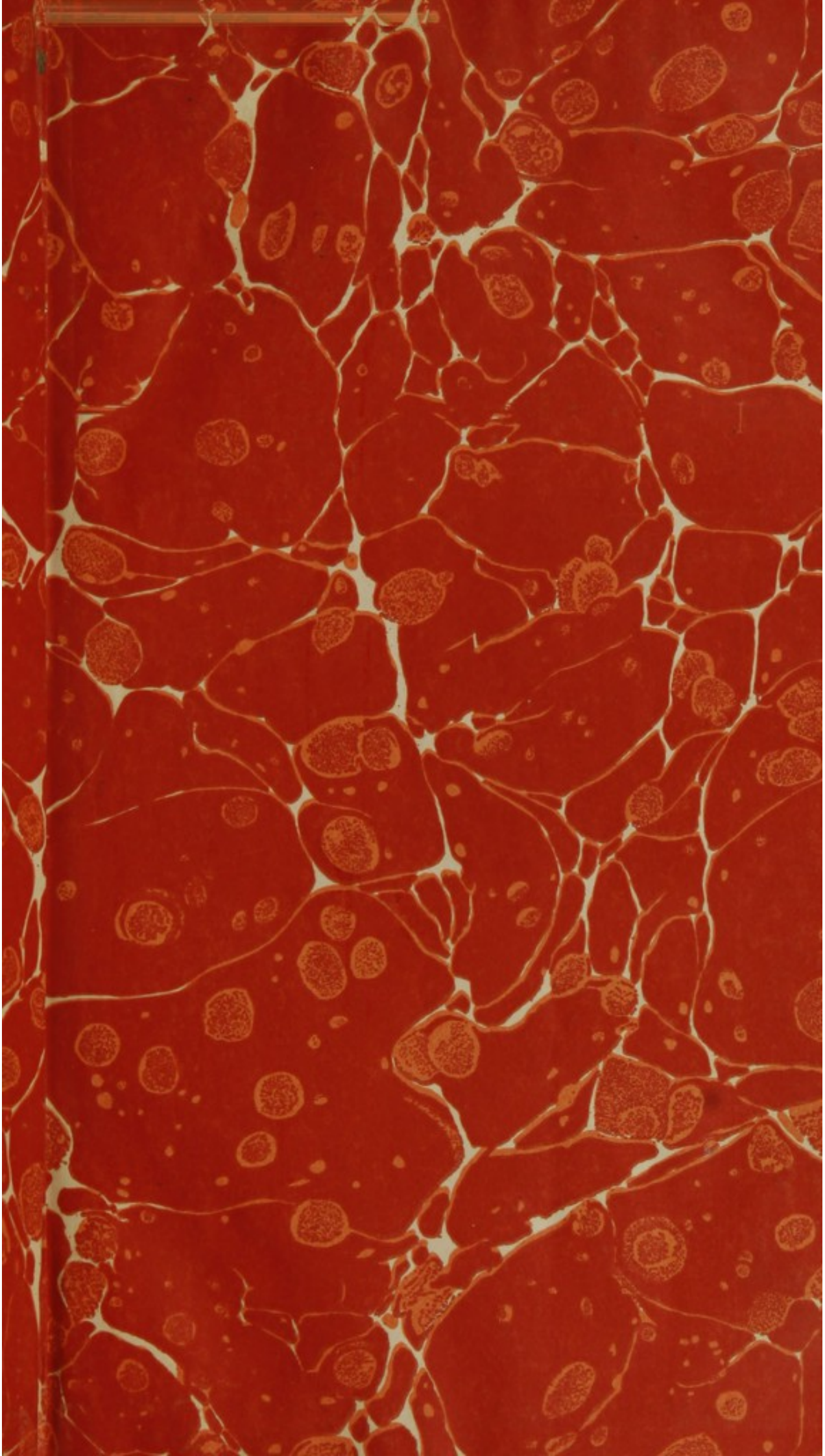
An account of the yellow or malignant fever : as it occurred in the city of Philadelphia in 1820 / by Samuel Jackson.



AN ACCOUNT

OF THE

YELLOW OR MALIGNANT FEVER,

AS IT OCCURRED

IN THE CITY OF PHILADELPHIA IN 1820.

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1821.

ERRATA.

Page 14, line 15, for "nutritious" read *nutricious.*
18 line 22, for "two" read *three.*
21 line 17, dele "from this period to the 26th" and read *by the same time of the 16th.*
21 line 18, for "26th" read *20th.*
43 line 4 from bottom, for "putrefactive" read *putrescent.*
76, note, for "medicina" read *medica.*
109, note, for "ib." read *De Peste.*

ACCOUNT, &c.

THE repeated appearance of yellow or malignant fever in our commercial cities; the fatality that attends its progress; the consternation produced by its presence; the immense pecuniary losses sustained by the derangement of the relations of society, and the interruption of the daily occupations and pursuits of our citizens; the private distress and public embarrassments, consequent upon its prevalence as an epidemic; give to the consideration of this disease a general interest, and render it the most important, that can engage the attention of the American physician.

Faithful, accurate and impartial histories of the most probable and obvious causes and origin of this disease, investigated with an unbiassed disposition, in a spirit of truth, and drawn from observations on the spot, not derived from popular rumour, too often a confused medley of invention and fact, truth and falsehood; and correct statements of the symptoms by which it is characterized, the treatment, and success attending it at each period of its prevalence, elucidating its nature and shedding light on its pathology, are among the most valuable of our medical documents.

Many very excellent works and treatises on yellow fever, have been published in this country and in Europe, embracing much interesting information, and presenting a great collection of facts and observations, which have tended very materially to improve our acquaintance with this disease. Our knowledge on this subject, is, however, far from being complete, or opinion settled and confirmed. A discordancy in the results of experience exists, where authority is equal, and fact oppugns fact, with such equal weight of testimony, as renders a decision extremely embarrassing. On some of

the most important points, both theoretical and practical, all that has heretofore been written, has left the question wholly undecided, and there still prevails a wide diversity of sentiment respecting them, not only with the public at large, but with the members of the medical profession.

It is not by specious theories framed in the closet, nor by speculative powers alone, however ingenious and acute, that the doubts that obscure this subject are to be dispelled, or the difficulties that surround it are to be cast down. They are to be determined by evidence alone. It is true, that in this case as in all others, the testimony may be, and in fact is, too often vitiated by the concurrent influence of human passions, pride of opinion, and prejudice; or rendered inaccurate by preconceived notions, precipitate conclusions from inadequate and incorrect data; by hasty, careless, and timid observation. But the errors arising from these sources must and ultimately will be detected and corrected, by the accumulation of unquestioned facts; and sound principles be established and verified by repeated and enlarged experience.

In the unsettled condition, in which the doctrines respecting the causes, nature and treatment of yellow fever confessedly are, it is incumbent on those who may enjoy the means of making accurate observations on that disease, not to neglect the opportunity that is presented to them, but to collect and embody with scrupulous fidelity all the facts and circumstances, that are remarked in connection with it.

It is not in the expectation that I am able to offer any new views which shall definitively determine what is now dubious, or completely enlighten what is acknowledged to be obscure, that I am induced to undertake the present publication. But influenced by the preceding consideration, I wish to place on record, a faithful history of the origin and progress, the symptoms, character and treatment of the yellow or malignant fever, as it appeared in the city of Philadelphia, in the summer and autumn of 1820. A comparison can then be instituted between the disease of that year, and those which existed in former, or may be met

with in subsequent periods. And it is only by the results of observations of the same epidemic disease made at different and distant epochs, in varying and diverse situations, that we can acquire a correct knowledge of its causes and nature, so as to be enabled effectually to guard against or save ourselves from its invasion, and to establish a proper and successful mode of treatment.

There is another consideration that has considerable weight in calling for this publication. During the prevalence of the disease, many reports were propagated respecting its introduction into the city, which were entirely destitute of foundation. The editors of certain newspapers, seized with avidity the chance to furnish out their barren columns with a "passing paragraph" of news, and gave them currency. Whether they were publishing truth or falsehood, seemed to be a matter of perfect indifference, not worthy of a moment's inquiry, but was wholly lost in the triumph of presenting to the palled appetite of their readers, some novel scrap not derived from the labour of the shears. From some equally worthy motives, certainly with the same indifference to the truth of their publications, the acts of the Board of Health were arraigned, and its integrity impeached, on assumptions without a shadow of truth. Accusations of a deliberate endeavour to mislead and betray the public, by suppressing information, and by falsifying the daily reports, the base invention of the designing, or the ridiculous conjecture of the credulous, were countenanced and circulated in those journals. The Board of Health, acting under the experience of the limited extent and early subsidence of the disease in former years, especially in 1819, both in this city and in New-York, felt assured, that prudence dictated the propriety of avoiding the creation of an alarm, and occasioning the dispersion of the citizens, without a certainty of the absolute necessity of the measure. Whilst the board were occupied in watching the progress of, and daily combating the disease, and giving regular and daily information with regard to it, their conduct was mis-

represented, and designs the most unworthy and criminal were imputed to them.

In the foremost of these traducers and alarmists, was the editor of the New-York Evening Post. At the distance of nearly 100 miles, he pretended to possess more accurate information, than those who were on the spot, and daily engaged in attendance on the sick. With assurance rarely paralleled, he pretended to disabuse the community, voted himself to be the guardian and conservator of the general health, pronounced opinions on the nature and causes of a disease, of which he was totally ignorant, a single case of which he had not seen, and if he had seen, he would have known nothing respecting it, in the manner of a first rate dogmatist.

The resident physician of New-York evinced an alacrity of disposition, and a pruriency of ambition to keep pace with his great newspaper rival and compeer, in spreading and maintaining the unfounded reports and exaggerated alarms, that were widely disseminated through the country, and were solely calculated and intended to inflict an injury on the commercial and trading interests of Philadelphia. The laughable and truly ludicrous termination of Williams's drunken frolic, (a malignant case of yellow fever, imported into New-York from South near Callowhill street, and which was blazoned abroad in the public papers,) cut short the career of the learned doctor in the laudable contest with the editor of the Evening Post, who was left master of the field.

The falsehoods and misrepresentations, that have thus been set afloat, may be quoted in a future period, as authorities, should they not be corrected; and it is therefore proper, for the cause of truth, that the facts precisely as they occurred, should be recorded.

The situation I held in the Board of Health during the past summer, gave me an ample opportunity to witness, and obtain information of the disease, and of its progress, from its commencement to its termination; and presented peculiar facilities to make myself perfectly acquainted with

all the facts relating to it. These were not neglected, but whatever seemed entitled to attention, or had a bearing on the subject, was carefully noted at the time. Since that period, when more disengaged, considerable pains have been taken to verify, correct, and substantiate the different observations that were collected, in order to free them from any inaccuracies, misconceptions and errors to which they were liable, which were almost inevitable, from being made whilst in a state of constant and active occupation.

Before proceeding to the history of the disease, I will premise a few observations on the weather and the diseases that were its precursors.

From the earliest cultivation of medical science, certain states or conditions of the atmosphere, have been recognized, as powerfully influencing the production of the causes of diseases. Various and widely different conjectures have been made, at different times, of the nature or cause of this state of the atmosphere. Some, as Hippocrates and Galen, have attributed diseases to the natural and known causes of changes in the air, though Hippocrates also speaks of some unknown or divine principle, "το θειον," to the operation of which, he supposes pestilential diseases may be owing. The "*seminarium e cælo dimissum*" of Diemerbroeck, is a similar supposition, and appears to be taken from the "το θειον" of Hippocrates. There are some writers, again, who attribute this state of the atmosphere to some electric operation; while others, especially Van Swieten and Sydenham, ascribe the epidemic constitution of the air to some hidden or occult qualities, derived from exhalations from the bowels of the earth.

The difficulty of deciding on this intricate and obscure point must be acknowledged, and any probable solution of it may well be despaired of at present. The fact, however, that there are certain states or conditions of the atmosphere which may well be termed "constitutions of the air," that more particularly favour the prevalence, not only of certain types of diseases, but certain diseases themselves, cannot be denied, is established by a long series of observations of

the highest authority, and is clearly manifested in the history of the diseases of our own country.

Prior to the year 1793 the general type of diseases, as far as we have information, was of the ataxic character; and yellow fever had not appeared as an epidemic since 1762. During the whole of the war of the revolution, when the military operations in the West Indies were of a magnitude equal to any that have since been conducted in that quarter; when large bodies of troops were frequently accumulated in the Antilles, landed in our country direct from them, and every circumstance seemed combined that could generate and propagate the disease, both there and here; still, according to Dr. Rush and other high authorities, yellow fever was a disease entirely unknown to our physicians.

In that year, however, it suddenly burst upon our country with a fierce and desolating fury, with scarce a single premonitory sign to warn of its approach. From that period down to 1805, when it last threatened to assume an epidemic character, it annually prevailed to a greater or less extent in the summer and autumnal months. Other diseases at the same time became more inflammatory and less easily managed; and the typhoid character less prevalent. From 1805 yellow fever was met with in a few sporadic cases only, which seldom attracted much notice, but still served to keep it in remembrance with the practitioner. With the decline of this form of disease, typhus became a more common occurrence in practice, while dysenteries and choleras became less frequent and less malignant. In 1808 began to the eastward that malignant and fatal form of disease, which has been denominated in various places by the names spotted, typhus petechialis, &c. It reached our city in the autumn of 1812, over which it spread a feeling of gloom and dismay, and will long be remembered as having snatched from their useful and honourable careers some of our most respectable citizens. Among the victims it ushered to the grave, was the eloquent teacher and illustrator of our science, the illustrious Benjamin Rush.

From the time that this disease prevailed, yellow fever became a stranger to us, even in a sporadic shape, and as it disappeared, a kind of interregnum ensued, in which no disease showed itself with violence or to great extent. A period of unexampled health existed, especially during the cool summers of 1814 and 1815. In the summer of 1818 diseases again began to assume a more exalted character, and two well marked cases of yellow fever occurred. In 1819 the summer diseases exhibited a still nearer approach to their former state, and were of more frequent occurrence. On the 23d of June, yellow fever made its appearance in a decided and alarming manner at Reeve's or Market-street upper ferry, where eight cases occurred between that date and the 6th of July. It then subsided in that quarter, and re-appeared on the 29th August, near Swanson-street and Huddle's alley, where fifteen cases occurred up to the 4th October, and one case was met with in Front-street above Walnut on the 23d September, making twenty-four cases of yellow fever in that year, of which number twenty died, and four only recovered.

In the past summer and autumn, diseases assumed the general symptoms which they possessed in the former epidemic periods of 1793, 1797, and 1798. Cholera morbus and infantum were very prevalent; bilious and remittent fevers, from which our city had been for several years nearly exempted, were common diseases; and dysentery, which had become a rare disease in Philadelphia, was of frequent occurrence, and very difficult to manage. From every part of the country accounts received by letters and the papers, represented the season as unusually sickly, and diseases as uncommonly mortal. Dysentery in many places was extremely fatal, and bilious and remittent fevers, along the water courses, assumed a character of peculiar and most unusual malignancy, and differed very little in their general symptoms from the yellow fever of our cities.

This slight and very general outline of the medical history of this portion of our country, which I believe will be found applicable to a large part of the northern and west-

ern sections, coincides with anterior observations in Europe to the same purpose, and will demonstrate very clearly that there is some particular constitution of the air, that favours more especially the production and prevalence of certain diseases; stamps prevailing diseases with a particular type, and renders them of a more wide and general diffusion. Whether the prevalence of certain winds, humidity, and heat, are capable of producing, and do produce, this epidemic constitution, correct meteorological observations may hereafter decide. Their importance in enabling us to appreciate all the causes of diseases cannot be denied, and it may be affirmed, without fear of contradiction, that any one who neglects to avail himself of their aid, can be but little relied on, when investigating the cause and nature of this and various other diseases.

The winter of 1819 and 1820 set in severe towards the last of December, until which time it had been open and mild. From December until March there were but few intermissions of cold weather, which was rather more severe than usual. During most of that time, the surface of the earth was covered with snow. Lightning and thunder occurred on the 16th February. The northern lights were witnessed repeatedly in the course of the winter.

Whooping cough had been prevalent during the preceding autumn, but had given way, and meazles were the most common disease. The type was considerably inflammatory, and required active depletion.

The spring was very wet and backward. In March considerable quantities of rain fell. May was also a humid month. There was rain either continued or in showers on eighteen days of that month. 5.04 inches of rain fell. The mean temperature was 66.86.

On the approach of spring the measles disappeared, and scarlatina made its appearance, which continued to prevail until August. A few cases were of a very malignant character.

In June warm weather commenced. The coldness and moisture of the spring months, had checked the early evo-

lution of the vegetable kingdom, which now progressed with astonishing rapidity. The crops of hay and the harvest were more luxuriant and abundant than had been known for many years, and this month being dry and warm, were well got in. There fell 1.20 inches of rain, and the mean temperature was 78.06 degrees.

July was a humid and warm month. The thermometer in a room with a draft through it, and free from reflected heat, stood at eighty-eight and ninety degrees on the fifth and sixth, and at eighty-nine on the thirteenth. The mean temperature of the month was 82.01 degrees. It rained on ten days, from the fourteenth to the thirty-first. The quantity of rain that fell was 4.92 inches.

August was warm but dry. It rained on seven days, but the rain guage marked only 1.98 inches. The mean temperature was 79.08 degrees.

September was also warm and dry. There was rain on three days only, and the quantity that fell was only 1.56 inches, of which 1.16 inches fell on the twelfth. The mean temperature was seventy-five degrees. There was frost on the twenty-fifth.

October was remarkable for the quantity of rain that fell. There was rain on nine days. Four inches fell on the third, and 3.60 from the fifteenth to the sixteenth. The whole quantity of rain was 11.37 inches. The mean temperature was 58.08 degrees.

In the month of May, a fever of a bilious and remittent character, combined with typhoid symptoms, appeared among the blacks. It continued to spread during the months of June and July; in the latter part of which month, it obtained its height, and was seen in its most aggravated forms. It declined through the month of August, and terminated as an epidemic in September. Between four and five hundred persons were affected with it. It attacked occasionally a few whites of the poorer class, but not more than about twenty or thirty on the whole were attacked within. It was so generally confined to the blacks, that it acquired the name of the negro fever.

It was preceded by a chill, and was accompanied with pains of the head, hot skin, tenderness of the epigastric region, irritability of the stomach, and bilious vomitings. The tongue was moist and white at the beginning, but became dark, foul and dry in a few days. The adnata was of a dusky hue, occasionally yellow, and often blood shot. The patients were generally sleepless, and lay with their eyes wide open. The pulse was seldom tense, but soft, yielding and frequent. In the last stages there was low delirium, great insensibility, tremors of the tongue, which was black, or loaded with foul sordes, and a general collapse of the system.

Lenient purgatives, demulcent and sub-acid drinks, and mercurial preparations, combined with mild diaphoretics in the first stages; blisters, sudorifics and gentle stimulants, with nutricious diet in the second; wine, bark, serpentaria, milk punch, toddy, and the like, in the last stage, constituted the general treatment.

The disease was quite manageable, when placed under treatment in its commencement, and proper care could be taken of the patient. But most of those, who were its subjects, were in so wretched and miserable a condition, living in confined and crowded rooms, amidst every kind of filth and vile garbage; were persons generally of vagabond habits and lives, and were constantly surrounded by the debauched, vitious, and intemperate, that it was impossible to afford them proper medical aid, unless removed to the public institutions. Few indeed could be induced to persevere in attendance, amidst scenes of dissoluteness and misery, the senses constantly offended with the most nauseous exhalations and disgusting exhibitions, and finding prescriptions and advice almost wholly unattended to. I have often met with instances, where it was difficult, sometimes impossible from a want of sympathizing feeling, even amongst the friends and relatives of the sick, to induce them to go a few squares to obtain proper remedies. In the Alms House establishment the deaths were one in six.

The chief theatres of this disease, were the lanes, alleys

and courts, inhabited by the negroes in the southern and western parts of the city. It was also found, though not so extensively, in the northern section. These places being principally of a less width, than is required by law to constitute them public lanes and alleys, they are never cleansed by the public scavengers, and were in the spring in a most abominably filthy condition. Few of them are paved, and the offals and accumulated filth of many years, are collected in them. The wetness of the spring had kept this heterogeneous mixture of fermentable and putrifying matters, in a soft, lutulent state, which was soon set in action by the increasing temperature of the advancing season. The owners of property, who have thus cut up and divided their lots in the city, in the manner that has, within a few years, been done, by which they have formed as it were a number of alembics, distilling poisonous exhalations, deserve the most serious reprehension, and have created a great and alarming evil, which ought to be early corrected by the public authorities. In the latter part of May, several cases of this disease appeared in a court opposite the Alms House, where there existed a considerable extent of a half fluid mud, in which were decaying the heads and entrails of shad and other kitchen offals, and from which bubbles of gas were seen constantly disengaging. The city commissioners being informed of the circumstance, immediately ordered it to be removed. Mr. Stiles informed me, that of seven men who were put to work on it early in the morning, three were obliged to break off at nine, affected with vomiting and sickness; and he himself was affected with nausea and vomiting, brought on while giving directions and superintending the work.

The course of this disease was watched with great solicitude by the Board of Health, who, as far as their powers permitted them, endeavoured to remove its obvious causes. Its occurrence at so early a period of the year, and the peculiar features by which it was characterized, were no favourable prognostics regarding the health of the city in the approaching warm months.

While in this state of anxious feeling, the attention of the Board was directed by Dr. R. Harlan, on Monday the twenty-fourth of July, to John Hays, living at No. 168 North Water Street, who was ill of a disease of a suspicious nature. I visited him the same afternoon in company with Dr. Knight the port physician. He was found in a dying state. He had served as a sailor on board the ship General Wade Hampton, and had arrived about two weeks previous to his illness from Charleston, South Carolina. From the period of his arrival, he had been daily on the wharves looking for employment. His skin and eyes were of a yellow hue, and the remains of what he had vomited in a basin, the chief part of the contents of which had been thrown out, were of a deep brown colour. He died the same night.

Immediately after visiting Hays, Dr. Knight mentioned, that he had been called the day previous to attend J. Jackson, a young man residing at Mrs. Williamson's, in Water Street, a short distance below Race Street, of whose disease he entertained a strong suspicion, and intended to report the case to the Board the next day. He (Jackson) was immediately visited, and his symptoms were found to have assumed so decided a complexion, as to leave no doubt with respect to the nature of his disease. He died the next night (Tuesday) in convulsions, and with black vomit.

Dr. Knight reported, Wednesday 26th, two women ill with fever of a suspicious aspect, on Race Street wharf. Being in a destitute condition, and having no means to command proper attention, they were immediately removed to the Lazaretto. One died the next day, the fourth of the disease, with black vomit; and the other two days after removal, the fifth of her disease, with the same fatal symptom.

