine was not continued after its effects became manifest, which usually took place after 30 grs. had been taken, less generally sufficing. Effervescing draughts were also given to restrain irritability of the stomach after a distressing symptom. Rubefacients, such as mustard cataplasms, and blisters, were also used as counter-irritants. To allay heat of surface, cold sponging was had recourse to; and as a slightly tonic diluent, porter and water in small quantities often repeated. In the generality of cases this treatment was successful, but as is well known to experienced physicians, cases do and will occur to the end of time which will baffle every plan of treatment.

The ship was again fumigated yesterday, this time with Guyton Moreau's disinfectant (chlorine gas). While writing I was summoned to visit the steward of the ship, then getting under weigh, to proceed to Chaguaramas. I found him free from fever and doing well. This, I sincerely trust, will prove the final case (and so it proved to be).

I have the honour to be, &c.

Port of Spain, 19th Jan. 1853.

THE HON. JAMES L. WILDMAN,
Colonial Secretary.

SIR,

I HAVE the honour to report, for the information of his Excellency Lord Harris, that I visited officially yesterday afternoon and again this morning the ship *Captain* from Demerara. This ship is four days out, having lost one man there and left another in hospital. I have placed her in quarantine of observation, which I propose, with his Excellency's approbation, should be of five days' duration from the time of her arrival here, on the calculation of ten days as the probable period of incubation of yellow fever, and have in the meantime directed the master's attention to cleansing and purifying the ship. I have had the hands on board, fourteen in number, mustered, and found them apparently in good health. While writing I was summoned to visit another arrival from Demerara, the *Annabella*, five days out. The master reports one death at Demerara from yellow fever, and a boy ill on board. I have placed

her under restrictions, without assigning a term. The result of the case now ill I will duly attend to.

I have the honour to be, &c.

Port of Spain, 20th Jan. 1855.

THE HON. JAMES L. WILDMAN,
Colonial Secretary.

SIR,

I VISITED this morning the two last arrivals from Demerara, namely, the *Captain* and *Annabella*. The first is free from sickness. The case reported in the last, a boy fourteen years of age, I examined carefully and prescribed for. It manifests grave symptoms of a typhoid character, with abdominal complication; typhus abdominalis. I have ordered 4 grs. of sulphate of quinine, 10 of precipitated chalk, and 5 grs. of Dover's powder, three times a day, and diluted port wine occasionally, rubefacients to the stomach and extremities, and arrow-root diet. This case gives an unfavourable prognostic, and is at the third day of a second attack, having had yellow fever at Demerara.

I have the honour to be, &c.

Port of Spain, 22nd Jan. 1853.

THE HON. JAMES L. WILDMAN,
Colonial Secretary.

SIR,

I HAVE the honour to report, for the information of his Excellency Lord Harris, that the following vessels from Demerara, duly reported on their arrival, namely, the *Roger Stewart*, *Lyra*, and *Captain*, continue healthy. That the new hands shipped on board the *Roger Stewart* have preserved good health proves the superior efficacy of the chlorine gas fumigation (Guyton Moreau's) above all others, as the only one thoroughly trustworthy. The captains report that even rats cannot stand it, and desert the ship.

The case on board the *Annabella* is, contrary to expectation, now apparently doing well, the remedies employed having effected an almost immediate improvement in the symptoms. It is now at the 5th day, with a fair prospect of recovery.

I have the honour to be, &c.

NOTE.—Having discontinued my attendance

on this boy, who was apparently safe, I was astonished to hear of his having succumbed. I have reasons from circumstances to believe that the case was neglected by the captain—Captain Oakham likes damning all sick on board of his ship. I would never entirely trust any captain, particularly if part-owner of the ship. The East India commanders are less selfish and more trustworthy, as belonging to a better class.

NOTES.

No. 1.

THERE was fever in St. James's Barracks in 1859-60 of an acute description; but nowhere else in the Island. This turned out to have proceeded from neglected drainage, and its concomitant, insufficient water supply. The latter is even now *not* remedied as it ought to be. I was examined before Colonel Domville, chairman of a commission of inquiry on this subject, held at St. James's, and gave evidence as above. Since the sewerage of the barracks and their sanitary condition have been better attended to, fever has disappeared. These quarters are now remarkably healthy.