The same day Mrs. Philly, living in a range of buildings situated on Hodge's wharf, and adjoining the house in which Jackson had died, was taken sick. The disease did not manifest its character decidedly until Friday evening. She died next morning (Saturday) with black vomit. In

the room below that occupied by Mrs. Philly, lived Mrs. Double, who was advanced to the eighth month of her pregnancy. She was attacked by a smart fever on Thursday the 27th, the symptoms of which indicated malignancy. Her eyes were greatly inflamed, and had a fiery expression. She was delivered on Friday night. After a temporary calm on Saturday, the symptoms became more aggravated, and she expired on Sunday morning.

It was ascertained at this time that a woman of the name of M'Laughlin, whose husband kept a grog-shop at the end of the range of buildings on Hodge's wharf, had died about the 17th of July, after an illness of two or three days. No medical advice had been called in; but from the history of the case, collected from those who had seen her, it is highly probable her disease was malignant fever, and the first case that had occurred, although at the time it was supposed to be cholera morbus.

On Saturday the 29th, Dr. Knight reported the cases of Mrs. Sturgis and daughter, living in Front Street, the second house north of Race Street. Mrs. Sturgis died on Tuesday August 1st; the daughter recovered.

The same day (Saturday 29th) Mr. Le Compte, who kept the New-Orleans Hotel, in Water-street, and whose back buildings open upon Hodge's wharf, was affected with a severe chill, which was succeeded by fever. He had slept the night previous on a table before the back window, with a current of air blowing over him. He conceived his complaint to be merely a cold, resulting from that imprudent exposure, and could with difficulty be persuaded to take advice. He was removed on Monday the 31st to the country, and died on the following Wednesday.

An apprentice lad of George Scott, cooper, in Front Street, a short distance north of Race Street, was reported by Dr. Knight, on Tuesday August 1st, as labouring under fever with suspicious symptoms. He had been working on the wharf near Race Street. He was immediately removed to a temporary hospital recently opened, where the

disease, yielding to active purging, assumed a remittent type, from which he rapidly recovered.

Two cases of malignant fever were reported by Dr. Knight on Wednesday, August 2d, as existing in the persons of the daughter and servant girl of Mr. Charles Hill, in Water Street, the second house south of Le Compte's. They were removed the next day; the servant girl to the temporary hospital, and the daughter into Jersey. The servant girl died on Sunday the 6th, with symptoms of great malignancy. The daughter recovered.

Saturday, August 5th, the daughter of —— Thompson, living in Water Street above Race, was reported to the Board. The symptoms were of a suspicious aspect. She was removed on Sunday morning to the temporary hospital; active purgatives and a small bleeding were employed, under which treatment her symptoms soon subsided into those of remittent fever, and she was dismissed well on the 9th, when the temporary hospital was closed.

The foregoing comprise all the cases of the disease that occurred in the vicinity of Race and Water Streets. It will be seen that *twelve* of them were decided cases of malignant fever, of which *nine* proved fatal, and *two* recovered; while there were two persons affected with symptoms of doubtful character, who both recovered.

The removal of such of the sick who had not the means to procure proper attention, and whose situation would permit it, was determined on from the recurrence of several cases seeming to mark this vicinity as infected; and the immediate removal of the inhabitants was deemed a necessary measure. As there was a number of families crowded into the houses that were the theatre of the disease, whose circumstances would not enable them to procure a place of refuge, the west wing of the City Hospital was appropriated for their accommodation; and a small building near the Schuylkill, the eastern wing of the City Hospital being occupied by the society for the relief of children affected with the summer complaint, was taken and opened as a temporary hospital for the reception of the sick. By

these means, in a few days, most of the houses exposed to the infection were emptied of their inhabitants. When that measure was accomplished, fences were erected (on Monday 31st July) cutting off the approaches to Hodge's wharf and dock, which appeared to be the focus of the disease.

The two cases of malignant fever in the family of Mr. Hill, on the 2d of August, were the last that occurred in the vicinity of Hodge's wharf. The removal of the inhabitants from the neighbourhood, the erection of fences preventing approach to the source of infection, and clearing away the offensive matters, as far as was practicable, appear to have completely extinguished the disease, which had appeared there with a threatening and alarming aspect.

For some days a perfect calm ensued; and a hope was indulged, that the anxieties and apprehensions which had been entertained for the health of the city, would soon be dissipated, in a general confidence of an exemption from the calamities, attending the threatened presence of the formidable visiter. But these pleasing anticipations were soon disturbed. On the 9th of August, Drs. Hartshorne and Moore invited me to visit with them Mr. Jesse Smith, who had been taken ill on Sunday the 6th, and who had strong symptoms of malignant fever. He died the next day. The clerk of Mr. Smith, Mr. Annesly, was known to be ill at the same time. He had also been attacked on Sunday with great violence, but was recovering. The counting house of Mr. Smith was on the wharf above Walnut Street. These gentlemen having been engaged on Hodge's wharf, a short time previous to their illness, in removing some sugar which had been landed there, it was supposed they had contracted their disease at that place; but as numerous cases immediately succeeded theirs, all originating in the vicinity of Walnut Street wharf, it is more probable they derived the infection from the common cause existing in this new seat of the disease, and that they were the first on whom it displayed its malignant influence. The same day that Mr. Smith's illness was made known, it was ascertained that a

man of the name of Forsyth, was ill with a suspicious disease in Water near Walnut Street. He had been attacked on Sunday, and died on Thursday the 10th. His case could not be traced beyond his immediate neighbourhood. In these three cases the lancet had been freely used.

On Thursday the 10th, Dr. Wood reported Mr. Ezekiel Edwards, a clerk in the counting house of Messrs. T. P. Cope & Son, on Walnut Street wharf. He had been taken two days previous, and the disease then displayed the most marked symptoms of malignancy. He expired on Friday, the fourth day of his attack. After strict inquiry it was found, that Mr. Edwards could not have contracted the disease at any other place, than the one where it was first developed, and a suspicion began to be entertained, that there was some mischief lurking about Walnut street wharf.

Dr. Elijah Griffith reported on Saturday the 12th, —— M'Leod, who attended on the store of his brother George M'Leod, on the wharf above Walnut Street, as ill with malignant fever; and on the same day Dr. S. P. Griffitts mentioned the son of Daniel King, who attended a store on the wharf below Walnut Street, whom he considered as attacked with the same disease.

I visited Mrs. Duffy in Walnut Street below Water, on Sunday the 13th. She had eaten heartily of lobsters on Saturday evening, and was taken in the night with vomiting and considerable fever. She complained of violent headache, pain in the back and limbs, with great sensibility of the epigastrium. The skin was hot, face flushed, eyes much inflamed, and tongue furred.

The night before Mrs. Duffy's attack was known, Mr. Abraham Barker was taken very ill. So many cases of disease occurring in so short a period, all of which appeared to draw their origin from the neighbourhood of Walnut Street wharf, rendered it no longer to be doubted but that the disease had broken out in this situation.

On Monday morning the 14th, it was ascertained, that there were several other persons ill in the same neighbourhood, but as most of those who were then confined with

the disease, were in the first and second day only, and the symptoms of several of them were but slight, it was thought proper to consult with some of the principal of our physicians on the subject. They were accordingly hastily invited to assemble at the Health Office at three o'clock. By that time, the number of cases known as existing or having occurred near to Walnut Street wharf, from the 9th to the 14th, amounted to seventeen. The result of the conference with the gentlemen of the faculty, was a unanimous recommendation immediately to remove the inhabitants residing in the district then supposed to be infected, and to prevent all intercourse with it, by the erection of barricades. This plan was carried into execution without delay, and by Tuesday evening the greater part of the people were removed, and the fences were erected. New cases were, however, almost hourly reported, and by Tuesday evening, the 15th, amounted to twenty-six. From this period to the 26th, sixteen cases occurred. On the 26th the City Hospital was opened under the care of Drs. Hewson and Chapman, who had in a most handsome manner, and with a generous and disinterested spirit, tendered their services to the Board of Health; and the sick in the temporary hospital were transferred to it. The disease at this time appeared to be in some degree arrested in its progress, and was confined to a very limited extent; for every case was satisfactorily traced to a space bounded on the north by Tun Alley, on the south by Ross's wharf, and by the east line of Water Street.

From the 16th to the 22d, but one case occurred. On this last date, Miss Anderson, living in Water between Market and Arch streets, became a subject of this fatal malady, of which she died on the third day of her illness. A young man who was clerk to Mr. Anderson, left the city the day that Miss A. was attacked; but he was taken ill with the disease a day or two after his departure, and died of it. Neither of these persons had any communication with the infected districts, but appear to have received the disease in their place of residence. When I come to

point out the different supposed causes of the disease, I will treat on these cases again.

For a few days no additional cases were reported. On the 27th Dr. Wood requested me to visit with him Mr. Wharton's family, in Front Street between Walnut and Chesnut Streets, in which he and Dr. Parrish were attending the two sons and a black servant. The elder son was in the third, and the younger in the first day of the disease. The symptoms were unequivocal. The next day (Monday) a daughter, who had been in the country a few days, returned, and complained of being ill. Her symptoms rapidly unfolded themselves. The two sons died on Wednesday, and the daughter on Thursday, all with the black vomit. The servant, who was sent to the hospital, recovered rapidly.

Adjoining to Wharton's lived a person of the name of Drinkwater and his sister. The sister was taken sick on the 28th, and died on Friday the 31st of August. Drinkwater complained of being unwell on Wednesday the 29th, but continued about. He was violently attacked in the evening, became immediately comatose, and died the same night in convulsions. This was one of the most violent and rapid cases of the disease that occurred. Next to Drinkwater's, a lad, apprenticed to M'Intire, was also ill with the disease at the same time. He recovered. On the appearance of the disease in Front Street, it was enclosed with barricades, and the inhabitants from Chesnut to Dock Streets removed.

On the 29th of August, a boy of the name of Lodor, living in Duke Street, in the Northern Liberties, between Front and Second Streets, became affected with the disease, and died on the 2d of September. An examination *post mortem* left no doubt as to the nature of his complaint. It was reported that he had taken the disease by entering the infected district; and it was also reported, that he and his father, who was seized with an apoplectic fit the day the son died, had been engaged in pilfering the stores on the wharves below Chesnut Street. This story was wholly

devoid of foundation. In the investigation of the origin of the disease, which prevailed at a subsequent period in Duke Street, the history of this case will be stated, and the probable source of the disease in that quarter will be pointed out.

From this time, the 30th of August, to the 6th of September, there were about twelve cases, which were either directly ascertained to have had communication with the infected district near Walnut Street, or in which circumstances rendered it a probable occurrence.

On the 6th of September, two cases were reported in Lætitia Court, in the persons of two young women, one of whom died the same day, in neither of whom could the disease be traced beyond their residence. A man who worked in a hatter's shop, a short distance below Lætitia Court, in Market Street, the back buildings of which nearly adjoined the house in the court in which the two girls were ill, was also taken down on the 6th; and on the 7th a lad of Mr. Sexton's, two houses above the last case, was also attacked.

From an attentive examination, there is no cause to doubt, but that these four cases originated in that place, there being no evidence of either of them having approached the barricades. In a letter I received from Dr. Fithian of Woodbury, he mentions that he attended a young woman in Jersey, who died with all the symptoms of malignant fever, and who was said to have breakfasted at the tavern in Lætitia Court, at which the two girls first affected lived.

A woman of the name of Cail, was reported on the 6th of September, by Dr. H. Klapp, ill with malignant fever, in Second Street near Shippen. Her disease took place on the 3d. She had been at Arch Street wharf a few days previous to her illness, where she had remained but a short time; in going and coming she had passed through Second Street, and consequently had not been in the sphere of the infection in its original seat, at Walnut Street wharf. She died on the 7th. On the 5th, Deborah M'Devitt, living

next door to Mary Cail, was taken with the same disease; she died on the 10th. A Mr. Gibson had been attacked on the 2d or 3d, in Shippen Street, and about the same time several of the members of Mr. Gaw's family, in the same neighbourhood, were taken ill, but whose disease Dr. Klapp assures me was bilious fever. On the 16th, Mr. Joseph Hartley, next house to M'Devitt's, was reported a case of yellow fever. In the family of Mr. Rees, the house next south of M'Devitt's, two boys were ill, within a few days of Mr. Hartley's attack, but were considered cases of remittent fever. On the 2d of October, a recruiting sergeant was attacked by the disease, in Shippen Street, a few doors below Second Street, and died on the 5th,—making five decided cases in this neighbourhood, and four others of bilious and remittent fever.

As the disease was declining in this situation, and in the centre of the city, it suddenly broke out in the Northern Liberties, in Duke Street, two miles distant from Shippen Street, and one mile from the other districts where the disease had prevailed, where two cases occurred on Monday the 18th. There had been a case a few days previous in the neighbourhood, at the corner of Front and Noble Streets. Six more persons were attacked on Wednesday the 20th, all of them in the evening, and two on Thursday the 22d. The disease proved fatal in all these instances. A woman who lived in Second Street below Vine, and who contracted the disease whilst nursing her sister, ill at the corner of Front and Noble Streets, was the only one that recovered. A man in Green Street was attacked about the 8th of October, and died on the 14th, making twelve cases in that *location* of the disease, of which one only recovered.

After the disappearance of the disease in the vicinity of Duke Street, eight cases occurred in different parts of the city the last of November, none of which could be traced to any particular spot. The heavy rains which fell at that time, and the cool temperature of the air, probably terminated the disease, which threatened for many weeks to pour on the city all the afflictions of a mortal epidemic.

The preceding narrative contains a general history of the cases of the disease, from its commencement to its termination. It will be seen, that the whole number was one hundred and twenty-three, of which eighty-one died and forty-two recovered. The following table, will exhibit at one view, the number of cases in each locality of the disease, and the relative mortality in each.

SITUATION.	Cases.	Died.	Recovered.
Hodge's wharf and vicinity, - - - - - -	13	9	4
Walnut Street wharves, and Water Street east side from Tun Alley to Ross's wharf, about 700 feet, - - - - - - - - -	47	25	22
In Walnut Street and west of Water, - -	8	5	3
Front Street between Walnut and Chesnut, and Norris's Alley, - - - - - - - -	11	9	2
Front Street below Walnut Street, - - -	4	1	3
Water Street between Arch and Market Streets (Anderson's) - - - - - - -	2	2	
Letitia Court and Market Street, - - -	4	1	3
Second Street near Shippen, and Shippen, -	5	3	2
Duke Street and vicinity, - - - - - - -	12	11	1
Scattered in various places, and which could not be satisfactorily traced, - - - -	19	17	2
Total,	125	83	42

From this statement it is obvious how unfounded were the stories of the suppression of information of the disease by the Board of Health, the invention of the designing, or the weak conjectures of the credulous, which were industriously propagated by those inimical to the prosperity of our city. The misrepresentations that were published in the New York Evening Post, in the form of extracts of letters from Philadelphia, depicting the ravages of the disease in our "ill fated city," in gloomy and frightful colours, are now exposed. Whether those fabrications were the production of Mr. Coleman's fertile genius, or the labours of his correspondents, rests with him to settle; but of their character no one can entertain a doubt.

The conduct of the Board of Health of New York, in the hasty adoption of a non-intercourse between the two cities, and the unusual, unnecessary and unjustifiable severity of the restriction imposed, cannot be passed by unnoticed. I do not mean to condemn the enforcement of precautionary measures. I believe them to be essential to the preservation of the health of large and populous cities. But as in their adoption we violate the sacred duties of hospitality, as well as the charities of human nature; as they compel us to infringe the most divine maxims of our religion, by adding affliction to suffering; they should be the result of a cool and deliberate conviction, that the danger is immediate and pressing; and be imperiously demanded by the necessities of self preservation. When the social relations between the members of our republic, are violently deranged on slight and frivolous grounds; when, by the interdiction of communication between one city and another, established in a careless and hasty manner, without any serious necessity, one becomes an injuring party and the other an aggrieved party; feelings of enmity and hostility will arise; retaliation will be felt a necessary measure, and will be adopted; and a war of petty injuries be commenced, under a pretext of safety, whenever a slight occasion arises for its exercise. This is a state of things highly to be deprecated, and most cautiously guarded against.

The frank manner in which our Board of Health communicated to the Board of Health of New York, not only every case of malignant fever, but every case of suspicious fever; and the circumstances attending the prevalence of the malignant fever in New York the preceding summer, ought to have inspired a perfect confidence in our Board and its measures, and have led to a very different course than was pursued by the New York Board of Health.

The facts presented to them furnished the most ample proof, that the disease in Philadelphia was similar to that in New York in 1819; and clearly exhibited their coincidence in a probable local origin, a certainly local situation, and like that disease, was not communicated by the sick to

those in health when removed from the infected district, or if possessed of that character, it was evidently in a very slight degree. At the same time, they were assured, that the measures which they had found so perfectly effectual in arresting and suppressing the disease in the previous year, had been adopted by us, had been perfectly successful at Hodge's wharf, and would be persevered in.

When the city of New York was suffering from the apprehensions of pestilence in 1819, the Board of Health of that city, appeared to repose in perfect confidence upon the security afforded by the removal of the inhabitants from the seat of the disease, and exclusion from it. They did not warn their fellow citizens to desert the city, but endeavoured to lull their apprehensions, by assertions of their confidence in the means they were pursuing. The result proved the wisdom of their conduct. While a small portion of the city only was subjected to depopulation and restraint, the remainder was preserved in its usual healthy and active condition.

The Board of Health of this city at that period, although the same free communication of the state of their city was not made to them by the Board of New York, as that Board received from ours in the year 1820, relied on the integrity of the official reports, as to the extent and nature of the disease, and contented themselves with watching its progress, and the result of the measures taken for its suppression. They delayed imposing a restriction on the intercourse, until the failure of the experiment and the spreading of the disease, should have rendered its necessity absolutely requisite; and the event bore testimony to the correctness of the system.

Notwithstanding the confidence the New York Board had professed in their system for suppressing the disease in the summer of 1819; notwithstanding the experience they had of its salutary powers, in that year, they appear to have distrusted it in other hands, and in another place. There is an inconsistency in such conduct, that cannot easily be explained. If in 1819, the city of New York could

be guarded securely against the ravages of malignant fever, which had broke out in its very bosom, by removing the inhabitants from the circumscribed spot infected, and enclosing it with fences, surely there could be no danger apprehended from the same disease nearly a hundred miles distant, confined to an equally limited space, and that space cleared of its inhabitants, and access to it prevented by barricades and guards. I know not by what process of reasoning the conclusion was drawn, that the same means under the same circumstances, pursued with equal vigour, and more promptly and effectually enforced, should be less relied on, or command less confidence in Philadelphia, than in New-York. As similar effects are produced by similar causes, it must have been the inevitable inference, that the means which had proved successful in New-York, at the Old Slip, in 1819, and at Hodge's dock in Philadelphia, would also be successful at Walnut Street wharf. It became, therefore, the part of citizens acting in a responsible station, who ought to be governed by a deliberative prudence and a reflective discrimination, and not from the impulses of rashness, to have satisfactorily ascertained, by adequate proofs, that the disease could not be controlled and suppressed, before they entered on the strong and revolting measures that were adopted.

That the New-York Board did act without reflection appears evident from their own conduct. They retraced their steps, to a certain extent, in a very few days, by rescinding that part of their resolution interdicting the intercourse, which most absurdly and ridiculously made it retro-active thirty days, although the circumstances of this city remained the same. By this retro-active provision, the non-intercourse was carried back to a time prior to the occurrence of a case of malignant fever in the city, and was rigorously exercised towards the count Survillier, who had been but a few hours at his residence in the western end of Market Street, a mile and a half from the local seat of the disease, about twenty days before he attempted to enter New-York. But in a short period after its enact-

ment, the non-intercourse was so entirely neglected by the board, (it is a fair presumption they were satisfied of its inutility,) that it became a mere form, wholly inoperative. Numbers of persons, by crossing first to Camden, went from this city to New-York, where the examination was so slight, being confined to a mere question whether they had come from Philadelphia, that it was, in almost every instance, easily evaded; and very frequently there was no examination whatever.

The restriction, therefore, enforced by the New-York Board had no other effect, than to make an unfavourable impression against this city in the country, and to prevent the merchants and traders of the South and West from resorting to Philadelphia, under a belief that they could not afterwards proceed to New-York.

But the late development by the Medical Society of New-York places the conduct of the Board of Health in a more serious point of view. While they were pretending to a most lively sensibility with respect to the disease in Philadelphia, and spreading in every direction an unfavourable character of our city, the disease, it appears, existed in the very heart of their city, to a greater extent, and with more alarming appearances, than it did with us. The whole number of cases of yellow fever in this city, was one hundred and twenty-three, of which eighty-one proved mortal. The deaths from that disease in New-York, in Bancker Street alone, were one hundred and fifty. Yet they were perfectly silent respecting it. They brow-beat the physicians who reported to them; they refused to publish the reports, and endeavoured to suppress a knowledge of its nature and character, by designating it as typhus.

At the very time, then, that the New-York Board were maintaining a non-intercourse with this city on account of its unhealthiness, that city was afflicted with disease, and the yellow fever itself, to a much greater degree than was known in Philadelphia. The weekly bills of mortality presented to them this fact in the most imposing form. The deaths in New-York, especially those from fever, exceeded

considerably those in Philadelphia. The New-York returns, it is true, were vague and indefinite, numerous deaths being weekly reported as by "fever." Whether the physicians of that city are accustomed to make their returns of deaths with so much want of precision, in so loose and unscientific a manner, or that the particular denomination of fever was suppressed, is a very important and material point, that requires to be explained.* However that may be, that the general health of this city was far superior to that of New-York, that fewer deaths occurred from fevers, and that the fevers of New-York were quite as malignant as those of Philadelphia, are circumstances established by testimony and documents that are incontrovertible. Yet with that information daily presented to them, the New-York Board had not the magnanimity to acknowledge the truth respecting the existing state of things, but obstinately and unjustly continued to interdict the intercourse with Philadelphia. Was this a deception or a blind and partial reliance on the theoretical notions of the resident physician?

There is something mysterious in the proceedings of that gentleman. He did not hesitate to pronounce the fever that prevailed in Bancker Street, typhus. The learned professor, who so vauntingly boasts of his experience and deep research, cannot certainly be so little acquainted with the nature of typhus fever, as not to know that it never does appear epidemically in hot weather, and ceases on the approach of cold. All experience and all authority establish the reverse position as true, and typhus is admitted by the most eminent and skilful of the profession to be abated and destroyed by the heats of summer, and to flourish and be rife in the cold and damps of winter. Yet we cannot possibly suppose for a moment, that, animated by the intemperate zeal of a partizan, he should so far forget the respectability of his character, and the obligations imposed on him by his profession, as to attempt a deception on the uninformed; and, for the sake of a little popular fame, abandon and sacrifice the cause of truth.