No. 2.

I do not think he succeeded in the object of his mission.

No. 3.

A certain doctor of the old times was in the habit of boasting that he never lost his patients. A bystander hearing him one day, rejoined, "Then, my dear doctor, you must certainly do them great injustice by burying them alive, as to my certain knowledge many go

to their graves!" Another time, when reminded of the death of a patient he had undertaken to save, his reply was, "Och, my dear fellow, what could I do with him; his stomach was not worth a damn!" It may be shrewdly guessed he was a Patlander.

No. 4.

This is ably elucidated in Dr. Jackson's work. Soldiers so treated "walked briskly on limbs which before they had hardly the power of moving."

No. 5.

This may offend the ears of abstinent people, so called; but I argue that man is a free agent, and must be left to his own discretion. It is not to be supposed that the Almighty can have spread the vine over so much of the earth uselessly. Wine-producing countries are the most temperate, in its proper sense.*

No. 6.

Sol-lunar influence on organic life has been doubted by some in Europe. No agriculturist or medical practitioner does so here. In Demerara, a malarious place, the periodical returns of intermittent fever happen so regularly at spring-tides, that they are called spring fevers. They say to each other, "Oh, I have got the spring."

* We have Scripture authority for this. "Wine gladdeneth the heart of man." "Take a little wine for thy stomach's sake and thine often infirmities." "Man cannot live by bread alone."

No. 7.

But calomel was not always given in moderation by the Demerara doctors. An old friend of mine, (Rees, a dentist,) nevertheless, said he had no fault to find with them, even if salivation affected the ladies' teeth and mouths, as then he profited by giving them new frontispieces, and thereby beautified them, to which they did not object. How curious! Rees was a wag in his way, no doubt, to talk in such a way of ladies' infirmities.

Note Last.

Baron Dubois was the accoucheur of the Empress Marie Louise, the consort of the First Napoleon, under critical circumstances. I accompanied him to hear one of his lectures delivered to young women educating as accoucheurs, at L'Hôpital de la Maternité. It was highly edifying, illustrating the care taken by the French Government of the time for the welfare of the national community. Duties of this kind in England are too often left to old crones more remarkable for their attachment to gin than anything else.

CHOLERA

BROKE out as an epidemic in Port of Spain on the 19th of August, 1854, and ended as such, as nearly as can be ascertained, on the 19th of October following, although sporadic cases occurred subsequently.

It is believed to have been introduced from La Peña, a fishing station on the neighbouring Spanish main, within the Gulf of Paria, with which there is constant communication. Certain it is that I inspected a dead body officially, taken from a boat from there, a few hours after death. The symptoms described at the inquest were those of cholera *unequivocally*, which it appeared had been raging at La Peña for some time before. The body was placed in a room near the beach, and remained there some hours. Next day a case occurred in the adjoining apartment; and the disease immediately became rife in the town, following, at first, the direct line of com-

munication by Duncan-street, bounded by a watercourse, dry, except after heavy rains and floods, called the Dry River, which is the common depository of all the refuse of the whole western boundary of Port of Spain—the dirtiest and least healthy part of the town, from its filth and overcrowding.

My first Official Report.

Port of Spain, 1st Sept. 1854.

THE HON. THOMAS JOHNSTON,
Colonial Secretary.

SIR,

I HAVE the honour to report, for the information of his Excellency Captain Elliot, that since I reported the case of the boatman Gabriel on the 19th ultimo, in Duncan-street, four other cases of cholera have appeared in the same yard. The first case, that of a woman named Angele, I was called to see on the 20th in a state of collapse, who died. A child, whom I did not see, died the following day; a fourth case, a son of Gabriel, the first reported, left the yard after his father's death, went to Maraval, and died

there of cholera, as reported to me ; a fifth case near by, I was then called to with symptoms of developed cholera just passing into collapse, but was saved by treatment just applied in time. The proprietor of the premises then took cholera, but recovered. On the 30th ultimo, I was called to see a case of hopeless collapse in the same street, and the same evening to another similar case—both women. Another of the same family, Bass by name, was removed to another street, where I visited her, rapidly passing into collapse. She expired after eight hours' illness. It is difficult to ascertain how long premonitory symptoms had preceded any of these attacks.