* See Appendix A.

Had the citizens of Baltimore acted as those of New-York have done, it would have been cause neither for surprise nor complaint. It might have been alleged, that they were justified from the previous conduct towards them in 1819 in retaliating the same on us. But how different were the spirit and feeling they manifested, and in how unfavourable a light do the sentiments and actions of New-York appear, when placed in contrast. In 1819 the yellow fever prevailed both in New-York and in Baltimore. The intercourse between this city and Baltimore was subjected to restraint, while that with New-York was kept open. Yet in 1820 New-York hastened, and seemed to embrace with avidity the opportunity presented by the appearance of a few cases of the fever in Philadelphia, which had favoured her the preceding year, to interdict the communication between the two cities. Very shortly after this step was taken, the fever broke out and raged in the heart of New-York, while it lingered and barely continued to appear in Philadelphia. Every means were tried in New-York to suppress a knowledge of the existence of the disease there, and the non-intercourse with Philadelphia was maintained, on paper, under pretexts entirely fallacious. The citizens of Baltimore, on the other hand, from whom different things were expected, and who might have supposed themselves entitled to complain and to retaliate, forbore to enforce restrictive measures, which they ultimately found were rendered wholly unnecessary. Let not these things be forgotten.

The proceedings of the New-York Board, on which I have animadverted, are an unpleasant topic. It was broached with reluctance and hesitation. But when high and important powers are conferred for purposes of public utility, and of a peculiar and interesting nature, the employment of which must be attended with serious injuries, and can only be justified by urgent necessity; when such powers are exercised with imprudence, and persevered in with pertinacity, perpetrating mischief without producing any benefit, silence would be criminal. The public discussion and examination of the manner in which they have been em-

ployed, more especially when a well founded suspicion may be entertained that they have been abused, becomes a duty. I do not mean directly and positively to charge the Board of Health of New-York with having established the non-intercourse between the two cities, or being induced nominally to continue it after its establishment, from motives of commercial rivalship and jealousy, with a view to prejudice the trade and commerce of Philadelphia, and benefit that of New-York. But, I believe, it will not be denied, that as their conduct now appears, they have fairly raised a justifiable suspicion that such motives, or others of similar character, might have influenced their proceedings.

Localities and Sources of the Disease.

The specific causes of general diseases, to which they owe their peculiar characters, are confessedly involved in much obscurity. Of their nature, the manner of their production, the properties they possess, and the laws that govern them, we are almost entirely ignorant. Not subjected to the evidence of our senses, known only by their effects, and those effects themselves not rightly understood, it is not surprising that great contrariety of opinion and observation, both of which to a certain extent must be conjectural, should prevail with different physicians.

On no subject more than this, ought medical men to be guarded against an overweening confidence in the correctness of their own opinions. The sources of error are so numerous, the probability of deception so great, false observations so prevalent, and the chances of accuracy so few, that he must be indeed highly gifted or peculiarly favoured, who can clearly perceive and accurately distinguish, amidst this cloud of obscurity, the true from the false.

With respect to the origin of yellow or malignant fever, in the cities of our country, opposite opinions have been and are entertained, both among medical men and the public generally. Those opinions have been embraced frequently on partial views and with limited information; have been sustained with ardour, zeal, and warmth of feeling, by their respective partizans. In this conflict of hostile sentiments,

truth, it is to be feared, has been considered of less importance, than the fate of a preconceived doctrine; has been overlooked, and either partially or wholly suppressed, when its development would tend to shake a favourite hypothesis.

As to the sources of the disease that prevailed the past summer and autumn in our city, I have endeavoured to investigate them with as much impartiality as possible, and to relate them faithfully. All the circumstances which appear, or were supposed to have had any agency in occasioning the disease, in the different situations in which it existed, will be detailed, and the inquiry be pursued in the order in which the disease appeared.

I. *Hodge's Wharf.* Those persons, who adhere to the doctrine of the exclusive importation of yellow fever, have attributed the disease at this place to the brig Susan. Numerous stories respecting that vessel were in circulation during the period of alarm, of which few had the slightest foundation, and most were entire fabrications.

Having paid particular attention to the investigation of all the facts connected with this vessel, so far as she could be concerned in the production of the disease, at the time of its first appearance, I am able to present them in an authentic shape.

The brig Susan arrived at the Lazaretto July 2d, from St. Jago de Cuba, which place she left June 7th, having a passage of 26 days. Whilst at St. Jago, two of her crew died, one on the 12th, the other on the 20th of May. Both were sick and died on *shore*. The diseases were said to be gravel and yellow fever.

On the 15th of June, eight days after the departure of the brig from St. Jago, Mr. Geisse, a passenger, died on board, from a fever with which he was attacked the day after the sailing of the vessel, and which had been excited by violent exercise in gunning, whilst the brig lay becalmed. It is very certain, his disease was malignant fever. The bed, bedding and clothing, that Mr. Geisse had made use of, were thrown overboard, the cabin cleansed, and sprinkled with Cologne water.

On the arrival of the brig at the Lazaretto, the quarantine master was directed to have her cleansed and purified, which order, he reported to the Board of Health, had been complied with. On the 10th of July, eight days after her arrival at the Lazaretto, thirty-five days after leaving St. Jago, and twenty-five from the death of Mr. Geisse, permission was granted for the brig to proceed to the city, and the next day she left the Lazaretto.

The Lazaretto physician has informed me, that during his residence at the Lazaretto, twenty days from the time of a death or sickness on board of a vessel, has been considered by former Boards of Health, a sufficient time to test the healthiness of a crew and vessel. In the instance of the Susan, the time was extended to twenty-five days; a longer period, the Lazaretto physician has stated, than had been deemed requisite with any vessel under similar circumstances, for the last four years.

The Susan reached the city on the 11th of July, and hauled to at Pratt's wharf, adjoining to Hodge's dock, where she discharged her cargo, consisting of sugar and molasses, and left it on the 14th, remaining only three days. She then proceeded to the lower part of the city, where she lay during the summer.

The hold of the Susan was represented by Mr. James Bell, who assisted to unlade her, as perfectly clean, and the Health Officer who examined her made a similar re-report.*

The crew of the Susan, on her arrival at the Lazaretto, consisted of eight men, none of whom were subsequently sick of the fever.†

A stevedore and eight men were employed to discharge the cargo, none of whom became affected with fever or any other disease, and of the owners of the vessel, and some of their friends to the number of between twenty and thirty, who visited the brig,‡ the custom house officers and coopers employed on board of her, not one was taken sick. The number of persons, who had communication with the Susan,

* See Appendix B. and C. † See Appendix C. ‡ See Appendix D.

and consequently were liable to have contracted the disease from her, if she had been an infected vessel, must have been between forty and fifty, all of whom however remained in health. On the other hand, after the most diligent inquiry, it could not be ascertained, that a single individual, who was sick in this *locality* of the fever, had been on board the Susan, or had directly any communication with her.

The circumstance which led to a suspicion, that the disease had originated with the Susan was, that Jackson, who was the second person affected with it (considering Hays as the first), had worked in the sail loft of Messrs. Keen and Drais, in which one of the sails of the brig Susan had been placed, in order to be repaired. It was generally reported, that Jackson had assisted in taking the sail from on board the Susan, and in carrying it to the loft. Mr. Drais, who aided in removing the sail, positively contradicts this story; and what proves it wholly untrue is, that Jackson was not employed by Messrs. Keen and Drais, until the 21st of July, whereas the brig left Pratt's wharf on the 14th, and the sail was taken into the loft on the 11th. Jackson himself, to my repeated inquiries, always assured me, he had not been on board any vessel in a short time previous to his illness. It was also reported, that Jackson had worked on the sail, and had thus contracted the disease. But the fact is otherwise. The sail, at the time Jackson was taken sick, lay furled in the loft, precisely in the state in which it was, when placed there, and had never been touched by him, according to Mr. Drais' statement.* I examined the sail, and found it perfectly sweet and clean. Its history will be found in the examination of captain Smith, by the Lazaretto physician,† which shows the improbability of the sail's being infected. There were employed in the sail loft of Messrs. Keen and Drais, nine hands including Jackson, of whom Jackson alone was sick, and in going and returning to and from the loft, he daily passed and repassed by Hodge's dock, where the other cases of the disease principally existed.

Thus it appears, that none of those, who are known to

* See Appendix E. † See Appendix F.

have worked on board or visited the Susan, amounting to between forty and fifty, were subsequently ill with the fever; and none of those, who had the fever, are known to have been on board of her.

I shall now proceed to point out the local causes, which may be supposed likely to have produced the fever in this situation.

1. *Hodge's Wharf and Dock.* The wharf on the north side is bounded by a range of frame buildings, which were crowded with inhabitants, and in front of which runs a gallery. It extends westward to the buildings on Water Street, which are occupied as stores, and there is a passage to it from Water Street, by an arched way. The wharf forms a square, closed on the north and west by lofty buildings, and is open to the east and south. It is consequently exposed to the direct and reflected rays of the sun, from an early hour in the morning until late in the afternoon. The wharf near to the dock is higher, than where distant from it, so that the water cannot drain from the wharf, but stagnates and evaporates on it. The people residing in the frame buildings which have been mentioned, some of whom were washer-women, were in the habit of throwing all their kitchen water, offal matters, and soap suds from the gallery on the wharf, and on a pile of plaster of paris, that had lain there for two or three years. The pile of plaster had in this manner become a receptacle of filth, which filled up its interstices, and the wharf was kept in a foul and offensive condition.

2. *Hodge's Dock.* This dock has been neglected for some years, and has gradually been filling up. At low water, it is at present uncovered nearly its whole extent, and a large mass of mud, of animal and vegetable remains, are thus exposed to the action of the sun and air. Two culverts, or tunnels, into which empty the privies of the range of frame buildings on the north of the wharf, and those of some of the houses in Water Street to the south of it, discharge their contents into the dock; and the inhabitants of that part of Water Street, few of whose dwellings had privies, are accustomed to throw into it, the contents of the buckets,

&c. which are employed as substitutes for those indispensable conveniences.

On the wharf south of the dock, there formerly stood a large frame building, which had been used for packing and storing hay, of which considerable quantities had fallen into the dock at different times, and when the store was burnt down about two years since, some hundred weight were thrown into the dock. This statement was made to me by Dr. Kughler and Messrs. Pratt and William Montgomery, whose counting-houses are in the vicinity.

3. In the month of May, a quantity of potatoes were landed on the wharf north of the dock, which were in a damaged state, and were extremely offensive. They were stored in the neighbourhood, where they were picked, and the worst of them thrown into the river, a few feet above the dock, into which a large portion was carried by the current, to add to the mass of decaying and putrescent matter already deposited there.

How long the potatoes remained stored in this neighbourhood has not been ascertained, but Mr. Joseph Lefevre, of the Union Line of Packets, has furnished me with some memoranda he made last summer, in which he remarks, that in "the latter part of June the smell from potatoes on "Race Street wharf, was so offensive, that people in Race, "above Front Street, could not stand at their doors."

I have thus detailed in an impartial manner, and I believe with correctness, all the facts that have a connexion with the appearance of the disease in this situation, both as it respects its foreign importation or its domestic origin. I shall now proceed to investigate, in the same manner, its causes at,

II. *Walnut Street Wharf.* The disease has been attributed in this situation to infected vessels and to local causes. There appeared for some time to be a difficulty in selecting the vessel, which had occasioned the mischief. At one time the sloop Isabella was accused of having introduced the disease. She is the vessel that was put under quarantine at New-York the last of June, in consequence of having come

from Baltimore, where it was falsely reported that the fever had broken out. But as no fever prevailed in Baltimore, and as none of the crew of the Isabella had been sick, the supposition was abandoned. She arrived at this port June 28th.

When three of the sailors of the brig Martha were sent to the hospital, the rumour ran, that she had brought the fever to Walnut Street. But on investigation, it was found she had not been higher up the city than Pine Street wharf, where she had lain between two and three weeks, and had then been removed to Queen Street wharf in Southwark. It was ascertained subsequently at the hospital by Dr. Rhees, that the sailors of the Martha, had been at Walnut Street wharf about the time the fever commenced there, and had slept a night in one of the taverns in that neighbourhood.

The sloop Hector, as far as I have been able to learn, is now the only vessel to which suspicion of introducing the disease is attached. It was reported very generally, that the greater part of the crew of that vessel, had died in the West Indies, or on her passage home, and that she had put into Wilmington, Delaware, to avoid quarantine. Mr. Henry Cope, of the house of T. P. Cope & Son, who took great interest in the investigation of the causes of the disease, has favoured me with the facts concerning this vessel,* which he obtained from Mr. John Hemphill, to whom the Hector was consigned, in order to be sold. From this statement it appears, that the Hector arrived at Wilmington, Delaware, where she was owned by Mr. Baily, the latter end of June, from Cape Henry, and discharged her cargo. She was washed out and cleansed, and after remaining twelve or fifteen days, took on board a quantity of corn meal, which was consigned to Messrs. Masden & Buncker, and which was discharged at their wharf. She then fell down to the first wharf below Walnut Street. None of her crew were sick at Cape Henry, on her voyage home, or afterwards, and her original crew all returned in her.

I have not heard any other than the above vessels, accused of having introduced the disease, and the relation of

* See Appendix, F.

the facts respecting them, will, I am confident, be found accurate.

The local causes to which the disease has been attributed in this situation are as follows:

1st. A quantity of damaged vegetables, which were stored below Walnut Street wharf, especially beans and potatoes.

In consequence of the failure of the potatoe crop, the preceding year, in this part of the country, the importation of that vegetable had been unusually great. Such quantities, it is believed, never were before brought to this port. A very considerable part of what was imported, were on their arrival, in a very bad state, and some cargoes completely damaged. The greater part were landed and stored at Walnut Street wharf. Mr. Lefevre in his memoranda, made last summer, states, that " it is a well known fact, that large quantities of potatoes have been stored in the neighbourhood of Walnut Street wharf, where they have been kept in a very confined state, and also kept in several dwelling houses, whose occupiers are, or have been in the practice of keeping on hand all kinds of vegetables, for the purpose of supplying shipping, and have dealt largely in potatoes, particularly in the early part of the summer, at a time when they were landed from vessels in a damaged state." In the same memoranda, it is stated, " that the schooner Alert, Capt. Cobb, arrived and hauled to at Beck's wharf in July, with six or seven hundred bushels of potatoes, which were in a damaged condition. When the hatches were taken off, a thick and offensive vapour issued from the hold, and so unpleasant was the smell, that it caused several counting-houses in the vicinity to be shut. Those potatoes were stored in the neighbourhood of Walnut Street wharf. Two negroes were employed in the hold of the schooner, to shovel the potatoes into barrels, to be hoisted on deck and delivered to carters. One of the negroes has not since been seen, and it is supposed he must have taken sick and died. The other was attacked with fever immediately after the completion of the work, from which he recovered with difficulty; Capt.

Cobb sickened from the effluvia from the hold, and one of the sailors was also ill, but both recovered after seven or eight days illness." On the 29th of July those potatoes were hauled to the commons and thrown away.

It has been supposed, from the great quantities of damaged potatoes, that arrived in the spring and the commencement of the summer, and which were purchased by the blacks for a trifle, or were given away to them to feed their hogs, that the fever which afflicted those people, must have been produced from that cause. Certain it is, that in many of the places where that disease was prevalent, considerable quantities of damaged potatoes had been kept by them.

In the store immediately in the rear of Messrs. T. & C. King's counting-house, one of whom was the gentleman who was taken sick in New-York, and removed by the order of Dr. Hosack, at noon, in a boat across the bay, without a covering to defend him from the rays of the sun, were stored in the month of June twenty-five hundred bushels of potatoes, which were in a damaged state. They became so very disagreeable to the neighbours, that they were removed in the course of that month. Mr. King and Mr. Duffy have both informed me, that when the store was opened, a dense, offensive vapour rushed out; it seemed, they stated, as if the store was on fire. The store was washed out after the removal of the potatoes; but the offensive smell still continued.

The winds at this time, were almost constantly from the southward. The store adjoining that in which the potatoes were, and the house in Water Street on the same line with it, were the south limit of the disease in this situation. It extended north from this position to Tun Alley, less than a square, or about seven hundred feet. From the Messrs. King's store to Walnut Street, and the same distance along Water from Walnut Street, forms a square of about one hundred and fifty feet. Within fifteen days from the removal of the potatoes brought by the Alert, and ten from the commencement of the disease, between twenty and thir-

ty cases of the fever occurred in, or were traced to that square.

2d. The dirty and foul condition of the wharves in this situation. Immediately above Walnut Street large quantities of molasses had been landed, the hogsheads of which were in a very bad condition, and in consequence had leaked considerably. From the frequent showers that fell, the wharves were moist and soft, and the molasses became worked up by the constant passing and repassing of carts, drays, and people, with the mud, which is a compost of various putrefiable and fermentable matters. In this moist and lutulent state the wharves remained for some time, exposed to the fervid beams of a July sun. The putrefactive fermentation was thus occasioned, and a most noisome effluvia was perceptible in this situation.

3d. The pavement of an alley immediately above Walnut Street, leading from Water Street to the wharf, was taken up for the purpose of repairing, and the old earth, which is altogether in this situation made ground, was turned up, and left exposed some weeks to the action of the intense heat of July.

The above comprise the local causes, that were conjectured to have an agency in the production of the disease in this quarter. How far they were adequate to occasion it, and the probability that they were the agents in accomplishing the evil, those accustomed to investigations of this nature will be able to determine.

III. I know not whether the two cases which occurred at Mr. Anderson's, in Water Street between Market and Arch Streets, are to be considered as sporadic cases, similar to a number of others which afterwards appeared in various parts of the city, and which could not be traced to any of the original seats of the infection, or to any communication with the sick, or that the disease was produced by the cause I am about to state.

The schooner Lydia and Mary, captain Shippen, from Port au Prince, lay at the wharf directly in the rear of Mr. Anderson's house. She arrived at the Lazaretto from Port

au Prince, after a passage of eleven days. The crew being in health, and having continued so during the voyage, the port from which she arrived being also healthy, she was permitted to proceed to the city. Her bilge water was pumped out after she was moored to the wharf, and was very offensive. Being sick at the time of the occurrence of these cases, I was not able to ascertain whether any other local causes of disease existed in the vicinity. No other persons were affected with the disease, which seems to cast a doubt over the production of these cases from any extensive local cause. Neither Miss Anderson nor the clerk had been where there were any persons sick.

IV. *The Families of Wharton and Drinkwater.*—It was at first supposed, that the disease which proved so very destructive to these families, was derived from the same sources that gave rise to it at Walnut Street wharf, as their houses opened on Water Street. Mr. Wharton, a short time after the mournful event in his family, informed me that Drinkwater had in his cellar and vault, which opened into the street by a grate, a quantity of damaged potatoes and putrid fish. Wharton's children frequently complained of the noxious effluvia emitted by them. When the disease at Walnut Street wharf began to attract attention, Miss Drinkwater requested Mr. Wharton's family to join with her in remonstrating to her brother against keeping these articles any longer, as the fever was attributed at Walnut Street to damaged vegetables. In consequence Drinkwater had them removed. In less than a week afterwards all the members of those unfortunate families that perished, were ill with the disease. The grate of Drinkwater's vault is directly opposite Norris's Alley, in which about the same time several cases of the fever occurred.

V. *Letitia Court.*—It has been conjectured, that the disease was brought to this situation, by a female, who took the disease at James Forsyth's, in Water Street near Walnut. The facts are as follow. Mrs. Townly attended on Forsyth, the night of the 9th August. She was taken sick on the 13th, and died on the 17th. By a mistake, ten grains

of corrosive sublimate were administered to her instead of calomel. The stomach was very irritable and instantly rejected the dose. It is now impossible to decide, whether the symptoms and fatal termination of this case, was produced by the powerful poison she had taken, or whether it was truly a case of malignant fever. The symptoms that result from poisons of this nature, are scarcely to be distinguished from those of malignant fever. The case, however, was considered as one of malignant fever, and treated as such. The night on which Mrs. T. died, the bed, bedding, &c., were sent to the Lazaretto, the room was fumigated, white-washed and scrubbed, as was done in all similar cases. On the 2d of September, Martha Prichett and Eliza Curtis were taken sick. They lived at Basett Baker's tavern in the court, about one hundred feet distant from the building in which Mrs. Townly died, but several houses intervened between Baker's and Mrs. Townly's. About the same time a young man who worked as a journeyman in a hatter's shop, in Market Street, five houses below the corner of Letitia Court, was attacked, and on the 7th Robert Bancroft, an apprentice to Mr. Sexton, the next house to the corner of the court, was also taken ill. The room in which Mrs. Townly was sick, has a dead wall, without an opening towards the houses below it. Neither of the young women, the journeyman hatter, nor Mr. Sexton's lad, had any intercourse or communication with Mrs. Townly or her family.

There were no local causes, that could be particularly designated, as having given rise to these four cases. Several of the cellars of the houses in the court, and Baker's was one of them, were used by the country people and hucksters who attend the market, to keep their vegetables, cheese, &c. in, from one market day to another; but I could not learn that there had been any in a damaged or putrefactive state.

VI. *Second Street near Shippen.*—It is difficult to account satisfactorily for the appearance of the disease in this quarter. So far as I could ascertain, there were no obvious local

causes, no accumulation of filth, no collection of fermentable and putrefiable matters, whose decomposition might have engendered poisonous effluvia.

VII. *Duke Street or Artillery Lane, and vicinity.*—The investigation and correct determination of the cause of the disease in this location, and which bore the character of unmitigated malignancy, becomes highly interesting and important. Remote from the commercial part of the city, and removed from the bank of the river—inhabited by persons not connected with shipping—the disease could not have been directly produced by fomites imported from abroad, or the infected timbers, sails, or air of ships. At the same time, being so far distant from those places where the disease had been, or was then partially existing, it could not be derived from them, except by personal contagion. The disease in this quarter, therefore, must either have originated there, and consequently local causes sufficient to have produced it, can be pointed out as existing; or it can in the first cases, be distinctly and unequivocally traced to communication with the sick, in the districts where the disease was known to prevail.

Isolated in this manner, and disembarrassed from those conflicting circumstances, which have so frequently been concurrent, and which could be cited by the parties holding opposite sentiments, as equally bearing on and sustaining their particular views, the decision in this instance will mainly tend to settle the most contested and important points of this "debateable ground."

For this reason, the facts have been examined into with close attention, and will be detailed with considerable minuteness.

It has been already mentioned that a boy of the name of Lodor was the first person attacked in this situation. He was taken sick on the 29th of August. It was reported, that he had been in one of the infected districts, where he had taken the disease. This report originated from a loose statement that had been made, of his having a short time previous to his illness been at, and looked through a fence,

erected by the Board of Health. From his mother, sister, and a boy, who was the companion of Lodor, I collected the following particulars of the case.