On the 26th I saw the following cases :—

Solitude.

José Cesario.

Hatrine, in Henry-street. All with developed cholera, without premonitory symptoms. The last-mentioned case endured twelve hours.

27th. I visited Elizabeth Desir in Edward-street. Collapse ; premonitory symptoms neglected.

Banks, collapse. Had sat up at his mother's wake, who had died of cholera.

28th. Kitty Hazle, collapse, died.

Sept. 28th. A. Mills, incipient cholera, recovered.

Celeste, Corbea Town, collapse, died ; previous diarrhœa neglected.

Diana Auguste, Park-street, cramps, recovered.

Dick Herbert, Brunswick-square, cramps, recovered.

29th. Present, collapse, died—without attendance.

30th. Miss Frances Bertie, London-street, collapse, died.

31st. Widow Joseph, Market-place, died.

In addition to the above, I have visited and prescribed for 120 cases of diarrhœa and other premonitory symptoms of cholera, all of which have yielded to treatment, showing what can be done by preventive means. The particulars of the above report state seventeen cases of true pestilential cholera, so that I respectfully submit there can be no valid reason to withhold the fact that cholera is now epidemic in the island.

I have the honour to be,

THO. ANDERSON, M.D. Ed.,

Medical Inspector.

Port of Spain, 18th Sept. 1854.

THE HON. THOMAS JOHNSTON,
Colonial Secretary.

SIR,

I HAVE the honour to announce, for the information of his Excellency the Governor, Captain Elliot, that, under Divine Providence, I have discovered a remedy for pestilential cholera, certain and effectual when administered in the early onset of the disease, and often successful as a curative means even in its advanced stages.

This remedy is ammonia, exhibited in forms and preparations so simple as to be confided to the hands of any person of common intelligence.

The visitors in Sections 6 and 8 of the town under my charge, Lompres, Corbie, and McMahan are well instructed in the process of administration, and can attest its efficacy.

I am ready to communicate every information on this important subject whenever required.
(No. 1.)

I have the honour to be, &c.,

THOS. ANDERSON, M.D.,

Medical Inspector.

Port of Spain, 24th Sept. 1854.

THE HON. THOMAS JOHNSTON,
Colonial Secretary.

SIR,

PURSUANT to the announcement of my claim to having discovered a mode of cure for Asiatic cholera in the administration of ammonia, I have the honour to report as follows, and to respectfully request that a copy of this report, along with that of the 18th instant, may be transmitted to the Duke of Newcastle, the Secretary of State for the Colonies.

The history and pathology of pestilential cholera lead to the conclusion that its proximate cause is a poison passed into the blood. On this conception, arrived at after seeing the rapid course of the pestilence in the first cases after the outbreak, I resolved to employ, from analogy, ammonia as an antidote and puissant *counter-poison*. In our experience, gathered up to the present time, in the treatment of upwards of 1000 cases in every stage, seen in the course of house to house visits by myself, and of at least as many more made by the visitors, in Sections

6 and 8, committed to my charge, containing a population of 7000 souls, I am enabled to affirm confidently that this specific, which I consider it to be, is as perfect and reliable in the treatment of cholera as quinine is as a febrifuge in intermittent fever.

It is proper to remark that many cases at the first outbreak manifested no premonitory symptoms, and perished rapidly without assistance. In the early stage attended by cramps and vomiting, a mustard emetic acts well, followed by a drachm dose properly diluted of ammoniated tincture of opium, and sometimes arrests the choleraic symptoms; but if rice-water stools begin, I abandon all preparations containing opium, and trust to ammonia as the Sheet Anchor of Hope. My ample experience has convinced me that rice-water or cholera stools are in reality the serum of the blood at first mingled with the mucus and humours of the bowels poured out from the internal coat of the gastro-intestinal mucous membrane, and that the sinking, rapidly passing into algid collapse, is from the deprivation of its saline components, leaving the crassamentum or fibrinous constituent isolated, and inert to carry on the vital

circulation, and thus suspending secretion, absorption, and assimilation; consequently, I adopt a treatment intended to unite the diffusibly stimulant and counter-poisonous action of ammonia with saline solutions. That of Seltzer water has been generally used, but the alkaline carbonates, with common salt and nitre, may be substituted, and will answer, inasmuch as the salts required to supply the waste of those of the blood will be eliminated when reaction returns, to be expected to follow from the action of the ammonia on the heart and nervous centres. Meanwhile, I give only cold water to drink, iced if possible, and nothing but the ammonia and Seltzer. Warm baths, frictions, and embrocations are entirely useless, and loss of time to employ in this stage.

The dose of ammonia is a fluid drachm of the aromatic spirit—but if that is not at hand, the carbonate of ammonia, or any other preparation of it, may be substituted—with a claret glassful of Seltzer, given at once, and repeated hourly, in half the quantity, till the frequency of the discharges is checked. This commonly takes place in a few hours if given early; but if cholera stools should have been some time

present, I shorten the interval between the doses to half an hour. If rejected by vomiting, I persevere, nevertheless, when the stomach generally gets settled. Thus treated, I have seen numerous cases rally, even from collapse, and permanently recover.

I have the honour to be,

THOS. ANDERSON, M.D.,

Medical Inspector.

FINAL REPORT ON CHOLERA.

Port of Spain, 8th Jan. 1855.

JOHN STONE, Esq.,
Secretary of Epidemic Committee.

SIR,

HAVING been informed that it is required to address an official report to you on the late cholera epidemic, I hasten to acquit that obligation in this ninth report made since the outbreak, with reference to eight others, under the following dates, sent in to the Colonial Secretary on the first appearance, during the progress, and at the conclusion of the epidemic—viz., August 20th, September 1st, 18th, and 24th, October 2nd, 17th, 25th, and 31st, respectively.

From these reports, and from the results of my experience and observation, I deduce the following aphorisms:—

That the epidemic broke out on the 19th of August, 1854, and ended in that character in

Port of Spain in October, about the 19th, as nearly as could be ascertained. It nevertheless continued sporadically for some time after, even up to the present time.

That it differed nowise in history and character from pestilential cholera as witnessed in other parts of the world.

That there were decided proofs of its having been communicated by infection.

That it is not contagious in the proper sense of the term.

That, while granting to the local government and the borough council their full meed of praise for their liberal contributions in supplying the wants of the people, the system of management adopted in employing functionaries during the epidemic was complicated, and worked ill. One organized under a single medical superintendent, as a head, as practised in England, regulating with the municipal chief magistrate and his working staff, would probably have answered better.

That, judging from my experience in Sections 6 and 8, with a population of near 8000 souls committed to my charge, the visitors were too few, and underpaid for the work they were re-

quired to do, which was beyond their powers of endurance, as proved by the whole knocking up or retiring (including several who took cholera), with one exception only. To have appointed some for night employment exclusively would have saved both life and expense, as many died from night seizures without any assistance.

That hospitals should not have been established. They were reluctantly resorted to as a last resource even by the most indigent, when they failed to get attendance at their dwellings, and were often conveyed to them in the last stage of collapse, only to perish.

That in Sections 6 and 8, comprising the heart of the town, notwithstanding overcrowding and a dense population, house to house visitation was most successfully carried out. The use of the hospital in the market-place, established for those sections, so far as my control went, was limited to a house of refuge. Cholera patients were nevertheless sent to it from the gaol, improperly, where the mortality had been fearful.

That in the treatment of premonitory symptoms, the cautious use of calomel, with proper adjuncts, is beneficial; also, after cholera, or its

concomitant rice-water stools, have ceased, in the convalescent stage, as serving to emulge the biliary ducts and alter the gastro-intestinal secretions; but as a remedial agent in developed cholera it is as ineffectual as it would be in neutralizing snake venom or prussic acid. Given during the continuance of choleraic vomiting, if neither ejected nor dejected, it remains altogether inert in the primæ viæ inactively, and so will remain as long as absorption, then suspended, does not return.