About a week prior to his attack, he had been sent to Camden in Jersey. In proceeding thither, in company with the lad who related the facts, they had stopped at the fence put up at the avenue leading to Hodge's dock, to prevent access to it, and had looked through the apertures between the boards. Their stay was but for a few minutes, when they proceeded on their way. This was about the 22d or 23d of August. It must be recollected, that the last case of fever in this situation, was on the 2d of August, from which time, the most perfect health was enjoyed by the inhabitants of the neighbourhood in Water Street, adjoining the fences; and the wharves contiguous to Hodge's dock, were frequented as usual by people, whose stores were on them, with impunity. There was in the remainder of the summer and autumn, but a single case of fever, which was a simple remittent, in Water Street, extending from Arch to Vine Street. It is scarcely possible, therefore, that Lodor could have contracted this disease from looking for a few minutes through the openings in the fence. From the weight of testimony, it is demonstrable, that the disease had totally subsided before he was in the vicinity.

The next object of inquiry is to ascertain, whether any communication direct or indirect, occurred between young Lodor and any of the persons subsequently taken sick, or between any of those individuals after the disease began its ravages among them. Dr. Knight, the Port Physician, examined very strictly the different persons who were connected with the sick, and reported to the Board of Health, "that there was no reason to believe, that any of the persons affected with the disease in Duke Street and vicinity, had any intercourse with Lodor." The same point was investigated by myself, entirely separate from Dr. Knight, and the information I received from the sick themselves, and their friends, was precisely the same as he had obtained. On the death of Lodor, when the corpse was taken

away, particular attention was paid to remove his bed and bedding, which were destroyed; and the house was washed and fumigated the same morning.

The second case that occurred was Mrs. Brewer, who lived in a different street, and distant from Lodor in a straight line, between three and four hundred feet, and with a number of houses intervening. The times and manner in which the other cases occurred, are conclusive, that the disease could not have been communicated from one to another. Two persons, on the night of the 18th of September, were attacked, living about two hundred feet distant from each other. On the 19th, the weather became cool and wet, and continued so during the 20th; and on the night of that day, five cases occurred, scattered over a space, the two extreme points of which, north and south, were distant about three hundred yards, and which extended from east to west about one hundred feet; and on the night of the 22d, two more were attacked in the same limits, living about one hundred and fifty feet from each other. Thus in the space of four days, a spell of cool weather developed the disease in nine individuals, most of them living apart at considerable distances from, and only two of whom had communication with, each other, or with any sick person previous to their illness. The cases of Mrs. Hand and Miss Keen, are particularly striking. They resided in Green Street, the most remote point to which the disease extended north, removed from the nearest person sick to them when first taken, about two hundred feet, and had lived for several weeks very retired. Capt. Hand informed me, they had not been out of the house, except to church, for two or three weeks prior to their illness.

The circumstances attending these cases, most decidedly prove, that the disease was not and could not have been carried into that quarter by young Lodor; and could not and did not spread from one to another, by personal contagion. The only inferences that are authorised by the facts, are, that the disease was caused in those who were attacked with it, by a poison floating in the atmosphere, which, unhappily,

they inhaled to such an extent, as to suffer from its deleterious operation, or had systems peculiarly susceptible to its effects.

I will now proceed to show what were the local causes, which may be conceived to have been sufficiently extensive and fully competent to the generation of a subtle poison, which disengaged into the air, was capable of producing the fatal and terrible disease, that ravaged this neighbourhood, when introduced into the human system.

In the first week of September, a memorial dated August 29th (the day Lodor was taken sick, but which was then unknown to the neighbours), signed by eighteen respectable citizens, residing near Pegg's Run, was sent to the Board of Health, directing its attention to, and requesting its interference for, the suppression of "the greatest nuisance in Philadelphia." That nuisance was Pegg's Run, which had been dammed up at New Market Street, by the erection of a bridge. The memorialists in describing the evils that were then experienced, predicted that disease must be the consequence of its continuance, little expecting that their fears were so soon to be verified.*

Pegg's Run is to be considered as an open culvert or common sewer, passing through the closely built parts of Penn Township, Spring Garden, and the Northern Liberties, to the river Delaware. In its course it receives the contents of the gutters of the numerous populous streets and alleys it crosses, and two culverts from the city also open into it. Along its borders are situated a number of manufactories of glue, starch, dressed skins, and soap; about fifty slaughter-houses, and the privies of most of the adjoining dwellings, the refuse, fermentable and putrescent matters of which are all emptied into its stream. Except during heavy rains, or immediately after them, the stream is barely sufficient to carry along, with a sluggish current, the mass of decomposing offensive substances that compose it, for in fact it seems more like liquid mud than water.

* See Appendix G.

By the erection of a bridge across Pegg's Run at New-Market Street, last spring, a stagnating pool of the feculent stream just described, was formed west of the bridge, from two to three hundred feet in length, from twelve to fifteen in width, and about three deep.* In the months of July and August, this pool was exposed to the action of the sun and air, while the thermometer in the shade was daily above eighty degrees at three o'clock, and sometimes as high as ninety degrees; circumstances in the highest degree favourable to the production of the most noxious exhalations.

From Pegg's Run, on the north, the ground rises with a gentle ascent, on the crown of which is Duke Street, distant between three and four hundred yards from the run. New-Market Street crosses Pegg's Run at the bridge, and terminates at the rear of the lots on Duke Street, making a large avenue leading from the creek to Duke Street. In the intermediate space there are but few dwellings. The winds, at the period abovementioned, were generally from the south or southwest, and an inspection of the whole ground will show that Duke Street, east of New-Market, is in a direct line in the course of the prevailing winds from the pool west of the bridge, and is the first place that would arrest the exhalations from it, when wafted by the currents of the air usual at that time. It was precisely at this place that six of the twelve cases occurred, all of them in the space of about one hundred and fifty or two hundred feet. The three cases in Green Street were on an open lot, which communicated with Duke Street at this point, about one hundred feet distant, and the other three cases were nearer to Pegg's Run.

As the disease in Duke Street and vicinity, must be referred either to young Lodor having carried it thither, and communicated it to the others who were affected with it, or to Pegg's Run, in the peculiar state in which it was, exposed to, and operated upon, by an atmosphere heated to a tropical temperature, the facts which are now detailed will enable those who are interested in this subject to de-

* See Appendix H.

cide for themselves the more probable source by which it was produced.

Classes and Symptoms.

The same disease will frequently present different characteristic distinctions, according to the greater or less intensity of the morbid action, and as more or fewer of the vital organs become involved in the derangement of the system.

This difference in the symptoms does not proceed from, or indicate a specific difference of action, but constitutes different grades of the same action; which, occurring frequently and regularly, forms natural classes or divisions of a disease, an attention to which will aid in illustrating its nature, lead to a just prognostic and correct treatment, and should never be neglected by the practitioner.

Small-pox presents a striking exemplification of this observation. The same specific action, from a difference in force, and from a greater or less extensive affection of the system, produces the very dissimilar train of symptoms accompanying the distinct and confluent disease.

Intermittent fever is doubtless the same specific disease, whether it be a quotidian, tertian, or quartan; but a difference in the intensity of impression and action, and in the extent of associated or sympathetic motions, give rise to a concourse of symptoms, which, invariably accompanying that particular state of action, &c., mark them with well defined boundaries, and constitute a particular and peculiar class.

Since the ample and enlarged experience acquired from the prevalence of typhus as an epidemic in England, Ireland and Scotland, the late writers on that disease, especially Dr. John Armstrong, who has written on it with great research, accuracy and closeness of observation, have divided typhus into three classes; the simple, inflammatory, and congestive, each distinguished by peculiar features, which, though bearing the impress of a family likeness, still admit of correct discrimination.

Plague, by most writers who treat of it, is divided into different classes, each designated by certain groups of symptoms. Dr. Russel makes no less than six classes of that disease. Sir Brooke Faulkner, who is considered as the best modern authority, and whose arrangement has been adopted by Dr. Armstrong, reduces them to three divisions.

Malignant or yellow fever having a close affinity to, and standing in the same rank of diseases with, typhus and plague, it may with propriety be expected to present a similar character with those diseases in this respect. Dr. Physick, whose opportunites for observing this formidable disease in some of our most terrible epidemics, were extensive, and whose accuracy of observation is not excelled, I have understood, had remarked, that three grades of the disease could be evidently distinguished, differing in the concurrence of their symptoms; and Dr. Parrish, whose experience has rendered him familiar with the disease in all its forms, has informed me, that he was able to make the same discrimination.

The disease, as it occurred in this city in the last summer and autumn, was easily distinguishable into different grades, and presented well marked divisions, which indicated a difference of treatment, and constituted the basis of a different prognosis. In describing the symptoms of that disease, I shall, therefore, consider them under different classes, and as characterising those classes.

Class First.

The cases comprehended in this class display the disease in its greatest violence, and justly entitle it to the term Malignant Fever.

It was sometimes preceded with general languor, and sense of debility for a short period; in a few instances, these feelings occurred suddenly, while the patients were walking in the street, and produced staggering as from drunkenness, to such a degree, that it was with difficulty they could reach home. The disease in many cases com-

menced without any previous warning or preceding symptoms, passing rapidly from perfect health to a state of mortal danger. In a great majority of the cases, it commenced in the night. Writers on this disorder narrate instances, where the patient was struck down instantaneously, as with a blow or stroke of lightning, while walking or otherwise occupied, and becoming immediately comatose. Drinkwater's case exhibited this malignant state of the disease. He was apparently slightly unwell in the morning, but denied to Dr. Worthington, who was attending Miss Drinkwater, that he was indisposed. Early the next morning, I received a note from Dr. Worthington, dated at eleven o'clock the preceding night, informing me he had just been called to Drinkwater, who was violently attacked and was without any attendants. I immediately repaired to his dwelling, but found him dead. He had just expired in a strong convulsion, the muscles being still rigid, hard, and contracted with spasm; his skin yellow, and black vomit issuing from his mouth.

Chills, with few exceptions, occurred at the beginning of the attack, and were frequently distinct rigours; but sometimes amounted only to a sense of coldness or a crawling sensation. In some cases, and those of the greatest violence, they were entirely absent. Miss Anderson, Dr. Parrish informed me, had no chill, nor had young Sharpe, whom he attended. I noticed the development of the disease in Miss Jane Mann, which came on instantly and without a chill or feeling of coldness preceding it. She had returned but a few minutes before with her mother, from witnessing the interment of her elder sister, and had been alarmed and agitated at the report of a gun fired with a view to raise a drowned body. I noticed that she reclined her head on a table, and inquired whether she felt indisposed, which her mother disbelieved. On examination I found the disease completely formed. Her eyes were inflamed; the face was flushed, the skin hot, pulse quick and frequent, and she said her head had commenced aching. In four days she was a corpse.

The blood-vessels of the eyes were uniformly injected with blood, and were little affected by purging, local, or general bleeding; but on the third or fourth days, they became still more numerous and highly distended, and the adnata assumed a yellow colour or a dusky hue. In some few cases the adnata appeared to be a mass of blood-vessels gorged with blood. The eyes at the commencement were often watery, and had an expression similar to that of drunkenness. A wild fiery look generally indicated convulsion. A dull obtuse pain was felt in the globe of the eyes, and sometimes complaints were made of a pricking sensation, or a feeling of compression and tightness in them. A fixed steady stare, the eyes perfectly immoveable, was often seen to precede dissolution.

Pains in the lower extremities were generally felt at the beginning, and during the first and second days. The back was also terribly afflicted with torturing pains along the spine, shooting forwards towards the umbilicus, and downwards towards the thighs. An obstinate, irremoveable, and distracting pain was seated in the forehead, in the region of the frontal sinuses, which succeeding instantly pains in the joints of the lower extremities, constituted, in some cases, the first features of the disease.

The state of the skin was various. In some it was pungently hot, dry, and harsh, from the commencement. In others it was generally or partially moist for the first and second days. In one case I found profuse perspiration until the close of the second day, when the skin became dry and cool, attended with a complete torpor of its vessels and loss of its irritability. Hot bricks, bottles filled with hot water, and the decoction of cantharides in spirits of turpentine, applied boiling, were not felt, nor did they produce the slightest impression. Most of the cases of this class were attended with an entire torpor of the capillaries of the skin, even when the heart and large arteries were acting violently. It generally was most observable about the third day, but was met with sometimes in the first and second. In some instances, from this cause, the skin assumed

a dark, mottled, and dusky hue, giving the complexion a mahogany tinge, proceeding from the languid circulation of the capillaries, permitting in them the accumulation of dark or partially oxygenated blood. This lentor of the capillaries was rendered very evident by pressing on the skin. The spot from which the blood had been forced would remain pallid some minutes, when it very slowly and gradually resumed its former colour. Depending and projecting parts, such as the scrotum, fingers, toes, and ears, were, from this cause, often very dark and discoloured, especially a short period before dissolution; and immediately after death, the blood, which always remained fluid, settled in them, and along the back and neck, giving them a dark purple hue. When the skin did not put on this dark appearance, it became of a yellow colour of greater or less intensity. This tinge began most generally about the third or fourth day; but in some instances was not perceptible until about the period of dissolution, and became deeper after death. It was not confined to the skin alone, but pervaded the fat, cellular membrane, and even the periosteum of the bones. The perspiration was in some cases coloured, and dyed the linen of the patient, and white handkerchiefs, of a bright saffron hue.

The insensibility and inirritability of the skin was, at times, so great, that they could only have proceeded from the death of the surface, while life existed in the centre of the system only from a narrowed and partial circulation throwing the blood upon the heart and large arteries, and thus maintaining their action. Mr. Philips has shown, in his experiments, that when the circulation is limited and confined, the action of the heart and large arteries will continue under circumstances, that would otherwise occasion instant and universal death of the system. Thus, after securing the carotids and large arteries of the extremities, he decapitated dogs, and amputated all their limbs, and by inflating the lungs, kept up the action of the heart and the aorta for several hours. In the same manner, the complete death of the capillaries, forcing and confining the blood in

the large vessels, their action was continued until, upon the entire cessation of the function of the brain, respiration, which is under the cerebral influence, terminated, and the blood was thus deprived of that property by which it is enabled to stimulate the heart.

I have seen, in several cases, the patient remaining from twenty to forty hours, in a comatose state; the senses obliterated; the extremities and surface cold, and all its functions destroyed. I have had turpentine and cantharides poured when boiling on the abdomen, and rubbed on the extremities for hours, and yet the slightest redness was not produced, nor any more effect, than if it had been applied to a statue. From every appearance, animal life was wholly extinguished, and mere organic vitality remained. The heart in such cases would sometimes act with great force. In one, its action and that of the carotids, could be distinctly seen across the room, every pulsation shaking the patient's frame, though a robust man. A most intolerable fetor proceeded from this person's body for twenty-four hours before his entire and complete dissolution.

The tongue was covered, in every case I saw, with a coat of fur. In the commencement it was moist, of a cotton white, sometimes so delicate, as to seem as if covered with a piece of fine muslin. It continued in this state frequently until death, when it occurred about the fourth, fifth or sixth days. In some, however, towards the termination, when fatal, it became foul, dry, and loaded with sordes; sometimes a dark streak occupied the centre, and the edges were white; it was always a bad symptom. Writers describe it as perfectly natural in this disease. I met with no instance of it last summer.

Soreness of the throat was occasionally a symptom, and in two cases I attended, there was a total loss of deglutition, and an inability to vomit for several hours before death.

The stomach always evinced how largely it partook of, and how deeply it was concerned in this fatal disease. This has emphatically been said to be its "seat and throne."

Tenderness of the epigastrium is so very prominent a feature in malignant or yellow fever, that it has been considered as a pathognomonic symptom. It was not, however, so universal an attendant on the disease last summer as I had expected to find it. It is singular, that the cases which occurred near Hodge's wharf, should have been all nearly free from it. It was generally very slight with them. Pressure made with force on the epigastrium, was borne without difficulty, though the stomach exhibited, by other symptoms, its highly disordered condition. Vomiting and violent straining to vomit, commenced very early, and could with difficulty be controlled. It ceased, in several, some hours before death. Most generally, in the commencement, nothing but the drink and other liquids that had been swallowed were thrown up; or a clear glazy mucus. Bilious vomitings, which are mentioned by most writers, I did not once meet with in this disease. From the extreme irritability of this organ, the smallest doses of medicine were frequently productive of great distress, and would be instantly rejected. One of my patients absolutely refused on the third day to swallow any thing, not even a table spoonful of water. He kept his teeth firmly closed, and spit out whatever was forced into his mouth. The last words he spoke was a declaration, that he would rather die than swallow. Another, when I pressed him to take a mild cordial, told me he could not swallow, it was like putting daggers into his heart. In both these cases, the stomach was distended with a fluid, the fluctuation of which was distinctly heard on every movement. After death, it was found filled with black vomit, though none had been thrown up during life.

Various distressing sensations were experienced in the region of the precordia, such as oppression, great weight, burning, and a feeling of distention.

The respiration in some, was very laborious and hurried; in others, slow, accompanied with deep and heavy sighing. Miss Bechtel, in Duke Street, suffered from a feeling of suffocation, which she ascribed to an impossibility of in-

flating the lungs; it was accompanied with violent spasmodic pains of the chest, attended with a red streak, about a finger's breadth, along the sternum, which disappeared on the subsidence of the pain.

Black vomit was the fatal symptom, that attended on and marked the fatal termination of the disease in more than two thirds of those that died. Not a single recovery took place after its appearance. It was found in several cases, besides the one already stated, on examination after death, when it had not been ejected during the course of the disease. It appeared, in these cases, as if the stomach had lost its vitality to so great a degree, that its irritability had ceased.

Hiccough was an occasional occurrence prior to death; but it was also present in those who recovered, and in one case continued forty-eight hours.

The bowels, in the greater part of the cases, were obstinately costive; and, when evacuations were procured, they did not always give the relief that was expected from them. In some cases the skin became cooler and the pulse slower, after the operation of purgatives, but without any abatement in the malignant expression of the general symptoms.

Hæmorrhages from the gums and lips were frequent, both in those who recovered as well as those who died. In one fatal case it took place from the uterus.

The urine was always deficient in quantity, was generally of a deep red, but imparting a yellow colour to the linen, and deposited a heavy and copious sediment. In some instances the discharge of it was entirely suppressed. This symptom arose from a paralysis of the bladder in some cases, as it was found after death to be distended with urine; but in other cases, it was occasioned by a defect in the secretion. It was then invariably a fatal symptom.

The pulse, on the commencement of the attack, was increased in quickness and frequency, and in some cases in fulness, but which last often disappeared on the second or third day. It often became natural on the third and fourth days in fatal cases, and sometimes continued thus through-

out the progress of the disease. A full, but very compressible pulse, the artery feeling as filled with air, and yielding to the slightest pressure, was met with in several cases. It indicated great danger. None recovered in whom it was present. I did not meet with a hard or tense pulse, nor have I been able to learn, that such a pulse came under the notice of any of our physicians. About the third and fourth days, in repeated instances no pulse could be felt at the wrist, though the heart and carotids were acting, and the muscular powers were undiminished.

On the third and fourth days, and sometimes at a later period, there was frequently an apparent mitigation of all the symptoms, which might easily deceive the unwary and inexperienced into a belief that a remission had taken place. In one instance, the patient, a lad, appeared so perfectly well, that his parents permitted him to leave his bed, and play nearly all the afternoon on the wharf; but next morning black vomit came on, of the consistence of tar, attended with most distressing retching and efforts to vomit, and at one o'clock the little sufferer expired.

Sharp hunger was felt by several a few hours previous to dissolution, and was a fatal symptom in every instance in which it occurred.

It was almost impossible to retain some patients in their beds, from an unconquerable feeling of restlessness with which they were afflicted. No position gave ease long, and a respite from torment was expected from a new attitude or a new resting place. This constant jactitation was a fatal sign.

The mind was variously affected. Fear was a common feeling at the commencement; but there was, with scarcely an exception, a perfect indifference as to their fate towards the close. Some retained their senses perfectly, while others early became delirious. In two instances it was almost maniacal. Some would be, as it were, in a deep reverie; and when spoken to, would start with surprise, and answer in a hurried manner. Many apparently labouring under great

distress, when asked how they were, would answer very well, nothing ailed them.

The physiognomy had something peculiar and striking. It conveyed at once an impression of the malignant nature of the disease and the danger of the patient. It is impossible to describe the appearance of the eyes and features; the look and expression that seemed to indicate an internal consciousness of the mortal struggle in which the vital powers were engaged; or the scowl of a gloomy indifference that mantled the brow, and shrouded the countenance with the expression of a sullen defiance of the fate, that seemed impending over them with certain destruction: but once seen, it could not be forgotten; and the apparent calm and quietude that so frequently reigned exteriorly, was a diagnostic sign too truly displaying the real nature of the malady, and fearfully portending the fatal storm that was to ensue.

The symptoms I have thus detailed, with a degree of minuteness that perhaps may be conceived unnecessary, I witnessed in different cases that came under my notice, either in my own practice or that of others, or in the City Hospital. They were not all present in any one case, but more or less of them were exhibited, in every individual who was attacked with the disease in this aggravated form. Any number of those symptoms, taken aggregately, will, I think, characterise a class, in which the disease exists in its most malignant shape, and, generally speaking, transcends in its action the powers of any known remedy, and the resources of the best directed skill. We may truly say, in the language of Virgil,

"cessere magistri,
Phillyrides Chiron, Amythaoniusque Melampus."
Geor. Lib. iii. 499.

In fact, as Dr. James Johnson remarks, the patient began to die with the commencement of the disease. Authors mention recoveries after the existence of many of the leading symptoms I have just enumerated, but I neither saw nor heard of any in our late partial epidemic. A large pro-

portion of the cases that occurred were of this class; and consequently the mortality, in proportion to the whole number affected, was very great. Most of them terminated on the third, fourth, or fifth days. A few were protracted to the seventh and eighth.

Class Second.

The diseases in the cases of this class bore, in the commencement, a strong similarity to those in the first. But the diverging point soon became obvious, and permitted the discrimination between them to be drawn. Languor, lassitude, and a chill, most generally distinct, were the premonitory symptoms: reaction always occurred, when occasionally the excitement produced a flow of spirits, almost similar to a slight intoxication.

Pains in the limbs, back and forehead, were always present; the eyes were inflamed; the skin was hot and dry, or moist, and the face flushed; and approaching stupor or delirium often attended after the accession of the fever. But active purging, small general or topical bleedings, blisters on the back of the neck, and cold applications, either alleviated these symptoms, or evidently prevented their increase. An impression, it was obvious, could be made on the system.

The stomach was always irritable, and the vomiting often distressing to the patient and embarrassing to the physician. Bile would be sometimes apparent in the discharges, but it was not in such quantities as to sanction a belief, the secretion was very considerable. It was most probably merely shaken from the gall bladder by violent straining. The diminution of the vomiting on the third, fourth, or fifth day, was a favourable omen.