That cholera stools consist of the serum of the blood, deprived of the crassamentum, its other constituent, left drained, and useless to maintain the vital circulation; hence the state of helpless collapse into which the system rapidly sinks. That cases now and then do recover after collapse has ensued, even when left to nature, is true, but is out of the usual course, and not to be reckoned upon. I have invariably found that after reaction takes place, the proper functions of the secreting organs gradually follow, and the mercurials and other medicaments may be properly resorted to. That the success attending the employment of ammonia as a powerful diffusible excitant and prophylactic in the

forms and preparations noted in my report of 24th September, as an antidote to cholera, considered as the proximate cause of its peculiar poison conveyed into the blood, stands so pre-eminent as to impart to it the title of specific. This I am prepared to substantiate from 1800 registered cases, attended in all parts of the town, but principally in Sections 6 and 8, attested by the visitors employed, respectable heads of families and clergymen. These cases were all more or less grave, requiring to be seen at their dwellings. I prescribed also for about as many more at my residence, by night and by day, milder cases yielding to treatment, including not a few of previous failures in other hands. A doctrine mooted by some theorists, that premonitory diarrhœa is eliminative and should not be arrested, I regard as equally fallacious and perilous if followed. It is, in point of fact, the incipient effect of the choleraic virus.

That ammonia, when administered with Seltzer or analogous saline solutions, acts by reviving the dormant vital powers by its vivifying effects on the heart and gastric nervous centres, and the saline additions by supplying the waste of

those of the blood thrown out in the profuse choleraic discharges. Under the use of these medicaments many cases of collapse rally.

Finally, in consequence of the lax and ineffective operation of the Medical Ordinance No. 2, a swarm of empirics perambulated Port of Spain, even intruding into the hospitals, facilitated by the paucity of visitors. Some were amateurs, who, it is positive, besides other mischief they did in their officious ignorance, poisoned themselves and friends with their nostrums. The itinerant quack, Secchi, figured here, and narcotised many, while he fleeced all he could, without saving, according to the visitors, a single case of developed cholera.

In conclusion, I have a gratifying duty to perform in bearing testimony, humbly tendered, to the incessant labours at all times of the clergy of every Christian creed, conscientiously devoted to the spiritual wants in their respective vocations.

I am, with due respect,

Your obedient humble servant,

THOS. ANDERSON, M.D. Ed.,

F.R.C.S.Ed., Medical Inspector and

J.P. County of Saint George.

NOTES ON CHOLERA.

No. 1.

THERE was some backwardness in affording an opportunity to verify the efficacy of the ammonia treatment. It is true I objected to the exclusive umpirage of medical judges, having had occasion to learn during a long professional career, that the odium medicum is somewhat akin to the odium theologicum, and certainly not less scorching. Some also seemed shy of visiting the haunts of cholera, especially as it was necessary to investigate before the epidemic had ceased in its activity.

No. 2.

There has been a new ordinance since enacted, anything but protective of the privileges of British universities. The consequence is that every quack selling drugs over the counter poisons with impunity. The difficulty and expense of law process is a virtual prohibition. The only medical men who pay their way are the attendants on the Coolies, whom it is obligatory on the proprietors to employ. It is well remunerated, being in a great measure a sinecure, as the Coolies eschew all Feringee physic. The ex-

perience or talent of the medical attendant is not considered in such cases—it goes by interest with the employers.

No. 3.

It is curious with respect to cholera and ammonia that our Chinese residents seem to have been aware of its prophylactic powers; certain it is that few of them died during the epidemic in consequence of having been previously habitué;—the ravages of smallpox among a tribe of Indians show the effect of a new disease on a primitive race of people, sometimes all but exterminating it;—and I was informed that from experience derived from their own country, they were in the habit of setting aside their urine until it decomposed and formed ammonia, and then drank it. Sleeping among bags of onions, I have had occasion to observe, from the ammoniacal exhalations evolved, is also a preventive. No people are before the Chinese in instinctive intelligence.