The skin and the eyes, became suffused with yellow in many instances from the third to the fifth day.

The pulse was never natural, but always disordered, being increased in frequency and quickness, sometimes bounding, and was possessed of considerable force. In one case it beat one hundred and sixty strokes in a minute, and

was generally from one hundred to one hundred and twenty. It became slower, softer, and fuller, from the fourth to the sixth days, in those that recovered.

The discharges from the bowels were dark coloured and offensive. Medicine operated on them with ease, and the operation was always productive of temporary relief.

The skin never lost its sensibility and irritability, and thus kept open this favourable approach to a vigorous impression on the disease. Diaphoresis could most generally be easily excited by the vapour bath, conjoined to diaphoretics, and was of decided utility. A moisture and softness of the skin on the fifth, sixth and seventh days, was an indication of convalescence.

The urine was scanty, of a deep red, imparted a yellow stain, and deposited a copious sediment. But it was never suppressed.

A hæmorrhage from the nose, occurred in some cases on the fifth and seventh days, and appeared to be a critical evacuation. Hæmorrhage from the gums also occurred in a protracted case, in which the patient survived.

The tongue was in most instances slightly furred and moist. When the disease continued beyond the fifth day, it sometimes became dry and covered with sordes. Becoming clean at the edges, indicated a favourable change.

The disease in this class was evidently less malignant in its nature, and was in the range of remedial powers. The practitioner, if called in at an early period, and pursuing a judicious treatment, would, with few exceptions, have the satisfaction to find this formidable disease under his control, and subdued by the power of medicine. It was only when called in too late, when organic lesions had been produced by the long continuance of morbid impression, action, and associations, or early mismanagement, that he would experience the painful conviction, that all the efforts of his skill would be unavailing.

Class Third.

In this class, the disease, though possessing the same

features, the same outline of symptoms as in the other two, was mild and easily manageable, yielding with great facility to the remedies employed. In some cases it was no more than an ephemera, terminating in a single day, from the operation of an active purge, a profuse sweat, or single bleeding. In others it continued from three to five days. When it continued that length of time, it was attended with *remissions*. In the first class there were no remissions: in the mildest cases of the second class, there were sometimes attempts at, or concealed remissions, if the term may be employed. And it was only in the cases of this class, that they were distinctly perceptible.

Chills, pains in the extremities, spine and forehead, but not so intense as in the other classes, were the commencing symptoms. The eyes were suffused, in some cases very deeply; the skin hot, dry, and harsh, the face flushed, the mind confused, the pulse quick, frequent, full, and the signs of an open or developed febrile paroxysm exhibited. The stomach was generally quiet; but, in the worst cases, was irritable, attended with copious vomiting, and bile was more frequently discharged, and in greater quantities, than in the cases of the second class. Any strong impression on the system, produced an immediate effect on the disease, and frequently dispersed it at once. No doubt, many of these cases, if left to themselves, would have recovered by the mere powers of nature.

It is a circumstance worthy of attention, that in the different quarters where the disease prevailed, one class would be more common than the others. Thus at Hodge's wharf, and Duke Street, nearly all the cases were of the first class; in Letitia Court they were all of the second; and in the other situations, the second and third classes were nearly as numerous as the first. Dr. Monges, whose accurate knowledge of this disease, derived from much experience and long observation, both in the West Indies and this country, is so well known and acknowledged, states that he has noticed the same facts, in the different epidemics of our city. In certain situations, when the disease was general, he found

it light and easily manageable; all his patients recovered: in other situations, it was precisely the reverse; medicine was unavailing, and his patients nearly all died. This is an observation of great value; and the fact appears to be quite incompatible with the doctrine of contagion. Contagious diseases, when epidemic or otherwise, will differ in force, as it respects individuals, according to the state of the system or constitution of each, but never present a constant and permanent difference—being according to the situation, mild and simple in one place, and malignant and aggravated in another. Does not this fact render the supposition highly probable, that the poison which produces yellow or malignant fever, is evolved into the atmosphere, or collects in certain spots in greater or less quantity, or from some cause becomes more or less highly concentrated in them, and thus occasions different degrees of poisoning of the system? We observe similar effects to arise from the exhibition of poisons in different quantities. Thus a certain number of individuals may take a certain quantity of arsenic; they may all be more or less affected, but will all recover without difficulty; others may take a larger dose, which will produce a greater degree of disorder, and a more violent train of symptoms; but by timely and prompt applications, the larger proportion will recover; others, again, may receive a still stronger dose, which will occasion such organic lesions, that nearly all will fall victims to its deleterious operation, one or two only escaping, as it were by miracle. These effects bear a strong similarity to the different classes of yellow or malignant fever, the poison producing which, like arsenic, acts chiefly on the stomach, and produces a lesion of that viscus in proportion to the quantity introduced into the system.

PART II.

Treatment of the Disease.

IT is a subject of well founded complaint, that it has been a prevailing vice with medical writers, to indulge in partial, encomiastic, and, it is to be feared, sometimes fanciful representations of the powers and efficacy of some favourite remedy or mode of practice, to the introduction of which into medicine, they have been instrumental, but which have not been justified by subsequent experience. Sanguine expectations have been in this manner too often injudi iously excited, that have terminated in disappointment dark and bitter, as the hopes they had nurtured were bright and pleasing. How many of the articles of the former materia medica, celebrated for their virtues, are now known to be inert and useless! How many of our present medicines have been invested with curative energies for formidable diseases, in which a sober and matured experience has proved them to be of none or of little avail! What different systems

and modes of treatment, founded on baseless theories, partial views, and limited observation, have enjoyed their short-lived reigns, extolled and defended by misjudging partizans, but which now lie entombed in dusty and undisturbed tomes, and are brought into recollection only to display the errors they embraced, and the follies of their pretensions!

With writers on epidemics, the neglect of a proper discrimination of the different grades and classes always found to exist in those diseases, and a statement of the result of the treatment in each of them, is a common cause of error and deception, that tends to confuse, and lead the inexperienced and unwary into misconceptions and mistakes. Inferences founded on observations confined to one class alone, must be deceptive, and wholly inapplicable to the others, while the prognosis established on so limited a view, cannot prove otherwise than fallacious. It is from this want of precision and discrimination, that various and inconsistent histories of the same epidemic disease, are given by different writers; and that courses of treatment the most opposite are equally commended, which, when its recurrence brings the disease within the sphere of our own observation, are equally contradicted by the course of our experience.

The wide difference that existed between the character and treatment of the disease last summer and autumn, and the descriptions contained in some of the most popular and esteemed works that treat of it, has given rise to the preceding reflections. The tone of confidence in which Dr. Rush speaks of the medicable nature of yellow fever; of its easy and speedy subjugation by the aid of rapid, early and powerful depletion; the certainty, that Chisholm ascribes to the mercurial treatment; and the late testimony of Dr. James Johnson to the curative wonders of the lancet and calomel, are calculated to inspire the most perfect reliance on their efficacy. Such was the impression which had been conveyed to my mind, that I felt a strong assurance, that should my path be crossed by this most formidable of diseases, it would only be to witness the most successful

efforts, and the most splendid triumphs of the science of medicine. Never was disappointment more complete, or professional pride more humbled.

The disease, when it first appeared at Hodge's wharf, was encountered with depletion, active purging, calomel freely and largely administered, with a view to salivate, and blisters; but one after another, its victims were carried off, without an impression having been made, or its fatal tendency alleviated. The pulse in no instance was tense, or refused to yield to venesection and cathartics, but was speedily reduced by them, both in frequency and force. In several, it became quite natural, and the skin cool, yet with the disappearance of the common diagnostics of fever, there was no favourable change in the general symptoms, which continued to evince an unabated malignancy; while the disease hurried on so rapidly to its termination, that it was in vain to calculate on the specific effects of mercury. Two only recovered in this quarter, who exhibited the well-defined symptoms of the disease. In one, attended by Dr. E. Barton, the mouth became sore on the third day, continued stationary for two or three days, during which, the patient was in great jeopardy, then became more affected, and the disease gave way. The other was attended by Dr. Knight, and was trusted chiefly to cathartics, which produced a speedy mitigation of the symptoms.

In the case of Mr. Hill's servant girl, the mercurial treatment was pushed with vigour to a great extent. It was commenced within four hours from the attack. Thirty ounces of blood were previously drawn, the pulse being one hundred and thirty strokes per minute, and full. Five grains were administered every three hours. Senna and salts, and calomel and jalap were interposed occasionally, as purgatives. The bowels were obstinately constipated throughout her illness. On the second day, a scruple of calomel was given at a dose, and calomel gr. viii. pulv. antimon. gr. iii. opium gr. i. were exhibited every three hours. Another scruple was given on the third day, and the same powders continued. Mercurial frictions were employed, and the

blisters were dressed with mercurial ointment. The case terminated in death on the fifth day. Near four drachms of calomel were administered, but not the slightest tenderness of the gums was produced.

Mrs. Philly, who was attended by Dr. Clark, was treated in a manner nearly similar, though with less vigour, but with the same unfortunate result. She was bled twenty-five ounces, and purged with calomel, which was also exhibited with the intention to salivate. The disease in this case was insidious, presenting no very alarming symptoms, until the evening preceding dissolution.

At the same time, the disease was witnessed in Mrs. Double, a tenant of the house in which Mrs. Philly resided, abandoned nearly to its course, uncontrolled by any remedial means. The confusion attendant on the hasty removal of the inhabitants, and procuring accommodations out of the city, for such as could not provide a refuge for themselves, and the want of a regular attendant, caused her to be neglected. Yet the symptoms did not assume a more malignant aspect, than occurred in many of those, who were under regular and careful treatment. In fact, in the cases of the first class, the disease moved steadily on, from stadium to stadium, unchecked, and indeed unaffected by any treatment pursued, nearly the same as if left to contend with the mere efforts of the constitution.

Two cases of a light character were treated with cathartics and calomel. The evacuations from the medicine were copious, and produced an immediate alleviation of the symptoms. On the third day the mouth became affected, and convalescence was at once established. The treatment in thirteen of the cases that occurred in this locality of the disease, was similar, consisting of depletion by drawing blood, active purging, and calomel in small and repeated doses, intended to salivate. One case of the second class, and of a high grade, in which the mouth became sore, recovered, and three cases of the third class, in two of which the system was under the mercurial action, also were restored to health.

The disease at Walnut Street, and derived from that source, was more diversified in its nature, than at Hodge's wharf. The cases of the first class were less numerous, the disease consequently more manageable, and success more frequently crowned the treatment pursued.

Different modes of practice were adopted, but I cannot say, that the result authorises a decided preference in favour of any one of them.

Early depletion with the lancet and cathartics, were relied on by some; some trusted to cathartics, sudorifics, calomel in small and repeated doses, and mercurial frictions; others combined both the preceding plans; while at the City Hospital, under the medical charge of Doctors Hewson and Chapman, counter-irritation excited by ol. terebinth. became a leading and favourite remedy. In the cases of the first class, these different modes of treatment seemed to be of equally little avail, and in the other classes, each may boast nearly an equal number of recoveries.

With Mr. Annesly, who was one of the first affected in this quarter, the disease commenced with symptoms of great violence. He was attended by Dr. Rush, who bled him copiously. An immediate abatement of the disease ensued, and he rapidly recovered. Mr. Smith and Mr. Barker were both depleted freely, and the mercurial course pursued with them; the purging and mercurial plan was adopted in the case of Mr. Edwards; but in each, the termination was fatal. In a case that occurred at this time, blood was drawn twice the same morning, and cups applied to the head. The blood on the second bleeding was covered with a soft, jelly-like coat of buff, of a greenish hue. Huxham mentions having observed this appearance of the blood in putrid malignant fevers, "the superior part being a livid gore, or a kind of dark green, and exceedingly soft jelly. The pulse in these cases," he observes, "sinks oftentimes surprisingly after a second bleeding."* This effect was produced in the case alluded to. The pulse in the evening was a mere thread, and the patient expired the next morning.

* Page 109, vol. ii.

The disease manifested itself with considerable violence in Mrs. Duffy. Thirty ounces of blood were abstracted a few hours after its development, and were followed with a strong dose of calomel and jalap. In two hours an infusion of senna and salts was given, and calomel gr. viii. and pulv. antimon. gr. iv. were ordered every three hours. The alvine evacuations were copious, and produced an immediate abatement of the untoward symptoms. A very free diaphoresis took place on the second day; and on the third day she was removed into the country.

Miss Jane Mann refused to be bled at the time the disease first invaded her system, but took a large dose of calomel and jalap, and powders of calomel and pulv. antimon. were given every three hours. The evacuations from the bowels did not diminish the intensity of the symptoms, which, on the contrary, became more aggravated. At the end of the second day Dr. Currie saw her with me. The skin at this time was hot and dry, the face highly flushed, the pulse one hundred and twenty, full but not tense, the carotids beat with great violence, the eyes were red and watery, cephalgia acute and distressing. The indications for bleeding appeared so obvious, that fifteen ounces of blood were taken away. The mercurial treatment was continued with the addition of frictions, and occasional purgatives to evacuate the bowels. In four hours after the bleeding, an evident change was observable. The skin had become cool, but was harsh and dry, and the pulse was natural as to frequency and force. The malignancy of the disease was not, however, subdued, or the danger of our patient lessened. They had on the contrary evidently increased. She was now slightly comatose, her eyes were more deeply injected, the evacuations passed involuntarily, and the yellow hue was appearing about the neck. These unfavourable indications continued to increase. Blisters to the legs, arms, and epigastric region, scarcely affected the skin, evincing its declining sensibility. She expired on the fifth day, in convulsions. The mercury had produced no effect on the mouth.

A tolerably free ptyalism was raised in young Room, under the care of Drs. J. Nancrede and Monges, which lasted for twenty-four hours. The disease then obtained the ascendancy, the salivation disappeared, hæmorrhage from the lips and black vomit ensued, which the next day terminated in death.

In the Wharton family, in which the disease proved so fatal, the sudorific and mercurial treatment were employed and chiefly confided in. In the case of the daughter, its efficacy in the violent grades of the disease was fairly tested. It was brought into operation a few hours only after the commencement of the disease, and was steadily and perseveringly adhered to, under the faithful and devoted attention of Drs. Parrish and Wood. Extensive frictions with the ointment were employed, and calomel was administered in small and repeated doses. On the fourth day the gums became sore, and a slight ptyalism was induced, which, however, soon subsided before the increasing force of the disease. Black vomit supervened the succeeding day, and she was numbered among the victims that had already fallen at the shrine of this fatal malady. The mercury produced no effect on either of the sons.

The mercurial treatment proved successful in the case of young Mr. King, and the black girl of that family, attended by Dr. S. P. Griffitts; and Miss Ann Sprowle recovered under the depleting and mercurial treatment, in the hands of Dr. Coats, though it proved ineffectual in the case of the mother.

Many other cases, which it is unnecessary to particularize, were treated in a similar manner to those already mentioned. The ill-success that attended what was considered the regular and established practice in malignant fever, gave rise to a desire to seek for some more powerful auxiliary, than was then at command. The stomach being considered the part of the system, in which the diseased action first commences, and from which it is extended by sympathetic or associated action to all the other portions, it was believed possible to strike at the disease in its strong

hold. The excitation of counter-action in affections arising from local irritations, is founded on the best established and most approved principles in medicine. Blisters are the best remedies for erysipetalous, and some species of phlegmonous inflammations; turpentine for the healing of burns; and cayenne pepper in some cases of angina. It was conceived, therefore, that an irritation excited in the stomach, might establish a new action, different from that produced by the poison, that occasions malignant fever. On this principle the free and liberal exhibition of the ol. terebinth. in conjunction with some other essential oil, was commenced at the City Hospital. The practice was not entirely novel. In 1805, it was tried in the City Hospital by Dr. Parrish. Turpentine was, in that year, administered in a number of cases, in considerable doses, and was also exhibited in injections. The beneficial effects were not so decisively pronounced, as to acquire for it a high degree of confidence.

The first case in which it was used the last year, was in that of L. Moore, one of the sailors of the Brig Martha. He had been previously sweated and purged. It was commenced on the fifth day of the disease. At that time, the pulse was quick and weak, the feet and hands cold, nails purplish, and a violent hiccup attended. Thirty drops of a mixture, consisting of ol. terebinth. ℥viii. ol. menth. ℥i. were given every hour, beginning at 5 o'clock P. M. In the morning the hiccup was unabated, the extremities were warmer, pulse fuller and slower, and expression of countenance improved. The dose was increased to a teaspoonful. In the evening the hiccup had ceased, and the patient became convalescent.

The second trial was with Mrs. Baird, who was also in the fifth day of the disease. Previously to being sent to the Hospital, I had purged her freely, and she had been on the mercurial treatment for two days. She was very low and the case considered desperate, when the turpentine was commenced. Her skin was yellow, cool and dry; the respiration slow, accompanied with deep and heavy sighing; pulse soft and slow; frequent retching and vomiting of dark

coloured fluid. It was thought, she would not have lived through the night. A tea-spoonful of the mixture was given regularly every hour. An improvement took place under its use. The retching and vomiting abated; the pulse became firmer; the skin felt more natural. Her existence appeared to be prolonged by the medicine, but on the third day of its employment she expired.

The husband of the unhappy woman, the subject of the preceding case, was the next to whom the turpentine was exhibited. When his wife was sent to the Hospital, he entered into the service of the Board of Health, as one of the guards of the infected district. The first night of his watch, he sought an oblivion to his distresses in intoxication. In the morning he was found with the disease raging on him. He was sent to the Hospital; was immediately purged, and his stomach being highly irritable, a blister was applied to the epigastric region. The next day, the turpentine mixture was exhibited in the dose of a tea-spoonful every hour. The disease in this case was of a most ferocious character. The complexion on the second day, became mottled, from the stagnation of the blood in the capillaries; the pulse was nearly natural, the eye covered with injected blood-vessels; the abdomen extremely tender, gastric irritation distressing, and great anxiety and restlessness prevailed. Death put a term to these sufferings on the night of the third day.

The third case in which turpentine was administered, was the daughter of the unfortunate couple, whose melancholy fate has just been related. She had been sent into the west wing of the City Hospital, to which the poor inhabitants of the infected districts were conveyed, in order to remove them from the seat of pestilential infection. The day after her removal, I found her labouring under the disease. She was immediately transferred to the sick department. A mercurial purge was exhibited, and divided doses of calomel and pulv. antimon. were ordered. The next day, the turpentine mixture was substituted for the mercurial powders. In this case febrile action was open and manifest. The pulse was quick and rather full, the skin hot and dry,

constant delirium attended, and the stomach was irritable. Cold applications were directed to the head. The third day there was hæmorrhage from the nose, and a mercurial purge was given; delirium still continued. On the fourth day the unfavourable symptoms had subsided. The pulse was improved, the skin soft and moist, and delirium had ceased. The next day she was convalescent. The turpentine had been regularly given, from the time its use was commenced.

In Eliza Curtis, one of the young women sick in Letitia Court, the happiest effects were obvious from its employment. She was in the fourth day of the disease, when her case was made known. The pulse was very easily compressible, skin cool and dry, of a yellow hue round the neck and breast, stomach very irritable, strength greatly prostrated, fainting being induced when attempts were made to sit up or rise from bed. Sinapisms were directed to the lower extremities, and a tea-spoonful of the following mixture was given to her every hour. Turpentine, aqua ammon. āā ℥ii. ol. cinnamon ℥i. The medicine proved highly grateful to the feelings of the patient, who repeatedly asked for it. It was first given at eleven o'clock A. M. At six P. M. she was much better; the pulse was fuller and firmer; the stomach quiet; the tendency to delirium gone. The family having been removed, the Court completely emptied of its inhabitants, and about to be closed up, she was sent to the Hospital, and bore the ride well. She had subsequently hæmorrhage from the gums, but recovered under the use of the turpentine mixture, carbon. ammoniæ, and warm toddy, which were substituted for the turpentine towards the close of her disease.

Turpentine was also successfully employed by Dr. Hartshorne in the case of Mr. Evans.

It failed to produce any beneficial effect, administered to Dr. Worthington, and was also equally devoid of success in the case of Mr. Makinn, attended by Dr. Hewson.

In the Hospital, there were thirteen cases of the fever, in which the exhibition of turpentine was early commenced,

and in which a fair trial of the practice was given. Of those cases, eight recovered and five died.

The acetat: plumbi recommended in warm terms by Dr. Irvine, of Charleston, was brought forward after the repeated failures of the usual modes of treatment.

Dr. Worthington gave it to Miss Drinkwater in the last stage of the disease, and thought some advantage was gained by it. The vomiting was allayed, and the disease protracted, but it still proved fatal. One person recovered under its use in the hands of Dr. Wood; and Dr. Parrish thought it proved serviceable to young Scattergood, who recovered from a severe attack of the disease. Dr. Harvey Klapp also exhibited it to Davenport, one of the guards employed in the infected district. This case was the most protracted that occurred, but ended fatally with black vomit on the eighteenth day.

The disease in Duke Street, or Artillery Lane, and vicinity, was treated with purgatives and mercurials, and in one instance with small bleedings. Turpentine was tried by Dr. Cleaver in two cases. In one without any effect; in the other, Miss Bechtel, with evident disadvantage. She suffered severe pain in the chest and stomach after each dose, which soon compelled it to be discontinued.

In this quarter, where all died who were affected and remained in it, the disease was of that high degree of malignancy, that all modes of treatment were equally unavailing, and left a distressing conviction of the correctness of the observation, " Imbecilior est medicina quam morbus."

From the foregoing general sketch of the different plans of treatment, that were adopted in the disease of the last summer and autumn, it is evident, that no one can claim, from its greater success, a pre-eminence over the others. The mercurial treatment certainly lost ground, and did not sustain the character that had been attributed to it. Many of the instances of its successful action, were cases of a light disease, that would have probably recovered under any kind of treatment properly directed. There were, however, three or four, in which its beneficial operation was

conspicuous. A struggle for mastery appeared to exist for a time between the disease and the remedy, while the fate of the afflicted patient hung in suspense. The establishment of a decided salivation became the harbinger of victory, and every untoward symptom disappeared. But in the far greater proportion of the more violent cases, and in those of the first class, its impression was not felt. It was opposing mounds of sand to the torrent in its fury.

An opinion that turpentine possessed great sanative powers, amounting almost to a specific action, and that a wonderful success, authorising such a notion, had attended its employment last year, was put into circulation and very generally entertained. The statement I have given of the precise result of that practice, will correct the erroneous impressions which were extensively made with respect to its efficacy. The practice at the Hospital was, I am of opinion, more frequently successful, than in the city, and turpentine was there the favourite remedy. This circumstance is not, however, to be attributed to any superiority in the practice or remedies employed, for it has uniformly occurred in every preceding epidemic. It is more correctly explained by the effects produced by a pure and salubrious atmosphere, constant medical attention, and good and faithful nursing. In several of the Hospital cases, moreover, the disease was of the milder grades, which would have recovered under any mode of treatment.