CHAPTER I

The first part of the book is devoted to a general survey of the subject. It begins with a definition of the term 'philosophy' and a discussion of its scope and limits. The author then proceeds to a survey of the various branches of philosophy, including metaphysics, epistemology, ethics, and political philosophy. The second part of the book is devoted to a detailed examination of the philosophy of Plato. It begins with a discussion of Plato's theory of forms and his theory of knowledge. The author then proceeds to a discussion of Plato's political philosophy and his theory of the state. The third part of the book is devoted to a detailed examination of the philosophy of Aristotle. It begins with a discussion of Aristotle's theory of knowledge and his theory of ethics. The author then proceeds to a discussion of Aristotle's political philosophy and his theory of the state. The fourth part of the book is devoted to a detailed examination of the philosophy of the Middle Ages. It begins with a discussion of the philosophy of Thomas Aquinas and his theory of knowledge. The author then proceeds to a discussion of the philosophy of William of Ockham and his theory of knowledge. The fifth part of the book is devoted to a detailed examination of the philosophy of the Renaissance. It begins with a discussion of the philosophy of DesCartes and his theory of knowledge. The author then proceeds to a discussion of the philosophy of Spinoza and his theory of knowledge. The sixth part of the book is devoted to a detailed examination of the philosophy of the Enlightenment. It begins with a discussion of the philosophy of Voltaire and his theory of knowledge. The author then proceeds to a discussion of the philosophy of Rousseau and his theory of knowledge. The seventh part of the book is devoted to a detailed examination of the philosophy of the Romantic period. It begins with a discussion of the philosophy of Schlegel and his theory of knowledge. The author then proceeds to a discussion of the philosophy of Hegel and his theory of knowledge. The eighth part of the book is devoted to a detailed examination of the philosophy of the Victorian period. It begins with a discussion of the philosophy of Mill and his theory of knowledge. The author then proceeds to a discussion of the philosophy of Darwin and his theory of knowledge. The ninth part of the book is devoted to a detailed examination of the philosophy of the Modernist period. It begins with a discussion of the philosophy of Wittgenstein and his theory of knowledge. The author then proceeds to a discussion of the philosophy of Heidegger and his theory of knowledge. The tenth part of the book is devoted to a detailed examination of the philosophy of the Postmodernist period. It begins with a discussion of the philosophy of Derrida and his theory of knowledge. The author then proceeds to a discussion of the philosophy of Foucault and his theory of knowledge.

TESTIMONIALS.

Port of Spain, Trinidad, Oct. 19th, 1855.

HAVING been Mayor of the Borough of Port of Spain during the year 1854, the year in which the town was afflicted with the cholera, I had many, I may add, daily opportunities of observing the manner in which Dr. Thomas Anderson discharged his duties as Medical Officer in charge of Sections No. 6 and 8, those sections comprising the heart of the town, the most densely peopled, and which were held to be the worst with regard to their sanitary condition. I, therefore, hereby certify that he gave great satisfaction to the Epidemic Committee; who were fully sensible of his important services, and, in consequence, awarded him the highest rate of gratuity for his labours on that occasion.

JAMES KAVANAGH,

Mayor of Port of Spain for the year 1854.

[The amount of gratuity was £165, exclusive of private practice.]

Trinidad.

I, THE undersigned, was duly elected Mayor of the Borough of Port of Spain in November last, on the expiration of the term of office of my predecessor, James Kavanagh, Esquire, which enables me to confirm his testimony in favour of Dr. Thomas Anderson, and moreover can vouch, from personal knowledge, that he is well qualified for the duties of an Hospital or Sanitary Physician from his acknowledged abilities, hale constitution, and active habits.

JOSEPH FLAMENT,

Mayor, Borough, Port of Spain, 22nd Oct. 1855.

NOTE.—Out of a population of 18,000 in Port of Spain proper, 2000 are believed to have perished during the epidemic, exclusive of the environs, from the disease. In Barbados, a much larger proportion was carried off.

After the cessation of the epidemic, that remarkable provision of nature to repair losses sustained in the population was exemplified here as elsewhere. A patient who had a narrow escape from developed cholera (a married woman), who

had had no children for a period of eighteen years, began to breed soon after her recovery, and bore several children in successive years.

Trinidad.

I, VINCENT SPACAPIETRA, Bishop of Arcadio-polis, Apostolic Delegate Administrator of the Arch-diocese of Port of Spain, do hereby certify that Thomas Anderson, Esquire, M.D., did, during the cholera which prevailed to a fearful extent in this island in the months of September, October, and November, 1854, lend the best charitable assistance to the unfortunate sufferers from that awful disease.

The undersigned, in the performance of his ministry, being obliged to visit the sick, to afford them the consolations of religion, had many opportunities of testing the zealous attention of Dr. Anderson to the sick, and to witness the means and new prescriptions which his skill suggested to him to obtain successful results from his medical treatment.