From the result of the experience acquired in our late disease, it is apparent, that we are not in possession of any remedies or system of treatment, that will enable us to cure yellow or malignant fever in its worst and most malignant form. In that class, the poison by which it is occasioned, produces organic lesions or structural derangement of vital organs to such an extent, that their restoration lies not within the compass of human power. Great is the confidence I possess in the powers of medicine, and exalted are the sentiments I entertain of the resources of the healing art. It is impossible not to be imbued with such sentiments and feelings, when we recal all that medicine has been able

to accomplish: the causes whence diseases spring made manifest, and thus disorders in themselves incurable, taught to be avoided, and plagues that laid waste the land, exterminated; the small pox, at first disarmed of its fury, and now almost blotted from our records; the scurvy, that scattered before it and broke the strength of fleets and armies, while yet untouched by the sword, rendered rare of occurrence, and harmless when it prevails; the monster Syphilis, bound in brazen chains,—" vinctus ahenis"—these and a thousand other benefits, that flow in never failing streams from this living source, command the admiration and gratitude of mankind, and beget an almost boundless confidence in the further and progressive improvements which medicine may yet achieve. But there is a limit placed, beyond which no human effort can extend, and where human skill and art cease to be availing. From the long experience, extended through many ages, of the constant mortality attending malignant and pestilential fevers; the uniformity with which they have baffled and defeated the wisest and most skilful of the sages of medicine; the millions that have been rapidly swept by them from the earth in short periods, " ac cum cymba Charontis ad elysios campos citissime deferebantur," give us but too just cause to fear, they will remain the " opprobria medicorum,"—that for many succeeding ages, physicians must continue to use the language of Diemerbroek, and speak of them as of those " inter quos mors sceptra tenebat; plures enim moribantur quam evadebant: et inexplicabilis morbi malignitas omnium fere remediorum efficacium longe antecellere, eorumque vim respuere videbatur."*

Though we may feel ourselves thus hopeless and helpless in succouring the victims of those fatal diseases, when raging around us as epidemics, yet we can felicitate ourselves, that it is not our unhappy fate to be necessarily and inevitably subjected to their invasion. If we possess no antidotes to the fell poisons to which they owe their origin, we are enabled to prevent their production. Let us but

* De Peste, caput iii. p. 7.

wisely and prudently employ the means in our power, and correctly apply them, and it is not to be questioned, that we can ensure our safety against their ravages. But it is to be apprehended, that we too often make idols of our opinions, worshipping them with a blind and besotted devotion; and, like the heathen of old, compel all to join us in the cry, "Great is Diana of the Ephesians."

To acquire a knowledge of diseases and their causes, idle disputations, in which words are of more concern than facts, and the subtle reasoning of sophists more weighty than truth, will be of little utility. They are only to be known from oft-repeated and diligent observation, as Baglivi remarks, of the circumstances that are to be met with in every patient; from intelligence and acuteness of mind, fashioned to the method, and serving as the handmaids of nature. The history of diseases, he observes, is a peculiar and distinct science, which neither borrows its principles nor its improvements from any other, but which flow clearly and justly from the purest and brightest fountains of nature. They are to be studied beside the squalid beds of the diseased, in watching by night and in attendance by day; by frequent visits to hospitals and lazars; by noting with an untiring and intrepid patience—intrepida patientia—the frequent changes in the rise, the progression of the symptoms, and the effects produced by remedies; the benignity, the malignity, the violence, or mildness of the disease, as it appears at different periods.* These are some of the modes by which a knowledge of the causes and nature of diseases is to be acquired; and such is the discipline necessary to fit us for undertaking an investigation, surrounded with difficulties, that have confounded and eluded the researches of the wisest, for many ages. "Hæc difficultas," observes Diemerbroek in his chapter "de causis pestilentiæ, doctissimorum ingenia adeo torsit, et tam diversas opiniones, veritatis specie omnes exornatas, extorsit, ut ex eorum scriptis simul collatis, cum quo sentiendum sit, gravissime judicari queat."† If those whose education, habits of mind and observation,

* Baglivi de Praxi Medicina, caput v. † De Peste, p. 15.

whose means and opportunities of obtaining the most correct information, and knowledge of facts, have been confessedly unable to arrive at any certain conclusions on the subject, how cautious ought those to be in pronouncing their judgments, who are destitute of those qualifying circumstances and advantages, and dependent chiefly on common rumour and vulgar reports,

Tam ficti pravique tenax, quam nuntia veri.
Æn. iv. 188.

for the materials on which to build their opinions.

Truth, like every thing of value to mankind, is difficult of production and slow of birth. It is never struck out at a heat, but is developed and perfected by passing through many and various operations, and being repeatedly submitted to the strictest scrutiny. On few subjects connected with science, have doctrines, taught in their inception, been found to stand the test of subsequent investigation. Is it then more likely that the sentiments respecting the nature of yellow fever, conceived in fear, and propagated in terror, when its destructive and cruel invasion was first announced, should be correct and free from error? While doubts on this point may with propriety be entertained, it is a solemn duty to continue the examination of this disease with minds unfettered with prejudices, and devoted to the cause of truth. While these doubts may justly exist, it would be the part of rashness, with a blind and partizan zeal, to enlist under either of the adverse parties, and venture our safety solely on the opinions of fallible men.

Appearances on Dissection.

Cadavera hominum morbis denatorum secanda sunt medico, manusque inquinandæ, ut inveniat, quæ morbi sit sedes, quæ causa.
Baglivi Praxeos Medicæ, capt. v. p. 23.

Post mortem examinations took place in a large proportion of those, who died with the disease the last year. The observations made, confirmed generally those recorded by Dr. Physick in 1798 and 1799, Dr. Parrish in 1805, and other practitioners in this city, with the addition of a few particulars not instanced by them.

It will not be necessary to give the result of individual cases: but a general sketch of the phenomena exhibited by the different viscera, will be fully sufficient to point out the organs most obnoxious to the effects of the poison, and the seats of the disease.

The brain did not exhibit any marks of active inflammation. The veins of the dura and pia mater, were mostly very turgid with blood. Effusion of serum under the dura mater was found in three cases which had terminated with convulsions, and a larger proportion of it than ordinary appeared in the ventricles. The substance of the brain in no instance displayed any strong marks of disease.

The viscera of the thorax presented no appearances that indicated their partaking largely of the diseased action of the system.

It was amongst the abdominal viscera, that was to be discovered the evidence of the fatal storm, beneath whose fury the system had succumbed; and of these, the stomach was a uniform and principal sufferer.

This viscus presented different appearances. I was much surprised to find it, on the first examination I made, without any marks of inflammation. The villous coat was of a rather whiter aspect than is usual, but a considerable quantity of black coffee-like fluid was contained in the stomach. In eight or ten instances, a nearly similar state of that organ was discovered, there being no inflammation, or a slight blush, mostly about the cardiac portion, being alone observable. The flowing out of the matter, that constitutes black vomit, appears to have relieved the loaded vessels in those cases, and to have terminated the inflammation; but the death of the organ still ensued. It would seem, as I believe Dr. Physick has remarked in his dissections, that the formation of black vomit, is an effort of nature to terminate violent inflammation of the stomach. But in the far greater number of instances, the stomach was highly inflamed. The inflammation was always confined to the villous coat, the muscular and peritoneal escaping the affection. It was not uniformly diffused over the surface.

but would be deeper in one part than another. The cardiac portion was generally more inflamed than the pyloric, and sometimes a greater intensity was observable between the superior and posterior surfaces, a well defined and distinct line separating them. No erosions or abrasions were discovered, though the villous coat was at times nearly livid, and broke with ease, upon pressure with the nails. The vessels of the stomach were so turgid with blood, that portions of it cut out and dried, have formed very perfect preparations, exhibiting the ramifications of the vessels into their minutest divisions, in a very beautiful manner. The matter constituting black vomit, was met with in every examination. In two instances, in which it had been thrown up during life, with the usual characters, a fluid more resembling blood, was found after death.

The liver did not present any constant appearances, that could be considered as necessarily arising from the disease. It was sometimes gorged with blood, which flowed from it in a large stream, when an incision was made; and again appeared entirely destitute of it, not a drop following the scalpel, but the divided vessels being gaping and quite empty. But in these latter cases the veins of the omentum, mesentery, &c. were distended with blood. The bile in the gall-bladder was various in its qualities. In some, it was of the usual colour; in others of a reddish hue, as though tinged with blood; and in a number, it appeared of the consistence and colour of tar; but when spread on a white surface, was of a dark and beautiful green. It never bore the slightest resemblance to the fluid in the stomach. In two instances, the internal coat of the gall-bladder and ductus communis was inflamed.

The spleen and pancreas exhibited no unusual phenomena.

The intestines most commonly were more or less inflamed; not in a uniform manner, but in patches. They were in one subject contracted in some parts so much, that the little finger could scarcely be passed through them, and were swelled out and distended in other parts. Three or four

intro-susceptions were found in this case, but which were unattended with any inflammation at the spot where they existed. This patient had taken large doses of calomel, and had died strongly convulsed. I met the same circumstance in a subject, which had died with the common bilious fever. The intestines always contained considerable quantities of a black mucus, bearing a similarity to the flocculi of black vomit. In some cases it was evidently sanguineous.

The urinary bladder was sometimes very much contracted, and contained no urine. At other times small quantities were found in it. It was not inflamed, as it has sometimes been in yellow fever, in a single instance.

The veins of the omentum, mesentery, and, in fact, the whole system of the vena portæ, were always distended with fluid blood. It was at first supposed, that the blood being thus fluid, was in the dissolved state, so often mentioned by writers. But Dr. Hewson wishing to make some experiments, collected portions of it in cups. In the course of ten or fifteen minutes, it was firmly coagulated, and this was found in subsequent observations invariably to occur. The notion, therefore, of the blood being dissolved in this disease, frequently described by writers as observed in their dissections, is not correct.

The opinions that were held in respect to the nature of black vomit, were various and loose, until the examinations instituted by Dr. Physick, in 1798 and 99. It was, then, demonstrated very satisfactorily, that it proceeded solely from the stomach; that it did not partake in the slightest degree of the nature of bile, which had been the commonly received doctrine: and in fact, that the liver had no share in its production. Dr. Physick considers black vomit to be a diseased secretion from the vessels of the stomach. This opinion is entitled to great attention, and is rendered very probable by the arguments and experiments with which it is supported. But from the great turgescence of the whole portal system, always found distended with blood, I am disposed to believe that the inflammation of the stomach, and the other abdominal viscera, in this disease, is venous

and not arterial; arises from an engorgement of the veins, extending to their minutest division and first origin. Should this view be correct, black vomit, it is not unlikely, may arise from a sanguineous effusion from the capillary extremities of the veins. The matter of black vomit, does not maintain invariably the same characters, but recedes more or less from, or approaches to, an appearance of blood. I have seen several cases, in which the discharge, towards the termination, became nearly sanguineous, and a similar fluid was also found in the intestines.

Dr. Rhees, the resident physician at the City Hospital, instituted a series of observations on the black vomit, with a solar microscope. Innumerable quantities of animalculæ were found to exist in it. A single drop contained many thousands, being apparently a congeries of them. The black mucus of the intestines exhibited the same phenomena. When the matter fresh thrown from the stomach, was examined, the animalculæ were alive, and in constant motion; but if taken from the dead subject, or inspected after standing some time, they were always dead, and quiescent. Comparative examinations were made of the discharges from the stomachs of patients, ill with autumnal bilious and remittent fevers, but no similar appearances were discovered. These very curious observations require to be further and more extensively prosecuted, and diversified, in order to ascertain what relation those animalculæ possess with regard to the disease, either as cause or effect.

On Contagion.

The science of medicine, from the remotest ages, has been agitated with the contentions of its followers. Sect has conflicted with sect, and system been opposed to system, with a zeal more devoted to the ascendancy of party, than the triumph of the cause of truth. Baglivi lamenting the consequences of these discords, piously invokes the interference of heaven "tantas componere lites," for the benefit of mankind and the good of the christian republic.—"Has inter medicos pugnas et controversias rogo Deum.

Optim. Max. ut in magnum humani generis, et præsertim Christianæ Republicæ commodum componere velit, quo medicina tot retro sæculis miserè jactata, in placido tranquillitatis et concordiæ portu conquiescat."*

Modern times, however, have not witnessed a more harmonious disposition, or any diminution of medical feuds and controversies. The torch of discord still burns, and probably in medicine no subject has been so fruitful of disputation, as the contagious or non-contagious nature of yellow fever—has excited more bitterness of feeling, or been handled with greater asperity. It is to be lamented, that this question, intimately connected with the most important interests of society, cannot be prosecuted in a spirit of true philosophy; and facts be investigated with an earnest desire to establish what is true, rather than to maintain preconceived opinions.

It appears at first view somewhat extraordinary, that so much diversity of opinion should exist, and continue this subject so long in suspense, when nothing more is required for its final determination, than an accurate observation and impartial verification of facts. But in truth, there is nothing more difficult or more rare, than correct observation. A thousand sources of error beset us, and, unconscious of their operation, we are deceived by them. Accidental coincidences are constantly occurring, having no relation, but which we connect as cause and effect, while our prejudgments influence and often betray the operations of our senses. In wide spread epidemics, the limits to which the cause extends that occasions the disease, are unknown, and the poison being imperceptible, it is impossible except from its effects, to know where it may be conveyed and become accumulated. Hence inferences of its communication from individual to individual are liable to numerous deceptions, and can scarcely fail to prove fallacious. But when the disease prevails within certain bounds, and can in almost every instance be satisfactorily shown to have been contracted in them, by which the local source and ex-

* De Praxi Medica, p. 6.

istence of its cause are made manifest, our researches and conclusions are disembarrassed from those equivocal circumstances, that perplex and confound them in epidemic periods. Such having been the state of the disease the last year, the most favourable opportunities were presented, of observing its capability of being communicated by the sick to those in health. Nearly one half of the cases of the disease, were scattered in different parts of the city, evidently contracted in some one of the original seats of the infection, that have previously been designated and described. Many of them were under circumstances in the highest degree calculated to aid its propagation, by means of contagion, did it exist. They occurred in the persons of the poor, in confined and ill-ventilated apartments, in houses crowded with inhabitants, in some of the filthiest and narrowest lanes, alleys and courts of the city, in which the negro epidemic had been or was still prevailing; yet, in conditions thus propitious to its propagation, not a single instance is known of any person attending on, or who had communication with the sick, or their apartments, having taken the disease. I will briefly point out a few of the most striking of those occurrences.

The family of Hays (in which occurred the first case that was reported to the Board of Health) occupied a single room of a house on the bank side of Water Street, midway between Race and Vine Street. It consisted of himself, wife and three children, who all shared the same *bed* during his illness. As there were no windows except in the front of the house, there could be no perflation through the room. The other tenants of the house, the neighbours, and his acquaintance, frequently visited him while sick, and a number of persons assembled at the house to attend his funeral. Not an individual thus exposed sickened, nor did any other case take place in that square, except Thompson's daughter, who contracted the disease of which she had a slight attack, by visiting at Mr. Hill's, near Hodge's dock.

A rigger of the name of Monier, contracted the disease at Walnut Street wharf. He lived in Mead Alley, where

he became sick and died. Two families occupied the house, the individuals of which had to pass through the room where Monier lay sick, in going in and out of the house. The neighbours also were frequently with him. The alley at that time, as it most generally is, was very filthy and offensive. No one took the disease from him.

A man of the name of Whitaker, also contracted the disease at Walnut Street wharf. His family resided in Kunkle's Court, and consisted of ten persons. The alley is narrow and confined, and generally filthy; the house small and close. No one of the family, however, or neighbours, were affected.

Thomas Thompson was a watchman on board of a ship that lay at Walnut Street wharf. He took sick at his residence in Callowhill Street, below Water Street, where he lived in a close, ill-ventilated apartment. None of the family, which was numerous, or of the vicinity, received any infection.

Elizabeth Mack, a German girl, took the disease on the wharf. She resided with her family in a small house in Strawberry Alley. She sickened and died there. None of the family, or those who had communication with her, became affected.

John Pounder, a pedlar, had the disease, and died in Small Street, a narrow and very foul lane. No one residing in it, or who was exposed by attendance on him, contracted the disease.

I attended a lad, who lay in a garret with a single window only in it. The disease displayed the worst features of malignancy. Seven or eight persons were almost constantly employed in the room with him, and the night previous to his decease, some one of them was incessantly occupied in frictions on his body. No sickness appeared among them.

A man who lived in Pegg's Street, near Pegg's Run, and contracted his disease there, on the second day of his illness removed to a relation's in St. John's Street, near to Callowhill, where he died on the fifth day from the attack,

with symptoms of the most malignant character. The disease was not communicated to any of the family.

Many other similar facts might be recounted, but which it is scarcely necessary particularly to enumerate. They are irreconcileable with the phenomena and laws of contagion. Dr. Haygarth has investigated that subject with great patience and assiduity, and it is to his researches, and those of Dr. Bancroft, that we are indebted for the only precise information we possess relative to contagion. As the result of his observations on typhus fever, exhibited in a series of tables, he found, that "five only out of one hundred and sixty-eight exposed to infection, remained uninfected, or less than one in thirty-three."* But in the last summer and autumn, more than two hundred individuals were exposed under the most favourable circumstances to the operation of contagion, did it exist; and of that number, not an instance occurred of the disease being contracted by intercourse, even the most intimate, with the diseased. The friends and relations of the sick, became their kind and faithful attendants, and the constant companions of their bed-side. I have seen wives with devoted affection, supporting in their arms, and soothing with caresses, the last moments of their dying husbands; children consoling with their attentions their expiring parents; and parents overwhelmed with grief, administering to the last wants of their departing offspring. In this triumph of affection over fear, the lover was seen refusing to abandon the object of his attachment, struck down with the disease, despising the warnings of the danger to be apprehended, and resolving to share with her a common danger and a common fate.

The performance of those sacred offices of humanity, and examples of the best and kindest feelings of the heart, it is gratifying to know, were on no occasion productive of ill consequences. The indulgence of them brought none into danger by the disease being contracted.

From the numerous occurrences of the kind that have been pointed out, the conclusion, it appears to me, is irre-

* Haygarth's letter to Dr. Percival, p. 32.

sistible, that the disease, last year, was not of a contagious nature.

The manner in which the disease broke out and prevailed is not consonant with any known laws of contagion. At Hodge's dock, most of the cases occurred simultaneously, and the whole number in the course of ten days. They were scattered over a space the two extreme points of which are about long pistol shot distant, and none of those who were sick, had communication with any one labouring under the disease, prior to their attack.

The same circumstances were observable at Walnut Street wharf. Several individuals were often seized on the same day, without having had an intercourse or been near any one who was sick, and more than half the cases took place in ten days, twenty-six having been attacked from the 6th to the 16th of August. Preventing access to that situation by barricades, immediately checked the increase of cases, although a number of persons who had derived the disease from an intercourse with it, were then lying ill in various parts of the city.

I have before remarked, that a similar state of things was observable at Duke Street and its vicinity.

Dr. Haygarth in his letter to Dr. Percival, examining into the distance to which febrile contagion extends, arrives at the following conclusion. " The whole evidence which I have been able to collect, incontestably leads to this very important conclusion, that febrile infection extends but to a very narrow sphere from the source of the poison."* The correctness of this conclusion, has been repeatedly verified, by observations in those fevers, which are unquestionably contagious. Dr. Chisholm is of opinion that " the distance may be fixed at the utmost at six or ten feet."† Now this law is completely hostile to the numerous facts, observed in the malignant fever of last year. Messrs. Smith, Ansley, Edwards, Barker, Nesbit, the Messrs. Kings, Jas. Forsyth, Mrs. Baird, Mrs. Duffy, Thompson, the Sprowles,

* Page 48. † Essay on the Malignant Pest. Fever, p. 154.

Room, the Whartons, and in truth, nearly all those, who were affected with the disease, had not been near to any one sick, nor approached any suspected source of contagion.

The rapidity with which the malignant fever of last year spread, is also inconsistent and irreconcileable with the laws of contagion, as observed in contagious diseases. They are propagated in a slow and very gradual manner, from individual to individual, a fact recognised by Dr. Hosack in his pamphlet,* and demonstrated by Dr. Haygarth, in his tables. "Out of seventy-two cases," remarks Dr. Haygarth, "the latent period of the typhus (allowing four days of fever before the patient becomes infectious) was less than ten days in only five, or probably in only three cases: it was less than seventeen days in only eleven or thirteen: it fell upon some of the days between the seventeenth and thirty-third in forty-one, which is considerably more than half the cases."† Now, at Hodge's dock, we have seen, that the whole number of cases occurred in the space of ten days; at Duke Street, nine cases out of twelve, took place in four days; and at Walnut Street wharf, in more than half of the cases, the disease was also developed in ten days. No contagious disease, not even the plague, the contagion of which is of the most deadly and fatal nature, spreads with such rapidity, or is characterised with similar phenomena.

Although disposed to yield credit to the doctrine of the contagious nature of yellow fever, prior to the experience of last year, and the present examination of the subject, the testimony and the observations collected, are conclusive to my mind, that the disease, as it then existed (I speak not of former years), presented no evidences of contagion.

The importance of this subject may justify some additional remarks. There are two classes of febrile affections, proceeding from very different causes. The one is, without doubt, produced by contagion, and is propagated by a poi-

* P. 12. † Haygarth's letter, p. 66.

son secreted by the system of those labouring under a peculiar disease. In this class is comprehended typhus, plague, small-pox, &c. The other class arises from a poison, formed by vegetable decomposition, under particular circumstances of heat and moisture, which being thus generated, floats in, or is diffused through the atmosphere.

> Aut etiam suspensa manet vis aëre in ipso,
> Et quum spirantes mixtas hinc ducimus auras,
> Illa quoque in corpus pariter sorbere necesse est.
>
> Lucretius, Lib. vi. 1124.

Such are our autumnal intermittent, bilious and remittent fevers, the malarian fevers of the Pontine marshes near Rome, the endemics of the East and West Indies, the fevers of Walcheren, Beveland, and, in fact, of all marshy countries.

It would tend greatly to simplify the question of the contagion of yellow fever, as a preliminary step, to ascertain to which of these classes it properly belongs. If it can be established by the most indubitable testimony, that marsh miasmata not only give birth to malignant fevers of a similar character to yellow fever, but occasion yellow fever itself, the contested field will be greatly narrowed in its limits. That fevers exhibiting an equal malignancy with yellow fever, and closely partaking of its symptoms and character, are occasioned most unquestionably by marsh miasma, is a fact based and sustained on medical observations of such high authority, both ancient and modern, as to be placed beyond the reach of cavilling or doubt. It is a doctrine taught by the philosophic poet Lucretius,

> aut ipsâ sæpe coorta
> De terrâ surgunt, ubi putorem humida nacta est
> Intempestivis pluviisque, et solibus icta.
>
> Lib. vi. 1094.

Examples are furnished by the endemic fever that prevails throughout Bengal; the malignant intermittents of Italy, and those produced by the malaria of Rome; the fevers that rage in Hungary in the months of July, August and September, described by Dr. Kramer "as altogether the same with those that are epidemic upon the coast of Guinea;

and in the sickly climates of the East and West Indies ;"* the endemic fevers of the coast of Mexico and of the West India Islands ; of the coast of Africa, and of our southern states. These fevers are the unquestioned offspring of marsh miasmata ; are mostly of as violent and fatal a character as our yellow or malignant fever ; and some of them cannot be distinguished by a single symptom or circumstance from it. If, therefore, miasmata arising from vegetable decomposition can occasion fevers of a character similar in every respect to yellow fever, it assuredly gives a strong probability, that yellow or malignant fever may have the same origin. When we find it occurring under precisely the same circumstances, and observing the same laws, as the fevers originating from marsh miasmata, that probability assumes the character of certainty, and almost of demonstration. But we can go a step further, and make it manifest, that yellow or malignant fever has been produced, where no other agent than marsh miasma could be suspected of its production. Mr. James Johnson, in his excellent work on " The influence of Tropical Climates," has furnished us with the fact. A number of the British troops sent in the expedition of 1800 against Batavia, were landed on the uninhabited and marshy island of Edam, and where of course contagion could not exist. They were immediately attacked with yellow fever. Scarce an individual who passed a night on the island, escaped the disease, and nearly all who were attacked with it died. The crews and soldiers who remained on board the ships, enjoyed their usual health ; and no instance occurred of the disease being communicated by those who were sick to their comrades. The yellow fever is well known also as the endemic of Batavia ; but its importation there has never been suspected, nor any other cause assigned for its prevalence, than the exhalations from its foul and pestilent canals.

If then any medical fact is to be credited—is established by testimony that cannot be shaken, it is, that fevers of the same grade and character, and of similar symptoms with

* Lind on the health of seamen, p. 55.

yellow fever, are produced by marsh exhalations in tropical latitudes. We have it also proven in an equally satisfactory manner, that yellow fever has been produced by the same cause. How, then, has it happened, that a contrary opinion has prevailed, and yellow fever been supposed to be a disease originating from another and distinct source, and only propagated by contagion? From investigating this question, I can find no other authority for the opinion or ground on which it is sustained, than a notion of Dr. Chisholm, formed from a belief in alleged occurrences and circumstances, that have since been completely disproven, and which are now known never to have had existence.

In 1793 the yellow fever prevailed at St. George's in Grenada, to an extent and with a mortality that was uncommon at that place. Dr. Chisholm does not expressly inform us, whether a greater number of Europeans than usual, were at that time in port. When that circumstance occurs in the West Indies, yellow fever is always more general, from the mere fact of the increase of the number of persons who are subject to its attack. But although the Doctor has neglected that important point, he gives room to infer that there was an unusual accumulation of new-comers obnoxious to the disease. He states that two hundred and fifty seamen died with the disease, or "a third of all the sailors, during about ten weeks in harbour."* There must consequently have been in the port of St. George's about seven hundred and fifty sailors, independent of the troops of the garrison, many of whom, Dr. Chisholm states, were recruits, and were those of the troops who suffered most. We are not informed by the Doctor of the population of St. George's; but in Edwards's History of the West Indies, the white inhabitants of the island are stated to have been 1300 in 1777, and to be decreasing. Morse, in his Gazetteer published in 1804, computes the number at 1000. There must have been, therefore, collected in the small port of St. George's, in the months of March, April, May and June, the months when

* Essay, &c. p. 91. Edwards's W. Indies, vol. p. 74.

yellow fever always exists in the West Indies, sailors, recruits and other new-comers, all the subjects of the disease, equal in numbers to the whole white population of the island. Can it then be surprising, or so very wonderful, that the endemic yellow fever of Grenada should have become more than usually rife, when there was so great an increase of those who were subject to its attack, that we must resort for its explanation to the supposition of the creation of a new, unknown, and before unheard-of disease? Certainly not. It is the precise result that ought to have been calculated on, and which is known invariably to occur under the same circumstances.

But it was not at St. George's alone, that the yellow fever was more than usually prevalent in that year. Most of the islands—Jamaica, St. Domingo, Cuba, &c. witnessed its ravages: and our city was laid waste with its desolation. But where is a single fact recorded, or the slightest evidence to be found, tending to show that the disease was conveyed from Grenada to the other islands, and to this city? Yet such ought to be produced to countenance the conjecture of Dr. Chisholm.

That fevers usually sporadic, in certain states of the atmosphere will become epidemic, and that diseases will be suspended or disappear for a series of years, and again return suddenly, and prevail with violence, are occurrences by no means novel. They have been recorded from age to age, and it is scarcely possible to pursue the profession of medicine a few years, and not be familiar with the fact. When we know that these phenomena have been, and are repeatedly presented to observation, in intermittent, bilious, remittent and many malignant marsh fevers—in dysentery, influenza, &c. on what principles and on what grounds, shall we deny to the yellow fever of tropical and temperate latitudes, a similar character, or exclude it from the operation of laws universally applicable to other similar diseases?

If then the presence of a great number of individuals, obnoxious to the attack of yellow fever at the port of St. George's, in the months of March, April, May and June of the year 1793, is quite adequate to account for its

unusual prevalence there; or that the circumstance can otherwise be satisfactorily explained on known principles, and is in conformity with long-observed and well-established facts, the supposition of the creation of a new and before unknown disease, is unnecessary and unphilosophical. It is little better, than the absurd conjecture of Hercules Saxonia, that the plague is created by the spells of witches, who, whether alive or dead, he believed, were possessed of great powers for its production.*

But the opinion promulgated by Dr. Chisholm, that the the disease of 1793 was a new disease, " before unknown in this country," and generated on board the ship Hankey, has been most clearly proven to be fallacious, and the facts on which he has pretended to support it, have been demonstrated to be fictitious. The evidence to these points is unimpeachable, and the testimony conclusive. It is furnished by Mr. J. Paiba, one of the adventurers in the Boulam scheme, and who was on board the Hankey ;† by Capt. Beaver, who commanded the Hankey, in his African memoranda; by Dr. Winterbottom, the physician of the Sierra Leone company; by Mr. Smithers, the surgeon of the Charon, a ship which Dr. Chisholm asserts was infected by communication with the Hankey; and by Dr. Trotter, in his valuable and standard work, Medicina Nautica. The whole statement of Dr. Chisholm is proven by the above evidence to be little better than a romance. No such disease," as he asserts " afflicted the crew and passengers of the Hankey, was known on board of her. She arrived at Grenada with all on board in perfect health; and could not have communicated the disease attributed to her. The account by Dr. Chisholm of the disease of the Hankey, and the introduction of the yellow fever by her into Grenada, has been particularly examined by Dr. Nathaniel Bancroft, in the seventh appendix to his philosophical and valuable work on yellow fever. The editors of the Edinburgh Me-

* Sagarum non tantum vivarum, sed etiam defunctarum magnas esse vires ad pestis inductionem. Hercules Saxonia, de plica.

† New-York Medical Repository, vol i.

dical and Surgical Journal, in their review of that work, thus express their opinion on that particular subject.

" We can only notice some of the leading points in his Appendix (No. vii.); the sole object of which is, to confute the statements of Dr. Chisholm, respecting the origin and propagation of the yellow fever, but especially as to its alleged importation from the coast of Africa to Grenada, in the ship Hankey.

" In these statements, Dr. Bancroft has, in our opinion, proved incontestably, that considerable incorrectness exists in the details of Dr. Chisholm.

" We profess our great respect for the learning and talents of Dr. Chisholm, (of both of which this Journal has exhibited many proofs); but " magis amica veritas," we cannot but yield our assent to the views of Dr. Bancroft, supported as they are in this work, upon the subject under discussion."*

From this view it results—1st, That fevers produced by the poison designated as marsh miasma, are of the same character and grade, and possess similar symptoms with yellow fever: 2dly, That yellow fever has been and is occasioned by marsh miasma: and 3dly, That the opinion that has assigned to it another origin, and would place it with those diseases that are produced alone by peculiar contagion, it has been incontestably demonstrated, was formed on grounds entirely fallacious.

Yellow fever, therefore, must be considered as belonging to that class of diseases produced by marsh miasmatic poison; and the solution of the question, whether any of those diseases do become contagious when once contracted, will materially aid in deciding its character.

No investigation, that I know of, has been made directed exclusively to the examination of that point. But the general facts with respect to that class of fevers, are repugnant to the supposition that they ever do become contagious. No one at present suspects that intermittents, common bilious, or remittent fevers ever assume that character. Dr.

* Vol. viii. p. 340.

Chisholm expresses his conviction in the most decided manner, that the endemic yellow fever of the West Indies, "evidently caused by marsh effluvia, heat," &c. never is contagious. "I have never, in any instance," he observes, "and I have seen many, of yellow fever, known it to be contagious: it has always been evidently produced by the causes mentioned; (viz. marsh effluvia, heat, &c.) and other persons on board the same ship, or in the same house, have continued in perfect health."*

An extensive field of observation was afforded to determine the subject, by the expedition sent from England against Zealand in 1809. Two thirds of the troops were affected with the endemical, intermittent and remittent fevers of that country. More than 12,000 sick, labouring under those diseases, were transported to England, necessarily much crowded together in the transports, and were distributed in the different military hospitals. Yet, under those favourable circumstances for the production of contagion, it was the unanimous opinion of all the medical attendants, "that no patient having the Walcheren or Zealand fever, had, as they believed, given that disease to any other; and, that, according to their knowledge and information, none of the attendants, or others, employed in the hospitals, and who had not been exposed to marsh miasma in Zealand, were attacked with the fever in question.†"

Many thousand articles of clothing and bedding, that had been used by the sick, and were imbued with their excretions, were also sent to England, "without being washed, and mostly in a filthy condition." Yet none of the crews of the vessels in which they were transported, although the articles were kept on board "several weeks," nor any of those who were employed to cleanse them, or of those through whose hands they passed, became infected.‡

Dr. Lind, however, expresses an opinion, that fevers produced by marsh effluvia, may, by want of cleanliness, and through close confinement on board of ships, become con-

* Essay on Malignant Pest. Fever, p. 147.

† Bancroft on Yellow Fever, p. 303 and 307. ‡ Ib. p. 309, 311.

tagious. The ample experience and correctness of observation of Dr. Lind, which render his works of so much value, certainly entitle any opinion of his to be received with attention. But it is not improbable, that typhus, so frequent a visiter of ships, in the instances alluded to by Dr. Lind, was modified by the previous exposure of the crews to the effluvia of marshes, or that marsh fever was modified by the existence of typhus contagion on board the ship. The fact that diseases are thus influenced by each other, and their peculiar causes, is well established by repeated observation. Dr. M'Gregor, in his "Medical Sketches of the expedition to Egypt from Bengal," informs us, "that the cases of the plague, sent from the crowded hospitals of the 61st and 81st regiments, were from the commencement attended with typhoid or low symptoms."

"The cases sent from the Bengal volunteer battalion, and from other corps, when the army was encamped near El Hammed, were all of the intermittent or remittent type," and those that occurred in the winter, were inflammatory, and required bleeding.*

Lempriere also mentions, "that the common typhus, produced by causes existing in ships, or derived by them from places where it already existed," prevailed in the West Indies. "It was contagious at first," he remarks, "and acquired some of the symptoms of the tropical endemic, gradually losing its contagious property, the force of which seemed to be diminished by the climate."†

Dr. William Ferguson, inspector of military hospitals, in a very valuable paper, full of information on the subject of yellow fever, gives a most striking exemplification of the principle I have mentioned. "The fevers," he writes, "on board of her (the brig Childers, arrived at Barbadoes from Trinidad) from crowding below decks, when at sea, ceased to be yellow ones, and became as truly typhoid as any I ever saw; but all that were taken ill after she came into harbour, [and] were promptly removed to our excellent hos-

* Medical Sketches of the expedition to Egypt, by Jas. M'Gregor.

† Practical Observations on the diseases of the army in Jamaica.

pital, retained the character of yellow fevers in every respect, and showed not the least of the typhoid type. That the ship was impregnated with a typhoid contagion, capable of infecting others within its sphere, I have little doubt."*

Sydenham also mentions many examples of one disease wearing "the livery," as he terms it, of another disease, yet retaining in its disguise its own essential character. A knowledge of this important fact, enables us to account for many anomalous circumstances in the history of diseases, that would be otherwise inexplicable, and places us on our guard against erroneous conclusions, deduced from appearances wholly deceptious.

Upon the whole, the facts and observations recorded by physicians of the best authority and most extensive observation, warrant the inference, that fevers originating from the poison, commonly called marsh miasma, or more properly designated by the late Dr. Edward Miller of New-York, koino-miasma, never acquire contagious properties. And as yellow fever must be considered as belonging to that class of fevers, the single attempt to prove it otherwise by Dr. Chisholm having failed, it would appear, à priori, to be proved, that it is not and cannot be contagious. This conclusion of legitimate deduction, fortified by the immense mass of facts and observations recorded of this disease, contradictory to all the known phenomena of contagion, and by the almost unanimous opinion of the physicians in this country and the West Indies, who are the most conversant with it, must be deemed, by every considerate mind, to possess the highest degree of probability. This is as near an approach to truth, as can generally be expected, in a science not susceptible of mathematical certainty.

* Medico-Chirurgical Transactions, vol. viii. part 1, p. 152.

PART III.

A PAMPHLET has lately appeared from the pen of Dr. Hosack, "Professor of the Institutes and Practice of Medicine in the University of New-York," in which the opinion of the non-contagion of yellow fever, is attempted to be controverted. Those who differ in sentiment with the learned Professor, I regret to say, are treated with little ceremony, but are denounced without hesitation, as "juniors in knowledge and in years," whose sentiments "are the unfledged opinions and speculations of men of the closet, who have had but few opportunities to test them at the bed-side," and who evince "a total ignorance of the diagnostics of the disease." When it is known, that eight out of ten of the medical profession in this country; nearly all of the practitioners in the West Indies; and a large proportion of the British surgeons, who have served in the West Indies, and become familiar with the disease—that authors of the highest repute and authority in medicine, are the persons thus treated,—astonishment must be felt at the Professor, in arrogating to himself the prerogative of infallibility. He selects Dr. Edward Nathaniel Bancroft, particularly, as the object of

his wrath, accusing him of supplying " by bold assertion, what is wanting in facts, and the coarsest personalities for dispassionate reasoning."* These grave charges could be retorted with the greatest propriety, and indelibly stamped on their author from the work under consideration. But let us hear the opinions of impartial judges. The Edinburgh Medical and Surgical Journal, in a review of Dr. Bancroft's work, expresses the following judgment of its merits.

" In the fourth part, which includes upwards of 200 pages, Dr. Bancroft has brought together such a mass of fact and testimony, all tending, in our opinion, to confirm the foregoing views (non-contagion), as has seldom if ever been collected into a focus, upon a medical topic, with so much perspicuity and force."† It is true, that Dr. Bancroft has exposed very clearly the fallacious reasoning and illogical deductions of Dr. Hosack—*hinc illæ lacrymæ*—and explains on the principles of correct philosophising, the facts that Dr. Hosack does not appear to understand. To extricate himself from the dilemma, in which he has been placed by Dr. Bancroft, he charges that gentleman with having yet " to learn the elementary truths relative to the limited and slow progress of contagion as applied to fever, and which have been known from the days of Lucretius, and have been confirmed by every writer who has treated of the *typhus fever* of Great Britain."‡ An examination of this sentence will show, that so far from shaking from himself the burden imposed by Dr. Bancroft, he has only heaped around himself new difficulties, by a great deficiency of candour and ingenuousness.

In the first place, yellow fever is not a disease of slow progress, as is insinuated, but spreads with great rapidity within the sphere of the poison by which it is produced. From one extremity to the other of the space infected, numerous cases occur in quick succession, and often simultaneously. The histories of all our epidemics are conclusive on that point, and numerous examples are furnished in the works of

* Discourse on the means of improving the Medical Police of New-York, p. 11. † Vol. viii. p. 340. ‡ Discourse, p. 12.

Dr. Lind, to the same purport. 2dly, Lucretius does not justify the reference to his authority for the opinions or facts that the learned Professor appears to impute to him. Not a line of that acute philosopher and accurate observer can be quoted to show, that he had a belief in contagion, much less, that he makes a single allusion to the slowness of its progress. The quotations at page 88 will exhibit the opinion of the philosophic poet, as to the causes of fevers; and in his description of the Plague of Athens, he expressly attributes it to those causes.

> " Hæc ratio quondam morborum et mortiferæ vis
> Finibus in Cecropiis funestos reddit agros,
> Vastavitque vias." LIB. vi. l. 1137.

3dly, Dr. Hosack is a most strenuous advocate for the peculiar nature of yellow fever, considering it as a disease sui generis, and distinct from all other fevers, and consequently possessing its own peculiar laws and properties. Yet, in the passage under consideration, he unqualifiedly abandons his former favourite theories, identifies yellow fever with typhus, and would make the observations of writers on the typhus fever of Great Britain, applicable to the yellow fever of this country, and the West Indies. 4thly, It is to be presumed, that Dr. Hosack must have read Dr. Bancroft's work, and therefore he must know, that so far from having " to learn the elementary truths relative to the limited and slow progress of contagion as applied to fever," Dr. B. expressly maintains the opinion, and it is to him we are indebted, next to Dr. Haygarth, for the most conclusive proofs of the doctrine.*

An analysis of the pamphlet of Dr. Hosack, would exhibit throughout his work a similar want of ingenuousness, an equal inconsistency, and what must be considered a greater offence, in a medical writer, the same deceptious references to authors for opinions they do not entertain, and for facts that are not mentioned by them. The discourse of Dr. Hosack, having been written expressly for the instruction of students, and intended by its publication for the in-

* Bancroft on Yellow Fever, pages 498, 503, and 514 to 577.

formation of the public at large, on a subject, the correct understanding of which, is of the utmost importance to their interests and safety, a sacred regard for the accuracy of every statement, on which its inductions are founded, should have presided over its composition. As I have impeached the correctness of the " Discourse on the Medical Police of New-York," in this respect, I am bound to maintain and make good my charge, though it may not be considered necessary to enter into a very minute and critical examination of all its contents. This has in fact been done in a well-written review in the New-York Medical Repository, in which is exhibited some of the illogical reasoning and inaccurate statements of the Professor, and which very properly animadverts on the indecorous style, in which he treats those of his medical brethren, who differ from him in opinion. I shall confine myself, therefore, barely to a proof, that in some of the most important positions of Dr. Hosack, he falls under the censure I have urged against him.

1st, Inconsistency in his opinions. At page 10 we find a violent tirade against " the daring assertion made by those who acknowledge no distinction between one form of fever and another, and who can confound the *effects of heat alone* with the other causes of disease, and which," the Professor observes, " I had almost said, the youngest pupil in my hearing knows to be at variance with fact."

After this heavy denunciation of ignorance on any one " who can confound the effects of heat alone with the other causes of diseases," we are surprised to find the Professor incur his own sentence of condemnation. At page 28, we are told, that he is led to the inference, that " the *solar heat* of the tropics, long continued and acting on the northern man (not contagion) is the *exclusive source* of yellow fever."

The Doctor, at pages 10 and 11, in set phrase, is extremely severe on those who do not distinguish between common bilious and yellow fevers, and pages 26, 27, and part of 28, are occupied with facts and reasonings, tending to deny that animal effluvia can produce diseases. Yet, at page

28, he remarks, " that in those cases where *ordinary fever* is created by *animal* or marsh effluvia, the peculiarities superinduced *constituting it yellow fever*," &c. Here, then, we have an admission, that animal effluvia does produce ordinary fever, which ordinary fever can become yellow fever; the very doctrine to confute which, the discourse was written, and all who hold it are proscribed as " evincing a total ignorance of the diagnostics of disease."

2d, A deceptious reference to authors for opinions, on subjects of which they do not treat, and for facts they do not mention. This is a serious allegation, and should not be lightly made. But in a science, in which the interests of mankind are deeply concerned that truth should be established and error suppressed, when liberties of this kind are hazarded, and a serious and solemn subject, on which so much depends, is trifled with, merely to give a temporary support to a theory, it becomes, however painful the task and respectable the offender, a public duty that the practice should be exposed. It is in this spirit and with these views, and from no personal feelings, ill-will or ill-disposition to Dr. Hosack, who is a stranger to me, known only by his writings, that I am induced to the examination and exposition I have undertaken.

a. The names of Huxham, Haygarth, Currie, Gregory, Ferriar, Percival, Blane, Chisholm, M'Gregor, Pym, Gilpin and Wright, are quoted at pages 8 and 9, in a manner to lead those who are not conversant with their writings to believe, that they have all been familiar with yellow fever, treat of it in their works, and inculcate its contagion. But what is the fact? Huxham, Haygarth, Currie, Gregory, Ferriar, Percival, and Wright, never saw yellow fever: and their writings, with the exception of a feeble paper by Dr. Haygarth, are confined to diseases observed in England, while the only work of Sir James M'Gregor, with which I am acquainted, is on the diseases of the troops engaged in the " expedition to Egypt from India," and is chiefly occupied with the history of the plague.

The name of Huxham is of the highest repute and au-

thority in medicine. He belonged to the Hippocratic school, which, enlightened by the doctrines of early Greece, imparted to its followers the philosophic views and principles of the sages and oracles of the science of medicine. It is almost a species of profanity and sacrilege to abuse such an authority, by imposing opinions and doctrines on his works, not to be found in a page of his writings. Had Dr. Hosack perused the volumes of Huxham, he would have found principles inculcated, derived from extensive observation, and drawn from the rich stores of medical learning, entirely foreign to those attributed to him, but which are the favourite themes of the Professor. The contagious doctrine of Dr. Hosack, as applicable to epidemic diseases, it will be seen, by the following extracts from the works of Dr. Huxham, is not countenanced by that high authority.

" Epidemic diseases indeed arise from some common cause, as perhaps from a corrupted state of the atmosphere, unwholesome meat and drink, or the like, but very often, even not in the least from any *morbid effluvia that communicate the disease from the sick to the healthy*."*

" The depraved constitutions of the atmosphere are the causes of almost all epidemic diseases."†

" As Hippocrates long since observed, and which is likewise sufficiently attested by experience, as the seasons themselves are, such also are the constitutions of the diseases."‡

" For an epidemic fever is only the effect of a morbific cause, which cause generally proceeds from some particular constitution of the air."§

b. Again, at the 11th page, we find it asserted, that " Lind, Pringle, Blane, Lempriere, Neill and Pym, have most abundantly drawn the distinguishing characters of bilious and yellow fever."