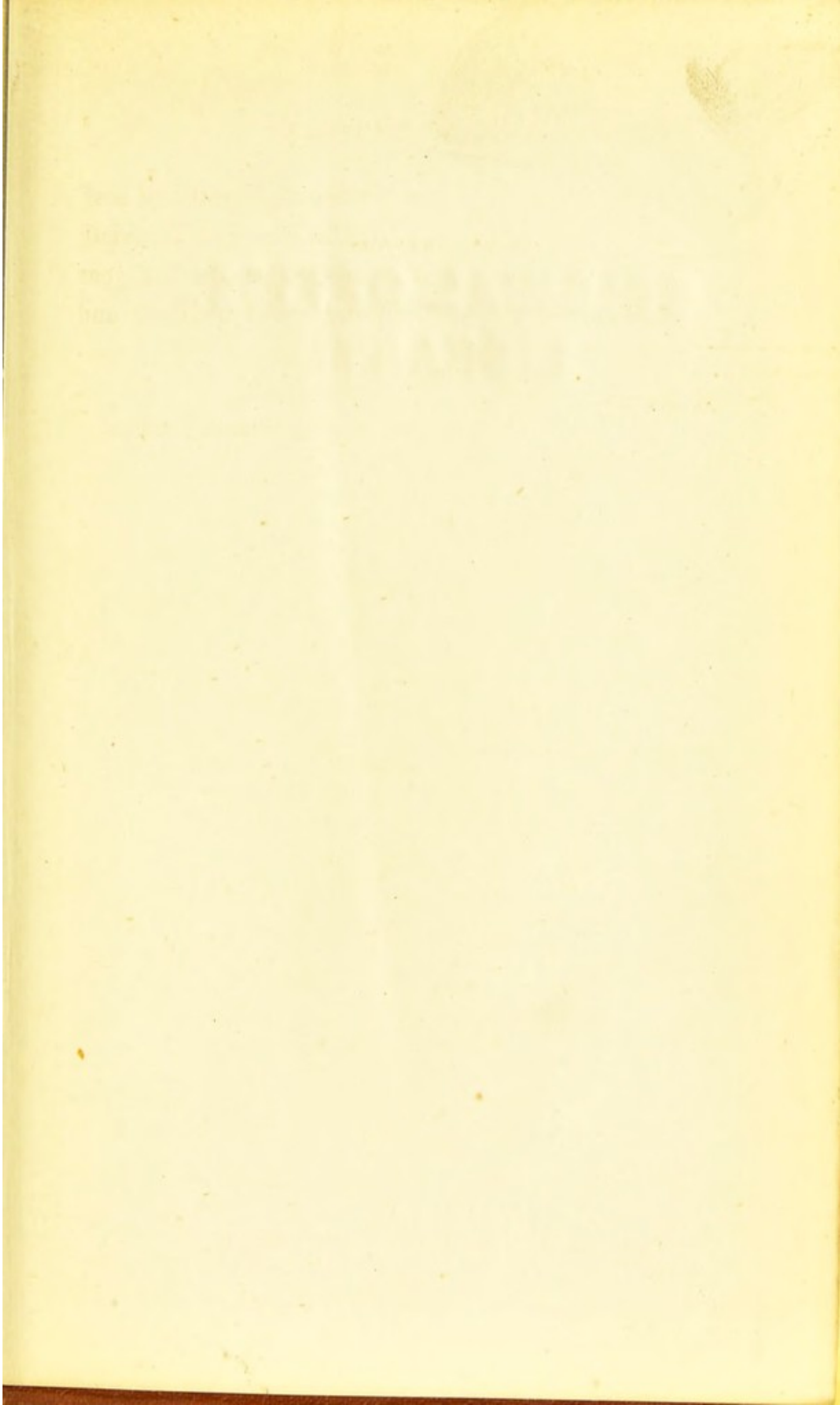
In testimony whereof, at the request of the said Dr. Thomas Anderson, I have delivered

this certificate to him, under my hand and seal,
in the town of Port of Spain, Island of Trinidad,
this twenty-second day of October, in the year
of our Lord one thousand eight hundred and
fifty-five.

VT. SPACAPIETRA,
Bishop of Arcadiopolis, Apostolic Delegate.

FINIS.





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