Now Sir John Pringle, so far from making a distinction between bilious and yellow fever, considers them as merely different grades of the same disease. He observes, part iii. chap. iv. of his " Observations on the diseases of the army,"

* Huxham's Works, vol. i. p. 12.

† Ib. vol. i. part 1st, preface to observations on the air. ‡ Ib. part 2d.

§ Ib. pt. 2d, xxii.

that " new-comers are liable to a more putrid and more dangerous fever, or rather to a higher degree of this bilious disorder."* And in a note to the same paragraph, he makes the following remarks. " This ingenious author (Dr. Warren) appears, however, to have mistaken the nature of the yellow fever, by referring it to the pestilential class of diseases: but though he died young, we are informed that he was sensible of his error; and, had he lived longer, would have corrected it. By Dr. Hillary's account, we can see a similarity in the symptoms, and in the treatment, with the bilious fevers of other hot climates."†

Lempriere, it is true, distinguishes between what he calls the continued endemic and endemic remittent; but he positively denies that either is contagious. He remarks, that " having given my reasons why tropical climates are not favourable to the generation or diffusion of contagion, I shall now endeavour to prove, that the disease which has been so fatal in Jamaica, did not originate in general from that cause."‡

He further remarks, " from what has been said it follows, that the disease originates in a tropical climate on shore, and that it is not contagious."§

It cannot be necessary to point out the discrepancy between these opinions, and those, that Dr. Hosack's mode of quoting authorities leads to a belief are sanctioned by them.

c. A similar inattention to correctness occurs at page 13, as will appear in the following extract. " I must, however, state, that until the facts on this subject (contagiousness of yellow fever) which have been adduced by Sir Gilbert Blane, in his well-known work, his Diseases of Seamen, and the body of evidence contained in the celebrated production of his later years, his Elements of Medical Logic, shall be disproved," &c.

The " Observations on the diseases incident to seamen,"

* P. 176, Rush's edition. † Ibid.

‡ Practical Observations on the diseases of the army in Jamaica, p. 27.

§ Ib. p. 38.

by Dr. Gilbert Blane, is unquestionably a highly valuable medical work; and it derives its character from the number of facts and observations, impartially and candidly stated, without reference to particular theories, with which it is enriched. But it is in vain that we refer to its pages for a single fact or observation to show "the contagiousness of yellow fever." On the contrary, frequent mention is made of the malignant fever of the West Indies prevailing on board the fleet: but it is always attributed to exposure to marsh effluvia on shore; and allusion is no where made to its spreading among the crew by contagion.

Thus we are informed, "that the fever that prevailed on board at this time was of the most malignant kind known in this climate, and the worst cases arose in watering, and the other necessary duties on shore, from which the men would sometimes return frantic, and die in a few hours. There was a party of soldiers on board, and as they were not called upon to perform any duties on shore, they had but little sickness in comparison of the sailors."*

Other similar passages might be quoted; but the third section of chap. 1st of part iii. treats expressly of yellow fever, but not a word is contained in it alluding to the contagiousness of the disease.

"The Elements of Medical Logic," on which Dr. Hosack so much relies, appears to have been written with no other object than to defend the theory of the contagiousness of yellow fever, and is disfigured with all the errors and prejudices of a bigoted partizan. In that part of the work which embraces a view of yellow fever, a more complete misnomer could not have been selected, than the title of the work. Positions are taken without an attempt to verify them by facts, and which are in opposition to well established and recorded facts: premises are assumed, adapted to his own particular notions, without an effort to establish them by authority; and assertions are found to occupy the place of logical deductions. Such is the logic of Sir Gilbert Blane. This paper having already extended to a much

* Part i. Book i. p. 41.

greater length than was contemplated, forbids me to enter upon a detailed exposition in support of this statement. A few remarks upon a single point may, however, be deemed not inadmissible.

Sir Gilbert Blane divides the remote causes of fevers into three classes. "One class are exhalations from the soil; a second is vitiated human effluvia, generated by the living body under circumstances of crowding, filth, &c. exemplified in jail, hospital and ship fevers; and the third consists of that disturbance of the system, occasioned by fatigue, insolation, intemperance, &c. Of these three," he observes, "the second only is found to be contagious."* The true logical mode of examining the question, from these premises, would have been, to have ascertained by facts, to which of these classes of causes yellow fever owes its origin. But this plain and obvious course is neglected, and it is assumed, that the malignant fever of the West Indies, Spain and this country, commonly called yellow fever, arises from causes of the second class. Now it has been shown in preceding observations, that yellow fever, the same malignant fever so familiar to our physicians, has been and is produced by causes of the first class. The works of the most eminent writers on tropical diseases, furnish abundant testimony to this fact. I could indeed wish no better evidence than Sir Gilbert himself has offered to the medical world, in the many excellent observations he has recorded in his "Diseases incident to Seamen," as matters of daily occurrence, and written when unbiassed by theories. Besides, I would ask, is it at all probable, that so accurate an observer as he has shown himself to be, could have overlooked so important and essential a feature as contagion, in a disease which was daily subject to his notice on board of the fleet and in the hospitals, in the West Indies in 1781, and where the circumstances for observing that character were so favourable? As no such observations were recorded at the time, is

* Elements of Medical Logic, pages 130 to 132.

it not highly presumable that no facts did occur indicating the contagious nature of yellow fever?

A single page in my opinion of the impartial and practical observations of Dr. Gilbert Blane, "physician to the fleet in the late war," is of more value to science, than volumes of the partial and party effusions of Sir Gilbert, "physician to his Royal Highness the Prince Regent."

In the same passage Dr. Hosack continues to remark, that "until the affirmative testimony contained in the writings of Dr. Chisholm, Dr. Wright, Sir James M'Gregor, Dr. Pym and Sir Joseph Gilpin, &c. shall be disproved, the negative declarations of the late writers to whom I have referred must be discredited."

Now, it so happens, that the affirmative testimony of Dr. Chisholm, with respect to the ship Hankey having given origin to the yellow fever in 1793, has been confuted in the most positive manner, by the very strongest human evidence, that can be adduced. Different individuals, wholly unconnected, all acquainted with the circumstances, contradict "the affirmative testimony of Dr. Chisholm," whose statement is chiefly dependant on information, derived from others. Mr. Paiba has publicly denied having communicated the facts, for which he is quoted as authority by Dr. Chisholm.*

There appears to have been a fatality attending the attempts of Dr. Chisholm to establish the contagion and importation of yellow fever, and a most unfortunate selection of facts for the support of his statements. While the story of the Hankey has been stripped of all credibility, his account of the General Elliot, is shown to be equally devoid of foundation. Dr. William Ferguson, in an interesting paper on the nature and origin of yellow fever, in the Medico-Chirurgical Transactions, makes the following statement. "I feel that I have a right to use this language in regard to Dr. Chisholm's assertion, from the following circumstances. In page 119, vol. ii. of the second edition of his work on the fever of the West Indies, he states that the

* New-York Medical Repository, vol. i. p. 463.

General Elliot, East Indiaman, imported the contagion of yellow fever into Fort Royal, Martinique, in June 1796. It so happened that I, being then on my way to join the 67th regiment in St. Domingo, was ordered on board of her to take charge of the detachments of the Buffs, 38th and 60th, she was carrying out. I acted also as surgeon to the ship's crew, and can declare, that when we landed at Martinique, there was not a single sick human being, except the ship's carpenter, who was far gone in consumption; nor had there been the smallest illness among us from the day of our sailing at Portsmouth, except a few of the slighest calentures."*

In the same paper several erroneous representations of Mr. Pym, from which he infers contagion to exist, are corrected:† and as that gentleman builds his system on the verity of Dr. Chisholm's account of the origin, of what is absurdly called the Bulam fever, they fall together.

Thus the most material part of the affirmative testimony, on which Dr. Hosack lays so much stress, has been completely disproved, and that it stands in this predicament ought to have been known to him.

The Dr. Wright mentioned in this catalogue of names, has written no other work, that is known in this city, than a History of the Walcheren Remittent. He remarks of that disease, that "not having within the limits of his practice met any conclusive proofs of the reality of contagion as a cause or effect of this fever, he shall omit it in the character."‡ How does the Professor, from this writer, obtain affirmative testimony of the contagiousness of yellow fever?

d. That animal putrefaction does not generate fevers, is a position generally conceded, as a direct inference proceeding from numerous corroborating facts of ordinary occurrence. But Dr. Hosack, disdaining to sustain his views in this respect by those vulgar aids, appeals to authorities, and those not of recent date, familiar to every student, but culled from the stores of venerable antiquity, to which few

* Medico-Chirurgical Transactions, vol. viii. pt. i. p. 126.

† Pages 120, 121, 122. ‡ Page 8.

have access. His extensive reading and deep research are advantageously exhibited by this intimate acquaintance with authors, who, to the reproach of the profession, daily threaten to become the obsolete and dusty lumber of deserted libraries. One ill consequence, it is to be feared, attends this thirst of knowledge and devouring of books, *legendi, ac fere libris immoriendi cupiditatem.* A confusion of intellect is sometimes induced by the multiplicity of ideas, and the memory becomes loaded with such a medley garniture of facts and opinions, that nothing is perceived clearly and distinctly. "Capacitas namque cerebri cum infinita non sit, quid mirum, quod innumerata illa idearum vestigia cerebro impressa confundantur adinvicem, mentemque à rectè et distinctè judicando prorsus avertant;"* Dr. Hosack appears to labour under this infirmity, for it has already been shown, that he most erroneously quotes the opinions of some authors, and mistakenly refers to works for facts and principles, that are not to be found in them. The same aberrance attends his citation of authorities in proof of a point that is not contested. We are informed page 28, that, "a reference to the facts related by Diemerbroek, Rondeletius, Clavigero, Herrera, Howard, &c. will satisfy every impartial inquirer after truth, that animal matter will not generate pestilential fever."

Diemerbroek denies that the plague has any other cause, than the just anger of heaven, awakened by the sins and crimes of the wicked. The pious and venerable author seems at a loss for expressions to testify his abhorrence of the iniquities of men, that have invited so dreadful a curse on their unhappy race. "Prima et primaria causa est justissima summi Dei ira, quam turpissimæ ac teterrimæ exhalationes è stagnis fœdisque peccatorum nostrorum cloacis sursum elatæ provocarunt et incenderunt." Though such is his opinion respecting the cause of the plague, he no where adduces any facts which show, nor does he express his belief, that animal matter will not generate pestilential fevers, according to the meaning of the phrase as it is now understood. For Diemerbroek some-

* Baglivi Praxeos Medicæ, p. 34.

times employs the word " pestilentes," as connected with the plague. He quotes in caput viii. lib. i. a fact mentioned by Paræus and Forestus, of a fever generated by a putrid whale, and also pests, cited by Augustinus and Hieronymus, as having proceeded from putrid locusts. But in caput iii. lib. ii. his opinion is still more strongly and pointedly expressed, in noticing a doctrine, then prevalent, that corrupt and putrid fetors were preservatives against the plague, as one poison sometimes breaks the force of another poison. He there positively asserts, that pestilential fevers are induced by putrid miasma. " Verum non sunt audiendi hujus fœtidæ opinionis patroni, cum putridos fœdores semper *febres pestilentes* inducere et experientia docet."* And again in the 13th section of the same chapter, he reiterates the same sentiment. " Fœtidissimam platearum, cloacarum, et fimariorum illuviem ad multorum morborum, et imprimis malignarum febrium inductionem ac pestiferi contagii propagationem plurimum facere experientia docet." These extracts are surely expressive of sentiments very dissimilar to those represented by Dr. Hosack to be found in the instructive observations of the Belgian philosopher.

Rondeletius is perfectly silent on this subject. Ferriar quotes an observation of this author from Sennertus on the incommunicability of the plague by dead bodies; but that is a very different circumstance from putrefaction not causing disorders, and has no bearing on the point in discussion. The only fact in the work of Rondeletius, having any relation to it, is opposed to the doctrine of the " Discourse on improving Medical Police," " Et, ut a nostris exempla petamus, apud Parpegnianum multa clades facta est, *pestis tum secuta est ingens*, quæ non solem vicinos, sed etiam eos, qui in montibus vivebant oppressit."† It is impossible to perceive on what grounds Rondeletius has been adduced, as affording any testimony in this case.

Clavigero is a still more unfortunate selection. I am unacquainted with any facts, contained in his History of

* Ib. Lib. ii. p. 91. † Opera Omnia Medica, de curandis febribus, p. 809.

Mexico, that can authorise the reference made to him. But he does relate facts of a widely different character from what Dr. Hosack imputes to him, and strongly conflicting with the proposition the Professor labours to demonstrate. Thus, in speaking of the condition of the Mexican capital after its capture, Clavigero informs us, "that the fetid smell, which so many thousand putrid bodies emitted, was so intolerable, that it occasioned some sickness to the General of the conquerors."

"The General caused the dead bodies to be buried, and large quantities of wood to be burned through all the city, as much in order to purify the air as to celebrate his victory."*

And again still more to the point, he remarks, "with respect to those who died by famine, or *sickness* occasioned by the brackish water which they drank, and *the infection of the air*, Cortes himself affirms, they were more than fifty thousand."†

The observations of the philanthropic Howard in his work on Prisons, will not bear the interpretation attributed to them. They may be considered as conclusively showing, that the contagion of typhus is not generated from filth; but certainly do not warrant the inference, that animal putrefaction will not occasion pestilential fever.

There is only one other discrepance between the citation of authority and the sentiments of the writer quoted, that I shall notice. In continuing the passage, on which we have remarked, the Professor observes, "and that vegetable decomposition will not engender it, no man can doubt, who will peruse the pages of Dr. Steward," &c. The words of Dr. Steward are, "that vegetable and animal matters in a state of putrefaction do produce disease, is not to be denied, but that vegetable matter only in a state of corruption is on many occasions harmless, is evident from the offensive heaps of cotton seed, &c. without being considered as a

* History of Mexico; vol. ii. p. 191. † Ib. p. 193.

cause of fever."* The exception has been taken as the rule —the qualification stated as the subject—a mode of reasoning that must lead to utter confusion.

Many other examples of inaccurate statements might be selected from the discourse. But it may be thought that enough has been done. Dr. Hosack's reputation entitles him to this distinction. It is to be remembered, that he is no common authority. We have the information from himself, that his *name is great in mouths of wisest censure*, and that his opinions have been examined and "received with approbation by many distinguished practical physicians in Europe, as well as in this country."† Errors, that in men of less notoriety, and on subjects less in vogue than yellow fever, are venial and innocent from the obscurity that surrounds them, in the distinguished and far-famed Professor swell into fictitious authority, and ripen into dogmas diffusive of many mischievous consequences. It then becomes the concern of humanity and correct philosophy, that they should be detected and exposed.

This subject, it should be recollected, has not been discussed by Dr. Hosack, as a cool and dispassionate inquirer after truth. On the contrary, he has entered the lists as an angry partisan, challenging contention, and treating his opponents with contumely and reproach. It cannot, therefore, be a matter of surprise, that such a course should raise some indignant feelings, and in a spirit of resistance, draw forth expressions, which under any other circumstances, could not be justified, and would have been carefully avoided.

* American Medical and Philosophical Register, vol. iii. p. 189.

† Discourse, p. 7.

APPENDIX.

A.

It appears that the Board of Health did suppress the particular denomination of the fever reported to them by the physicians, in conformity to the Health Law. My friend, Dr. J. G. Nancrede, has furnished me with the following extract from a letter, he received from a highly respectable physician of New-York, of date January 5th, 1821. "The president of our Board of Health and our resident physician, illegally reproved such reports, or in other words intimidated the reporters. Several physicians, however, reported as many as twenty-eight cases of bilious malignant fever. Two of these I could name. Why the definition, in itself that of the law, was not satisfactory to them, you may clearly understand. How it happened that the simple name of fever, was substituted in the public reports, let those who held authority and paid wages for the performance of duties, answer for it."

B.

Condition of Brig Susan, Captain Smith, from St. Jago de Cuba, after unlading her cargo at Pratt's wharf.

Her cargo, consisting of coffee and sugar, with a few casks of molasses and honey, was discharged in superior order, perfectly dry, and free from any kind of damage. Having removed the dunnage, composed of pine boards and firewood, a few buckets of water only were necessary to scrub the ceiling of the sugar drippings. The brig's hold and forecastle being unusually clean, dry and sweet, no farther purifying was found necessary.

After remaining just time enough to unlade and land her remaining stores, furniture, &c. (I think thirty-six hours), she was removed to Mr. Workman's wharf, in Southwark, where she still remains. Having turned out a West India cargo in as good order, and freer from that disagreeable smell attending confined West India produce, than I ever witnessed in any vessel during an experience of twenty years.

JAMES BELL.

C.

Health Office, August 1, 1820.

The Health Officer reports, that he has been on board of, and examined, the brig Susan, lying at Workman's wharf, in pursuance of the resolution of the Board, and finds her to be in a cleanly state; as much so as any vessel possibly can be. He further states that he has had an interview with the mate, and received from him the following information respecting the crew. Captain Smith is well; he was on board this morning. Henry Sharp, the mate, is well. A black boy, one of the sailors, has gone to sea in ship Natchez, captain Harrington. Samuel Elliot, and John Lewis, the cook, were on board yesterday, and are all well. Purnel Antrim he has not seen, nor does he know where he lives; and one man is in the Pennsylvania Hospital with a bad cough. WILLIAM MANDRY, *Health Officer.*

D.

I do hereby certify that I was divers of times on board and in the cabin of the brig Susan, captain Smith, from St. Jago, in July last; and that a number of my friends, say between twenty and thirty, were also on board at different times, none of whom to my knowledge, did at that time, or have since, experienced any indisposition.

E. VANSYCKEL.

Philadelphia, December 8, 1820.

I do hereby certify that I had eight men, together with myself, employed two days in discharging and cleansing the hold of the brig Susan, captain Smith, from St. Jago, laden with coffee, &c., in July last, none of whom have experienced any indisposition since that time, but have enjoyed the most perfect health.

RICHARD BERRY, *Stevedore.*

Philadelphia, December 8, 1820.

E.

The brig Susan arrived, and hauled in to Pratt's wharf, July 11th, 1820. The day following her sails were unbent

and put in our loft. We do not recollect how long she remained at Pratt's wharf, not more than three days, say till the 14th July. On Wednesday the 19th Mr. James Jackson came to work for us. He continued to work for us till Saturday morning following, when he was taken sick, and died on Tuesday following, 25th inst. The report in circulation respecting the manner in which he came by his death, viz. that he assisted us in removing the brig Susan's sails, and from them took the yellow fever, of which he died, is incorrect. We do testify, that he never had, to our knowledge, any thing to do with the sails. We know he had not while they were in our loft, and we do not believe he ever was on board the brig. KEEN & DRAIS.

Philadelphia, January 31, 1821.

F.

Dr. George F. Lehman, the Lazaretto physician, has furnished me with the following interrogatories he put to captain Smith, of the brig Susan, on the 2d August last, at which time he was at the Lazaretto on business; with his replies thereto.

Question. Captain Smith, how many spare sails had you on the last voyage?

Answer. One topsail only.

Q. How was that used during the voyage?

A. Outward bound it had been bent. In St. Jago we used it as a middle awning. It was up for about fifty days, exposed to all weathers, until we sailed.

Q. What was then done with it?

A. It was folded and thrown on top of my cargo in the hold.

Q. Mr. Geisse, the supercargo, died a few days after you left St. Jago. Did he use it?

A. No.—He died in the cabin, and had no connexion with it.

Q. Was any sick person near it?

A. Never.

Q. Did it lie in the hold all the passage home?

A. No. I had it on deck several times for the men to repair it.

Q. Were any of the crew sick after working on it?

A. No.

Q. Had you any complaint of sickness after the death of Mr. Geisse among your people?

A. No.

Q. Have any of your crew been sick since leaving Lazaretto?

A. No. I believe they have all gone to sea again.

Q. Captain Smith, I mean to put this statement on record.—Are you willing to swear to it?

A. Yes.

From this account it must be obvious that the spare sail could not have caused the fever. Comment is unnecessary.

F.

John Hemphill informs me the sloop Hector was owned by Mr. Bailey of Wilmington, where she arrived from Cape Henry, and discharged her cargo, and remained twelve or fifteen days. She was washed out and cleansed, and then took in a cargo of corn meal, which she discharged at Masden & Bunker's wharf. She then hauled down to the first wharf below Walnut Street. None of her crew were sick, either at Cape Henry, or on her return voyage, or afterwards, so far as he knows; and the same crew returned in her that went out in her. She arrived at Philadelphia the 22d July.

H. COPE.

10*th mo.* 13*th*, 1820.

G.

Philadelphia, August 29.

GENTLEMEN,

The present is to lodge information with you of the greatest nuisance in Philadelphia, we mean Pegg's Run, that putrid deposit of human excrements, corruptible matters of every kind, and every species of dead creatures. This, in time, will be the origin of serious consequences. Now we wish you to take into consideration that a bridge has been built in New Market Street over Pegg's Run. Whether it is owing to an error in levelling the bed

of the creek, or to the non-removal of the dirt, with which a bank was made to turn the waters, we cannot pretend to say: but what we can ascertain as fact is, that there is a pond of stagnated putrid water, a corruption to the air we breathe, a nursery for vermin, mosquitoes, gnats, &c. so as to make our houses nearly uninhabitable and unsafe for our health. We request you to take this our complaint into consideration, and exercise the power lodged with you to remove this nuisance.

We remain with respect,

Your humble servants and fellow-citizens,

ISAAC CLEAVER,	HENRY LENTZ,
JOHN W. GOODWIN,	JACOB TRIPLER,
GEORGE GORGAS,	JOSIAH NATHANS,
B. O. HODGES,	JOHN GOODMAN,
A. KLINGLE,	GEO. F. GOODMAN,
J. M'MURDLE,	WILLIAM R. BELL,
GEORGE SHADE,	WM. MITCHELL,
J. MILLER,	JAMES LOVE,
JOSEPH MARTIN, Jun.	THOMAS STEEL.

The Gentlemen of the Board of Health.

H.

Extract of a Letter received from Dr. J. Martin of the Northern Liberties.

December 16*th*, 1820.

Sir,

In conformity to your desire, I will state that in the Spring of the present year a bridge was built over Pegg's Run at New Market Street; that on account either of its being higher than the bed of the creek, or owing to a dam erected a few rods above it, all last Summer there existed, from Second Street, a pond, from two to three hundred feet in length, ten to fifteen wide, at least upon an average two feet deep, of the most obnoxious and stagnated waters, a collection of dead animals, and offalls of all kinds, so as to render the atmosphere absolutely offensive to the whole neighbourhood.